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Abstracts of the ISSSP 13th World Congress of Sport Psychology

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International Society
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北京体育大学
BEIJING SPORT UNIVERSITY



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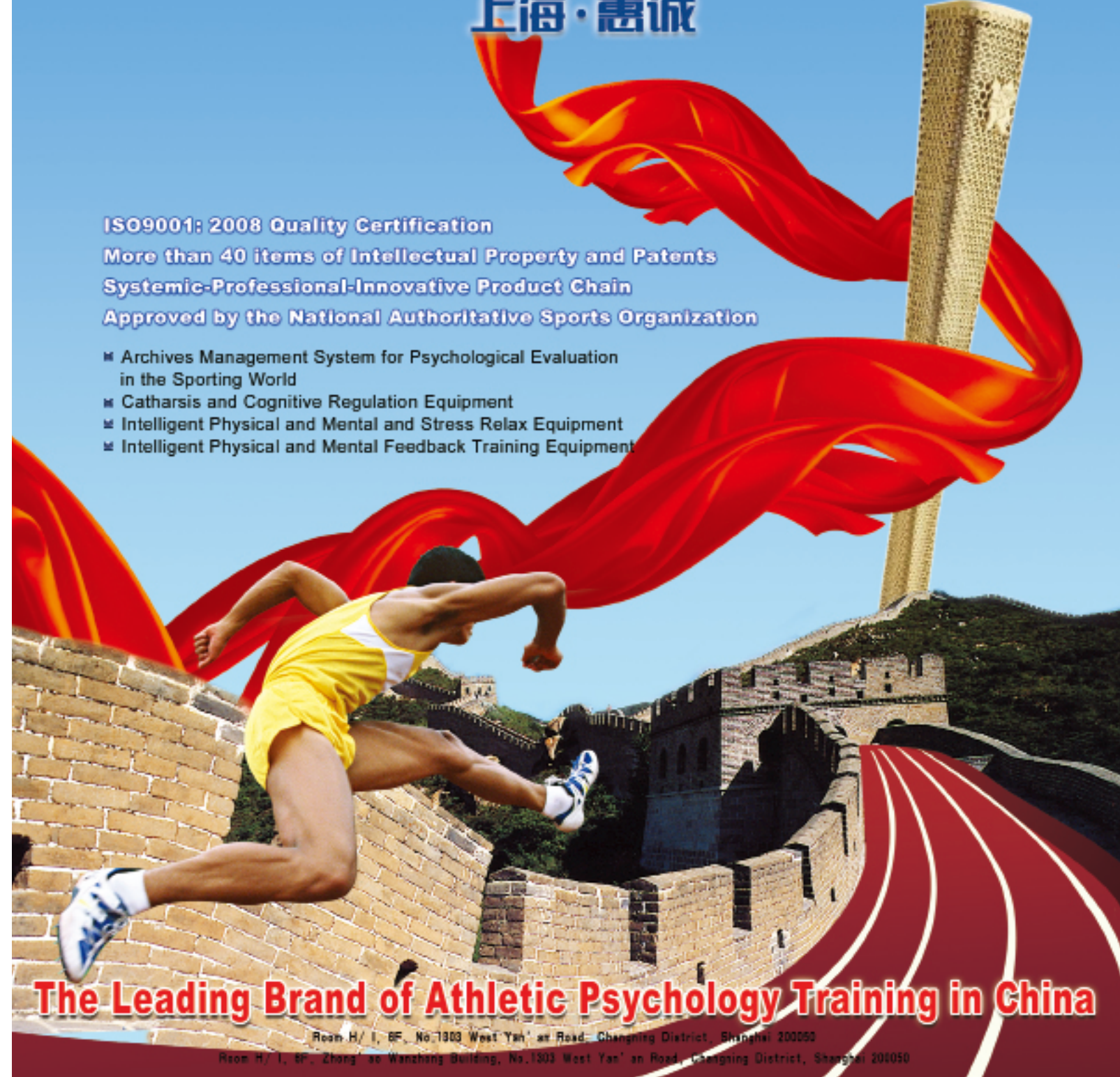
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Keynote

Keynote

What if the Secret is You? In Pursuit of Excellence in Performance Psychology Service Delivery

Artur Poczwardowski, Ph.D.
University of Denver, USA

The discourse on the art and science behind effective practice in sport and performance psychology has produced numerous advances. Notably, the topic of competencies has attracted a plethora of most valuable insights, recommendations, and practices (e.g., Silva, Metzler, & Lerner, 2011; Tenenbaum, Lidor, Papaioannou, & Samulski, 2003). Similarly, in psychology (e.g., Johnson et al., 2012; Ridley, Kelly, & Mollen, 2011), continued efforts to understand effective clinical practice has shaped academic curricula and post-graduation continued education experiences. In an attempt to bridge counseling and sport psychology literature, Poczwardowski, Sherman, and Henschen (1998) offered a heuristics that contained various elements of effective consulting, with one element that offered a perspective in which the consultant herself or himself is one f the instruments in the client behavior change process. Sport psychology practitioners indicated that managing the self as the intervention instrument is, indeed, critical in delivering sport and performance psychology services to clients (e.g., Poczwardowski & Sherman, 2011). The purpose of this keynote presentation is to expand on the notion of self-management in consulting work and its ties to effective performance psychology service delivery. Specifically, the constructs of consultant as an expert (competencies), performer (displaying [executing] competencies), and person (impacting the execution of competencies) will be examined. The notion of self-regulating function (the executive) will be used to further clarify the process of navigating the complexities of consultation process (with the consultant-as-expert, consultant-as-performer, and consultant-as-person being vital components of it). Next, recommendations for pursuing excellence in consulting will be outlined for all four “consulting selves”. In particular, the value of self-reflection, deliberate self-regulation, and professional interactions (e.g., supervision, collegial consultations) will be underscored. Finally, new horizons in multidimensional self-growth as related to consulting work will be highlighted.

A Bioecological Approach for the Study of Sport and Physical Activity: Tribute to Ruy Krebs

Carl Gabbard, Professor
Texas A&M University

This presentation highlights the contributions of Professor Ruy Krebs

to the fields of sport psychology and the study of physical activity from a bioecological perspective. Underscoring his work was that

of the renown psychologist Urie Bronfenbrenner (1979, 2005) and his Bioecological Theory of Human Development. Professor Krebs dedicated much of the last decade of his life being an advocate for Bronfenbrenner’s work. That work brought new insight to the model in regard to its application to the study of sport talent development and lifelong physical activity. For this presentation, I will: (1) briefly describe the need for an ecological approach in our fields, (2) highlight Professor Krebs’s and colleague’s interpretation and application of Bronfenbrenner’s work, and finally, (3) consider examples for future research. Professor Krebs had the charm and personality to make several of us that were not experts on the Bioecological model to rethink our views of human development for sport talent and physical activity.

Is There Neural Efficiency in the Athletes’ Brain?

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Purpose of our research is the development and testing of procedures for the study of functional brain organization in elite athletes by advanced electroencephalographic (EEG) techniques. A special attention was devoted to test “neural efficiency” hypothesis (i.e. reduced cortical activity in experts). Cortical activity in elite karate and fencing athletes was indexed by the reduction of EEG alpha power (about 6-12 Hz; event-related desynchronization, ERD) or by event-related potentials (ERPs) during cognitive and motor tasks. Many lines of results have been obtained. The analysis of cortical EEG activity successfully probed cognitive-motor processes in élite karate and fencer athletes. In these athletes, “neural efficiency” (i.e. reduced event-related alpha desynchronization of rhythms) was observed during both cognitive and motor events. However, it depended on several factors including side of the movement, kind of cognitive process, and specific regions and hemisphere (Del Percio et al., 2008, 2009, 2010; Babiloni et al., 2009, 2010). “Neural efficiency” in elite athletes does not fully account for the organization of cognitive-motor brain systems in élite karate and fencing athletes. A new hypothesis of “Neural flexibility” will be tested in future studies.

Sport talent development within the DMGT-EMTD framework

Prof. François Gagné

Over the past 30 years, the Differentiating Model of Giftedness and Talent (DMGT) has constantly evolved to integrate the growing empirical literature on the complex process of talent development. This presentation will first highlight the structure of the 5-component DMGT: gifts (G), talents (T), talent development (D), intrapersonal (I), and environmental (E) catalysts. It will present sport talent development as the progressive transformation of outstanding natural physical abilities (the gifts) into outstanding skills (the talents), with the constant moderating effect of the two types of catalysts. It will then discuss the integration of the biological foundations of human abilities into the DMGT framework, and analyze the phenomenon of innateness, what people in sport commonly call ‘innate talent’. This discussion will lead to the introduction of a new model, the Developmental Model for Natural Abilities (DMNA); then, its fusion with the DMGT generated an Expanded Model of Talent Development (EMTD). The last part of the presentation will address a crucial question: “What makes a difference?” In other words, which among the dozens of causal influences that the empirical literature has shown to have ‘some’ impact on the emergence of sport talent play a more central role in the talent development process? Major methodological hurdles to reach a proper answer will be identified.

A Developmental and Holistic Perspective on the Athletic Career

Prof. Paul Wylleman
Vrije Universiteit Brussel

During the past decades, sport psychologists have shown a clear interest not only in the development of the (elite) athletic career in general, but also in the occurrence of career-related events or ‘career transitions’ in particular. Research conducted since the 1990s has confirmed that the athletic career, while seeming to be continuous in nature (i.e. a global ‘start-to-finish’ period) can actually be outlined in terms of specific transitional events which did – or sometimes did not – occur during the athletic as well as the post-athletic career. The aim of this keynote presentation will therefore address the development of the athletic career and the occurrence and influence of career transitions. First, a brief overview of sport psychology research into the concept of career transitions will be given. Initiated as early as the 1960s-1970s, the focus of research shifted from an emphasis on the career termination, over other transitions elite athletes face during the actual athletic career, to a developmental and holistic perspective on the career development of elite athletes. Second, using the Holistic Athletic Career model, a description of the athletic career development and the occurrence of career transitions will be provided. This model, which has been used in research on transition experiences of, amongst others, rookie ice-hockey players, adolescent event riders, elite student-athletes, and Olympic athletes, describes the development of athletes during different stages at athletic, psychological, psychosocial, academic-vocational, and financial development. Through this model, the developmental challenges faced by athletes with regard to four career transitions will be illustrated. Third, a brief overview will be given of the use of this model in providing career support services as well as mental support services

to talented, elite and former elite athletes. Finally, recommendations and perspectives for future research on career transitions will be formulated.

Developments in Mood Profiling and Mood Regulation for Sport and Exercise

Peter C. Terry

Faculty of Health, Engineering and Sciences, University of Southern Queensland

Mood profiling in sport and exercise was popularized in the 1970’s by William Morgan and his colleagues. To date, more than 500 scientific studies have been published based on the Profile of Mood States (POMS) or its derivatives, such as the Brunel Mood Scale (BRUMS). Such scales have been translated into many languages and are used for a multitude of purposes around the world. In the sport domain, meta-analytic studies have concluded that mood profiles are significantly predictive of athletic performance but do not have the capacity to identify champion athletes. In addition to performance prediction, arrange of other uses for mood profiling by applied practitioners in the sport domain has been elaborated, including but not limited to, early problem identification, monitoring training load, rehabilitation from overtraining, acclimatization, emotional responses to injury, screening for pathology, and as a general catalyst for discussion. In this presentation I will firstly address conceptual issues, including distinctions between mood, emotions and affect, before moving onto measurement issues, such as the psychometric integrity of mood scales, the impact of personal and situational variables on mood responses, and the effects of response timeframe on mood assessments. Next, I will revisit mood and performance relationships from cross-sectional, intra-individual and interactional perspectives. Recent developments in novel uses of mood profiling in the exercise and health-related domains will then be reviewed, including monitoring of cardiac rehabilitation patients, screening for post-traumatic stress risk among combat troops, assessing safety-related mood disturbance among airline pilots, and screening for risk of youth suicide. Considerable research on emotion regulation in sport and exercise has been completed recently, notably by the Emotion Regulation of Self and Other research group (www.erosresearch.org), the central findings of which will be addressed. Finally, I will review developments in mood assessment in the area of e-interventions. Free online mood profiling (www.moodprofiling.com) has provided24/7 potential for individuals to quantify mood responses, receive an instant personalized mood profile and interpretative report and, where appropriate, be provided with a range of evidence-based, mood dimension-specific regulation strategies. Such online developments have extended mood profiling use to new environments and for an increased range of purposes. Implications of developments in e-interventions will be discussed and potential future directions for use of mood profiling by researchers and applied practitioners in sport, exercise and related physical activity environments, will be outlined.

Unleashing the Power of Coach-Athlete Relationships

Dr Sophia Jowett
School of Sport, Health and Exercise Sciences, Loughborough University

The talk highlights the importance of recognizing the power of a key relationship in sport, namely, the coach-athlete relationship. Like other types of relationships, the coach-athlete relationship comes alive when its members see the best in one another. Thus coaches and athletes who relate, communicate and interact with positive intent create an effective and joyful coaching environment where visions of excellence prevail. Awareness of the role and significance of coach-athlete relationships can be a critical factor for the power (make or break) of sport teams. This power is reflected in the quality of relationships developed and maintained over time between the coach and each one athlete in the team. This talk provides an overview of the 3+1Cs relationship model with special emphasis on recent research that examines the antecedents and consequences of quality coach-athlete relationships.

We Are Not All the Same: Culture and (Dis) Ability in Applied Sport Psychology

Keynote – Stephanie J. Hanrahan

The University of Queensland, Australia

Individually we tend to only be directly aware of a small part of the world. Although variability between individuals from a given culture is greater than the differences between groups, cultural differences are reflected in norms, values, beliefs, and behaviours. Cultural differences can influence participation in physical activity. As practitioners we need to improve our cultural awareness and cultural competence to be able to address the international issue of sedentary living. Culture involves a lot more than nationality, race, and religion. Neighbourhoods, schools, universities, jobs, families, clubs, sports, age, gender, sexual orientation, language, socioeconomic status, and (dis)ability all combine to create individuals’ cultures. The first part of the presentation focuses on the issues of cultural diversity, cultural factors that may be barriers to physical activity, reflection on our own cultural backgrounds, and the introduction of a model of cultural development. The second part of the presentation focuses on different definitions of disability, the role of physical activity in people with disabilities, unique issues for athletes with disabilities, and practical matters and concerns that sport and exercise psychologists can take into account when working with individuals with various disabilities. We can learn to adapt familiar professional practices to new cultural contexts (including the world of disabled sport).

Mental Training: New Perspectives

Zhijian Huang
Wuhan Sports University

As one of the most important intervention measurement of sport psychology, mental training has received constant attention in research and applied settings. However, since the limited knowledge we have on it, as well as its complicated nature, the mental training is one of the area that we have lot of confusion, inconsistency and controversy in sport psychology research and application.

In this presentation, some advances in this domain will be introduced with the perspectives of social-cultural and cognitive-physical aspects. Firstly, it is discussed that a clear and reasonable terminology and taxonomy are necessary. Considerations with the definition and classification, control mechanism, as well as acquisition condition and process of mental skill are examined compared with motor skill. Secondly, the attempts to set up a cultural-dependent mental training practice are introduced, especially with regard to the Chinese colleagues’ experience. Since 2007/2008, they attempt to integrate the eastern traditional philosophy, religions thought and endeavoring methods into the practice of sport psychology. Thirdly, three studies within a cognitive-physical perspective are introduces. These studies including (1) Comparison on the relaxation effects between visualization and self-talk skill; (2) study on the effect of abdominal respiration on the emotion-related physiological indicators; (3) study of acute effect of single imagery practice on temporal-spatial task performance. The implications of the results of three studies are also discussed. Finally, the links between the two perspectives are proposed.

Keynotes' symposium It Takes More than Expertise, It Takes the Person: Reflections on Sport Psychology Service Delivery

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4. California State University, Fullerton,
5. United States Skiing Association

Abstract: For decades, sport psychologists have examined issues involved in sport psychology service delivery. Specifically, variables considered to impact the consultant's effectiveness have attracted considerable attention (e.g., Poczwadowski & Sherman, 2011). Given the increasing need for consulting services at all levels of sport participation and the growing number of graduate programs in sport psychology in the world, issues pertaining to the consultant as the instrument of the intervention (or the consultant as a performer [Brown, 2009]) have received numerous examinations (e.g., Cropley, Miles, Hanton, & Niven, 2007; Friesen & Orlick, 2010; Winstone, & Gervis, 2006). The purpose of this symposium is to bring into focus the person in the sport psychology practitioner. It seems that professional expertise alone does not account for a number of critical factors in successful consultation. Professional philosophy, working interpersonal alliance, and other consultant-as-person related tools (e.g., self-care, self-reflection) are vital in both successful delivery of sport psychology services and consultants' satisfying long-term professional careers. The symposium organizer will briefly outline multiple psychological and situational challenges that consultants face in their work. Time demands and schedule conflicts, multiple clients, different professional roles, and work-life balance issues are a few examples of pressures to be confronted and effectively resolved. The first presentation will focus on self-regulation as a competence that allows for integration of the consultant-as-performer and consultant-as-person in ever dynamic and multidimensional contexts of sport psychology service delivery. The second presentation will explore a consultant's extensive experience over several Olympiads and his continued consultation in professional sports settings while making references to his unique style and awareness. Case studies and personal stories will illustrate the "razor's edge" of personal consulting (Ogilvie, 1968). The third presenter will provide insight into challenges and opportunities in consulting work at a mid-career point from a perspective of the person as the instrument of intervention. Examples of successful and unsuccessful coping strategies will be discussed. Finally, the forth presentation will provide observations on self-managing within a four-year long immersed consultation. For instance, there is a need to navigate administrative pressures to deliver services professionally and ethically while attempting to balance personal life with work. The interaction with the audience will aim at soliciting and reinforcing the diversity of perspectives on career choices, practical issues in consulting, and corresponding solutions that have a potential to promote effective service delivery and, at the same time, to contribute to satisfying and fulfilling consulting careers.

Keywords: sport psychology service delivery, consultant as performer/person

Talents & Sport: One Integrative Approach

Sidonio Serpa¹, François Gagné²
1. Technical University of Lisbon
2. UQAM

Abstract: Talent results from the systematic development of competencies (knowledge & skills) in one or more fields of human activity (Gagné, 2009). To achieve this level of mastery in sports, athletes must reveal well-developed anthropometric, physiological, technical, tactical, psychological characteristics (Elferink-Gemser, Visscher, Lemmink, & Mulder, 2004), as well as significant environmental support. Given the diversity and complexity of the factors involved, talent development in sport requires a holistic and dynamic monitoring, typical of interaction approaches which consider the individual, his/her genetic inheritance and the influence of psycho-social variables (Baker & Davids, 2007). The aim of this symposium is to present international perspectives on sports talents and psychosocial variables regarding the developmental process of talents. Four papers will be presented. It will start with Gagné's presentation on determinants of different levels of participation in children's sport according to their parents' perception, in Quebec, Canada. Then, Durand-Bush will present recent international evidence regarding the role of coaches in the development of sport expertise. Serpa's paper will analyze the relationship among several psychological characteristics and the level of performance of young Portuguese elite football players. Finally, Shi will present the programs specially designed for helping the physical development of intellectually gifted students, as well as discuss some issues related to gifted education in general in mainland China.

Keywords: sports talents, psychological characteristics, giftedness, talent development

Athletes' Dual Careers: Research and Applications

Paul Wylleman
Vrije Universiteit Brussel

Abstract: This symposium brings together four different researchers who have studied athlete's career transitions. While the first researcher explored, through in-depth interviews, how elite athletes dealt with key events and transitions throughout their sport career, the second author examined adolescent athletes' transition to, and adaptation at, national elite sport schools (NESS) in Sweden. By means of a case study, the third author sheds light on the adaptation of Slovene student-athletes when they migrate to another environment (another country) and the fourth author will give information about the support provided to student-athletes in higher education in the Brussels Capital Region. This symposium will thus provide insight not only into the different aspects related to,

but also exemplify different methodologies used to study transitions encountered by athletes throughout their careers.

Keywords: career transitions, elite athletes, student athletes, migration

Secrets of Asian Sport Psychology

Peter Terry
University of Southern Queensland

Abstract: The Asian-South Pacific Association of Sport Psychology (ASPASP) exists to promote sport and exercise psychology throughout the Asia-South Pacific region. The ASPASP constituency includes 75 countries, accounting for approximately 60% of the world's population. The symposium aims are twofold. The first aim is to showcase the work of applied practitioners in the ASPASP region, identifying some of the unique features of high-performance environments and sport psychology support in countries of Asia and the South Pacific. To achieve this aim, presenters will address psychological approaches associated with a particular sport in their country, with specific reference to baseball in Japan, boxing in the Philippines, cycling in Australia, freestyle skiing in China, and wrestling in Iran, sports in which the country in question has achieved considerable success at international level. The second aim of the symposium is to address ASPASP's commitment to open educational resources (OERs). Many countries in the region have under-developed economies, resulting in significant disadvantage for large swathes of the population in terms of access to, and affordability of, sport psychology resources. Therefore, ASPASP is committed to developing OER resources for those who might not have access to traditional books. To this end, ASPASP is producing an open e-textbook, titled Secrets of Asian Sport Psychology, which combines the present accounts of sport psychology work with more than 20 others, including archery in Korea, cricket in Sri Lanka, diving in China, golf in Taiwan, rugby in New Zealand, and shooting in India, to simultaneously highlight the applied work of experienced sport psychologists in the region and to provide a free e-resource to aspiring practitioners.

Keywords: ASPASP, applied, open educational resources

Effective Interpersonal Coaching for Enhanced Performance and Wellbeing

Sophia Jowett¹, Vaithehy Shanmugam²
1. Loughborough University
2. University of Central Lancashire

Abstract: Within the sporting domain, the relationship that has yielded considerable attention is the relationship between that of the athlete with their coach with a number of complementary paradigms (e.g., multidimensional model of leadership, meditational model of leadership and 3+1Cs model) attempting to explain the complex interpersonal dynamics. Whilst diverse, all of these paradigms nonetheless unite to underline the development and maintenance of an effective coaching partnership as central to performance achievement, personal development as well as enjoyment and continued participation in sport. Accordingly, the aim of the symposium is to present a selection of the latest research that has examined the influence of the coaching partnership on performance and wellbeing in athletes. The generated findings of these studies contribute to widening our theoretical understanding of this multifaceted phenomenon as well as signifying the importance of a coaching environment that is interpersonal and effective for enhanced performance and wellbeing.

Keywords: coach-athlete relationship, performance, wellbeing,

coach leadership

Culture and Physical Activity

Stephanie Hanrahan
The University of Queensland

Abstract: This symposium contains four presentations that combine research and practice related to culture and physical activity. The first presenter will provide an overview of how physical inactivity is an international issue, but that many of the theories in the area have been developed in studies using White, English-speaking, middle class participants with the (false) assumption that the results apply to everyone. A model of cultural competence will be provided with some guiding principles for cultural development of researchers and practitioners. The second presenter will provide case studies of a female clinician of African American descent educated from a Eurocentric perspective engaging in multicultural counseling/therapy while striving for cultural competence. In the third presentation the literature dealing with global perspectives on the relationship between body composition and variables such as physical self-concept and social physique anxiety will be reviewed. The presenters will then describe their study investigating body composition and social physique anxiety of different American racial/ethnic group during early adolescence. The final presenter will describe a cross-cultural investigation that focused on whether Chinese and U.S. university students differed in reasons for exercise, exercise enjoyment, and self-efficacy.

Keywords: cultural competence, body composition, social physique anxiety, enjoyment, self-efficacy

Invited symposium

Methodology

Methodology development New Technologies in Sport Psychology: the ISSP Project

Thomas Schack¹, Kai Essig¹, Dieter Hackfort²

1. CITEC Bielefeld University
2. Univ. AF Munich

Abstract: The advent of new technologies has significantly altered the progression of sporting achievements. Sport technology has become increasingly important for recording, analyzing, and optimizing athletic performances. This symposium provides an overview of technological advancements in sport psychology, and highlights their key characteristics and useful applications. We describe techniques that enrich the physical environment of athletes, such as virtual, augmented, and mixed realities and some applications in research and applied fields (Schack et al.). A lot of techniques are described as Neurotechnology. These are brain-related technologies, like EEG based measurements or different kinds of psychophysiological monitoring that can help to improve the cognitive and psychophysiological processes of athletes, and serve as diagnostic and training tools (contributions from Bertollo and Tsung-Min Hung et al.). We will also present and discuss attentional and auditory technologies such as eye tracking and sonification (Essig et al.). Interesting approaches are combining virtual reality approaches with cognitive methods to help virtual agents to understand humans and to communicate with them in coaching settings (Vogel et. al.). The symposium concludes with a discussion of the ethical and practical implications of technological advancements for sport and sport psychologists.

Keywords: virtual reality, attentive systems, eye tracking, psychophysiological monitoring, neurofeedback and performance enhancement

Risk-taking Behaviors and Affective Computing Research

Jean-Claude MARTIN
University Paris-Sud

Abstract: Affective Computing is the study and development of systems and devices that can recognize, interpret, process, and simulate human affects.

In my talk, I will provide an overview of studies from the Affective Computing field of research that can be of interest for the consideration of risk-taking behaviors such as disordered eating,

alcohol use, and stress. I will survey recent research in the Affective Computing community in sport and other domains. This includes for example:

- Computational models of emotion, emotion regulation and personality

- Tools for emotion detection: automatic recognition of facial or bodily expressions of emotions, or from physiological measures

- Tools for training: virtual agents that react in real time to user's affective state and that express emotions in a multimodal way

- Artificial companions and relational agents, virtual representations of one's self, social robotics and avatars, groupware and stress, bodily interaction, exergames

Keywords: affective computing, emotion detection, risk-taking behaviors

Motor control Motor development

The Multifaceted Use of Routines in Sport – Timing, Events, Number of Executions, and Mode

Ronnie Lidor
The Zinman College

Abstract: The purpose of this presentation is twofold: (a) to provide a wide definition for the term routines in sport, and (b) to provide a framework which integrates the multifaceted aspects of the use of performance routines in sport settings. A performance routine has been defined as a systematic sequence of physical and psychological behaviors that are performed before, during, and after the execution of a sporting task. This sequence is typically composed of motor, cognitive, and emotional behaviors that are regularly demonstrated by the performer. Altogether, an important task of a performance routine is to create a mindset that will initiate optimal mental and physical preparation for a particular task and environmental condition, and foster the performers' best performances. A number of factors are associated with the actual use of an effective performance routine in sport, among them (a) timing – a performance routine is an integral part of the athlete's repertoire during the time he or she is (1) preparing him or herself for the sporting act (i.e., a pre-performance routine), (2) executing the sporting act (i.e., a during-performance routine), and (3) assessing and reacting to the way he or she performed the sporting act and/or the outcome of the act (i.e., a post-performance routine); (b) type of sporting event – a performance routine (pre-performance, during-performance, and post-performance) can be applied by athletes in two types of sporting events – macro (the entire event in which the athlete is engaged, such as a practice session or a game), and micro (a specific event within the macro event, such as a free-throw shot within a basketball game); (c) number of executions – when the performer executes the task only once,

he or she can use performance routines before the execution and during execution, and if time permits a post-performance routines can also be implemented. However, if the performer executes the task a number of times in a row, then he or she can activate not only pre- and during-performance routines, but also post-performance routines; (d) mode of execution – performance routines can be applied after either the success or failure achieved in previous attempts. In this presentation we argue that these factors can be taken into account when performance routines are developed, and should be applied in actual settings, such as practice sessions, competitions, and games.

Keywords: performance routine, mental preparation, physical preparation

Special issues

Cultural issues Cultural Sport Psychology from the Field

Robert J. Schinke¹, Kerry McGannon¹,
Gershon Tenenbaum², Brett Smith³, Tatiana Ryba⁴, Carole Oglesby⁵
1. Laurentian University
2. Florida State University
3. Loughborough University
4. Aarhus University
5. National University

Abstract: The term cultural sport psychology first came to light in 2005, with a special edition of *Athletic Insight* devoted to the work of several pioneers in the field, including (Ryba, 2005), Kontos and Arguello (2005), Hanrahan (2005), and Fisher, Butryn, and Roper (2005). These formative contributions to the field were not the first writings pertaining to cultural sport psychology, but the compilation seemed to solidify and mobilize a movement within the field – where the focus has been on centralizing a diversity of cultural standpoints. The movement has slowly gained momentum, with a special edition of the *International Journal of Sport and Exercise Psychology* (Ryba & Schinke, 2009 Editors) devoted to decolonization through research, and a special edition of the *Journal of Clinical Sport Psychology* addressing applied practice with nationally diverse populations (Schinke & Moore, 2011 Editors). The field of sport and exercise psychology is in desperate need of diverse cultural approaches to research and practice that feature examples of how professionals might work with the diversity of clients and participants they encounter in the field. Publications have included the following topic areas: immigrant acculturation (Battochio, Schinke, McGannon, Tenenbaum, Yukelson, & Crowder, 2013), Indigenous acculturation (Hanrahan, 2009), short-term acute cultural adaptation (Ryba, Haapenaa, Mosek, & Ng, 2012), gender equity (Gill & Kamphoff, 2009), working within a race (Parham, 2005), disability sport (Smith & Sparkes, 2012), and national cultural approaches (Si, 2011). This symposium features five presenters and one moderator. The introductory presenter will clarify what cultural sport psychology is and provide a brief overview of its three defined trajectories of cross-cultural, cultural, and cultural studies scholarship. The second presenter will overview cultural sport psychology's past, present, and future. The third presenter will feature scholarship pertaining to acculturation with immigrant elite athletes, the fourth presenter will describe a research project with elite amateur athletes and their experience with acute cultural adaptation, the fifth presenter will discuss cultural practices when working within disability sport. The final presenter, a distinguished international scholar, will respond briefly to the presentations and how each contributes to our understanding of cultural practice, and subsequently moderate discussion.

Keywords: cultural sport psychology, research, practice

The Concept and Parameters of Cultural Sport Psychology

Robert J. Schinke, Kerry R McGannon
Laurentian University

Abstract: Cultural sport psychology (CSP) can mean many things for researchers and practitioners. The term connotes work that centralizes culture (Schinke, Hanrahan, & Catina, 2009), perhaps including such intersecting facets as race (Parham, 2005), ethnicity (Galloway, 2009), socio-economic status, nationality (Si, 2011), gender (Gill & Kamphoff, 2009), ability / disability (Smith & Sparkes, 2012), sexual orientation (), and sub-culture (Schinke, 2007). Though to present, much of the focus in CSP has pertained to race and ethnicity (McGannon & Schinke, in press), and in some cases, one or a few of the other aforementioned criteria, work in this area necessitates further exploration (Schinke & McGannon, 2013). Part of what one might learn, either through a cross-cultural (Stambulova & Alfermann, 2009), cultural psychology (Schinke, Yukelson, Bartolacci, Battochio, & Johnstone, 2011), or a cultural studies approach (Fisher, Butryn, & Roper, 2009) pertains to the uniqueness of participants or clients. What remains for the most part uncharted, pertains to the background of the sport psychologist (Butryn, 2010; Schinke, McGannon, Parham, & Lane, 2012), and the exchanges between people, where sameness and difference are encountered, and how these are negotiated (McGannon & Johnson, 2009; McGannon & Schinke, in press). Within this presentation, the audience will be introduced to the broad topic matter of CSP and a breadth of approaches to the area. This introductory presentation will serve as the platform for the symposium presentations that follow.

Keywords: culture, sub-trajectories, parameters, interdisciplinary

Understanding Disability, Culture, and Sport Psychology through Narrative Science

Brett Smith, Anthony Papatomas
Loughborough University

Abstract: There is an increasing interest in narrative science within the fields of sport psychology and disability studies. This paper first offers a brief introduction to narrative science. It makes the case as to why narratives matter and how an examination of narrative can offer rich insights into the psychology of culture, disability, and sport. Having set the scene, the paper then highlights several narratives that circulate in Western cultures. These include, for the first time in sport psychology, the life-as-normal narrative. Drawing on qualitative data collected from sporting and (in) active disabled people, it is argued that narratives that circulate in culture are key resources that act on, for, and in disabled people. The narratives affect what disabled people think and feel, and affect what they do in terms of sport, physical activity, and health behavior. Building on the theoretical and empirical knowledge advanced here, this paper concludes with practical suggestions for promoting health behaviors among disabled people.

Keywords: disability, narrative, qualitative, sport

Understanding the Acculturation Experiences of Immigrant Athletes: Through Discursive Psychology and Discourse Analysis

Kerry R. McGannon, Robert J. Schinke
Laurentian University

Abstract: Since discursive psychology was first introduced into sport and exercise psychology (see McGannon & Mauws, 2000), it has been developed in sport and exercise contexts (Faulkner & Finlay, 2003; Kosh et al., 2012; Locke 2004, 2008; McGannon & Schinke, 2012; McGannon & Spence, 2010; Zuccheromaglio & Alby, 2012). In this presentation, we extend discursive psychology into the realm of immigrant athlete acculturation to conceptualize and “capture” acculturation as a complex, fluid process linked to self-identity, social networks, power and discourse. Writings concerning the acculturation of immigrant athletes from a psychological perspective are limited (Ryba et al., 2012) despite the presence of sizeable numbers of these athletes in sport (Kontos, 2009; Schinke & McGannon, in press). While no studies have utilized discursive psychology to explore athlete acculturation in sport psychology, discursive psychology has greatly expanded understandings of immigrant acculturation within the broader acculturation psychology literature (Bowskill, Lyons & Cole, 2007; Malhi, Boon & Rogers, 2009; Verkuyten, 2005). Such literature is part of a growing dialogue problematizing conventional understandings of acculturation as static and decontextualized (Bowskill et al., 2007; Chirkov, 2009). Drawing upon focus groups with immigrant elite athletes relocated to Canada (n=13) and coaches working with such athletes (n=10), we show discursive psychology “in use” via a discourse analysis of two central themes previously identified via thematic analysis: (1) Navigating two world views: home country vs. host country and (2) Acculturation loads: acculturation as a two-way process acculturation as one-directional (Schinke, McGannon, Battocchio & Wells, in press). We conclude with a discussion of what discursive psychology contributes toward understanding immigrant athlete acculturation and how these contributions are useful in future research and applied multicultural sport contexts.

Keywords: discourse analysis, acculturation, immigrant athletes

Moving across Spaces and Places:
Towards a Conceptual Understanding
of Acute Cultural Adaptation

Tatiana V. Ryba
Aarhus University

Abstract: Globalized sporting culture has transformed the course of athletes’ careers and impacted their lifestyles, presenting previously unforeseen challenges affecting their wellbeing and performance (Maguire & Falcous, 2011; Ryba, Haapanen, Mosek, & Ng, 2012; Schinke, Yukelson, Bartolacci, Battocchio, & Johnstone, 2011; Stambulova & Ryba, 2013). In this presentation, I introduce new work in cultural sport psychology that studies cultural adaptation as a process of subjectification of space and time occurring at the level of everyday practices. Rejecting the linear psychological models that claim that all immigrants undergo a universal psychological process of acculturation and adaptation (e.g., Berry’s (1980) acculturation model), I argue for an approach that considers the lived experiences of individual athletes within and across trans-locality, as well as the broader power structures that either facilitate or constrain mobility, shaping athletes’ psychosocial development and experiences. My focus is on discussing acute cultural adaptation (ACA), which extends the current literature in sport psychology by offering insights into mechanisms underpinning adaptive processes to a new cultural site during an interim relocation. Responding to the call in cultural psychology to shift theorising from causality to the non-linear complexity of the phenomena (see Valsiner, 2004, 2009), I approach adaptation as a negotiated process. Rather than framing adaptation as ‘achieved’ in terms of either psychological wellbeing or sociocultural proficiency, I propose an understanding of acute adaptation as negotiation between maintaining a psychological

homeostasis and engagement in sociocultural everyday practices of the host site. Rereading a self-determination theory (SDT; Ryan & Deci 2000) through the lens of cultural epistemology, the proposed theorization suggests that ACA is realized in everyday practices drawing on a range of material and symbolic cultural resources to satisfy basic psychological needs. I will use examples from my research to illustrate the conceptual arguments.

Keywords: cultural adaptation, migration, transition

DNA Traces in the ‘New’ Cultural
Sport Psychology

Carole A. Oglesby
National University

Abstract: The purpose of my presentation is to demonstrate the traces, or roots, of what we are calling now ‘cultural sport psychology’ (CSP), digging deep into the origins of the ‘second wave’, 1960s, modern sport psychology. CSP evolved from several principles, both explicit and implicit, of what Wiggins calls the second emergence of sport psychology featuring the formation of new associations, new dedicated textbooks and journals, and dedicated university courses and programs. Fundamentally, there evolved a sense that sport psychology was not ‘diversity’ but diversities-based knowledge and practice. What began as an ‘ethical’ standard based in justice/ fairness to all participants transformed to a ‘quality-based’ standard with awareness of the depth and complexity of the knowledge base. That which also began as a fairness consideration of representative voice in the canon is recently transforming to awareness of alternative meanings of constructs within a constructed reality NOT common to all. CSP now reflects an awareness of its own developmental process moving from positions of ‘other’ knowledge as wrong or inferior to a less judgmental position focused on a need to change or educate the ‘other’s knowledge’ and finally to awareness that alternative interpretations of meaning leads to transformative understandings that are deeper, more complex and thus effective in more situations and contexts. This segment will close with a tracing of CSP diversities with elements including Class, Race/ethnicities, Gender and sexualities, Age, Religion, and Differential abilities. The new construct ‘Intersectionalities’ will be briefly placed in this historical perspective.

Keywords: cultural sport psychology, roots, chronology

Symposium on African Society of
Sport and Exercise Psychology

Philomena Bola Ikulayo
University of Lagos, Nigeria

Abstract: The symposium will bring scholars and professionals in the field of sports psychology together to discuss research findings, counselling, teaching and psych up processes. It will provide opportunity for sport psychologists in various African countries to present their involvement with athletes at various levels of sports growth, development, advancement and promotion. Participants will include sport psychologists from Nigeria, Egypt, Morocco, Tunisia, Kenya, Botswana, Namibia, Ghana, Ethiopia, Mozambique and South Africa. They will participate in the symposium and discuss their work, studies, practice and involvement in the propagation of sport psychology in their countries. They will articulate their interactions with state or local government players as well as national, international, world and Olympic athletes, and present their findings, encounters and challenges. The symposium presentation will give account of the efforts previously made to establish the African chapter of ISSP and the challenges being encountered. It will touch on the contributions made by ISSP MC to ensure that a solid establishment and functionality of the ASSEP is materialised by the establishment of

a steering committee at the 10th World Congress of Sport Psychology in Skiathos, Greece. The outcome of the work by the steering committee is to make sure that the body is fully established with the complement of a minimum of five (5) officers comprising of 1. President 2. Vice President 3. Secretary General 4. Treasurer 5. P. R. O. It is anticipated that the final actualization of ASSEP will take place at the Beijing World Congress of ISSP. The official establishment, with the blessing of ISSP, will create a strong and formidable foundation that will assist in disseminating the important role and value of sport psychology to sports and all human endeavours, particularly in Africa where the importance of sport psychology in achieving success in sport is still a question of paying lip service without actually employing the professional service of the experts in the field of sport psychology.

Keywords: African chapter, role, value, national, professional, success, achievement, sport, expert.

Challenges and Prospects of the
Iberoamerican Society of Sport
Psychology

José Tomás Trujillo Santana
Iberoamerican Society of Sport Psychology

Abstract: Iberoamerican Society of Sport Psychology was founded in 2005 within the framework of the World Conference for Peace and Solidarity held in the city of Santiago de Compostela, Spain. It aims to promote the benefits of sport psychology in the various constituent countries, with actions such as the creation of groups of psychologists interested in science in their countries, networking professional exchange, and the promotion and dissemination of courses, workshops and academic events of sport psychology. Recently, other actions such as the creation of a scientific journal and a Master degree program, seek to regulate the sports psychologists by strengthening the Hispanic-Portuguese language in Psychology of Sport and by increasing quality in the scientific area. One of the main activities is to conduct a biennial scientific conference; since its foundation four congresses have been held (Guadalajara 2006, Torrelavega 2008, Bogotá 2010 and Sao Paulo 2012). Currently the SIPD has nearly 1000 members who come from about 14 Spanish-Portuguese speaking countries. The managing council is formed by Joaquín Dosil Díaz (President), Enrique Garcés de los Fayos (Secretary General) Antonio Hernández Mendo (Vice president (Iberian Peninsula), Luis Humberto Hernandez Serrato (Vice President South America) and Tomas Trujillo Santana (Vice President Central and North America). The next few years will seek to create formal structures to assist the professional work of sports psychologists in these countries and enable further development in this scientific discipline with high quality within the sport context. Iberoamerican Society of Sport Psychology website: www.sipd.org

Keywords: sport psychology, Iberoamerican, association

Disabilities issues
Impact of Physical Activity on
the Moderation of Symptoms and
Remediation among Schizophrenic
Patients: Case Study on Tunisian
Patients

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2. Université Ibnou Toufail, Kenitra, Morocco

Abstract: Introduction and Objectives: This research is part of a study that highlighted the effectiveness of the Pilate’s method in the relief of certain organic attacks such as fibromyalgia or breast cancer (Altan et al., 2009). The aim of our research was to check the impact of the Pilate’s method (a method of physical activity which refers to soft exercises) on the moderation of the negative and positive symptoms among schizophrenic patients and its effectiveness of a better psychological balance of the patient (Eyigor et al., 2010). Methods: The sample of our study consisted of N=20 patients from the psychiatric hospital “ERRAZI” in Tunis. All patients were males, had the same type of schizophrenia (paranoia) and were between 21 to 63 years old (average age was 42 years old). Most of them had an elementary level of schooling. The sample is divided into two groups: an experimental and a control group. Because of the reduced size of manpower, we chose the case study with directing maintenance by calling upon two scales of appreciation of the negative and positive syndromes: “the SAPS and the SANS” (Andreasen, 1982; 1986). Results and discussion: The quantitative and qualitative analysis of the results showed that physical activities based on the Pilate’s method had a positive impact on the moderation of the negative symptoms such as emotional poverty and attention. Moreover, our analysis revealed a certain improvement in the moderation of the positive syndromes and a significant influence on the management of psychosis and schizophrenia, and a reduction of the negative symptoms of schizophrenia. However, it is obvious that physical activity based on the Pilate’s method cannot replace traditional treatments of serious psychiatric disorders, but it can be considered as an important additional therapy. The Pilate’s method can also be useful in keeping the positive symptoms under control. Conclusion: The positive effects of the Pilate’s method on the moderation of the negative and positive symptoms among Tunisian schizophrenic patients have been verified. Furthermore, this method tends to develop active strategies of coping, which helps in the compensation of side effects from drugs and treatments (i.e. obesity, passivity). Finally our study makes it possible to open the way for future research on the improvement of constructive functions for the psychosis of oneself.

Keywords: physical activities, schizophrenia, Pilate’s method, positive and negative symptoms

Drug control
Doping and Social Psychological
Issues

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2. Department of Development and Socialization Processes Psychology Sapienza, University of Rome

Abstract: Sport conveys many important elements such as fair-play, sportsmanship, and health that are fundamental to the well-being of the society. However, the widespread use of banned performance-enhancing methods in sport traumatically damaged the image of sport in recent years, and has raised the attention to the community and sport governing bodies. Over the last decade, the World Anti-Doping Agency invested nearly 50 million USD into the improvement of doping test for better detections and inspections of banned performance-enhancing methods, but there is still no notable reduction of the incidence of doping in sport. Furthermore, the advancement of doping methods even creates more challenges for the reliability and effectiveness of the doping test, the primary anti-doping strategy adopted by most countries. This phenomenon leads researchers to speculate that human factors such as attitude, perception of social forces, motivation, and goal orientation might play a role on the anti-doping movement. Presently, a number of salient questions regarding athletes’ susceptibility, intention, and behaviours of doping or anti-doping are not fully answered. For example, why do some athletes have higher acceptance towards using banned-

performance-enhancing substances in sport? To what extent the “fear of getting caught” may reduce the intention of doping? How does a doping culture influence athletes’ (e.g., cyclists) perceptions about the banned substances with known side effect? In what ways do psychological theories help understand the processes involved in doping or anti-doping behaviours? How can sport psychologists objectively evaluate athletes’ attitudes towards doping even though it is clearly a sensitive matter? The present symposium aims to offer insights into the understanding of the psychological and behavioural patterns associated with doping and anti-doping in sport. A series of quantitative, qualitative, and meta-analytical studies will be presented to showcase the latest findings regarding the psychology of doping.

Keywords: doping, anti-doping, performance enhancing drugs, WADA

Salient Beliefs of Doping and Anti-Doping: A Qualitative Investigation in Western Australia

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1. Curtin University, Australia
2. University of Brighton, UK
3. Teaching and Research Unit in Physical Education and Sport, University of Teacher Education, Switzerland
4. University of Western Australia, Australia

Abstract: In order to explore the contents of the salient beliefs of doping among athletes of individual sports and team sports, we conducted eight semi-structured focus group interviews among 57 young athletes (mean age = 18.02) from 7 different sport events, including 3 individual sports (athletic track, athletic field, and swimming) and 4 team sports (basketball, hockey, netball, water polo, and swimming) in Western Australia. The interview was transcribed and analysed using thematic content analysis. From the narratives of the focus groups, a total of 10 dimensions emerged and they were classified into 4 higher-order themes including Personal Attitude (i.e., personal evaluation and attributes; dimensions include reputation, getting caught (i.e., concerns about the negative impacts of doping on one’s career and reputation when being caught), health effects (i.e., physical and psychological advantages and disadvantages of doping), and financial incentives/rewards to dope (i.e., external contingencies that make doping more likely)), Normative Belief (i.e., the perceived social forces such as pressures from significant others; dimension includes coaches, parents, and team doctors), Control Belief (i.e., the perception of resources, obstacles or difficulties, and situational factors regarding doping or anti-doping; dimensions include insufficient doping test (i.e., the recognition about the lack of doping checks and testing), doping resources (i.e., personal awareness, knowledge, or information of banned substances in sport), and sport level and type (i.e., doping is perceived as being less common among certain athletes)). The contents of the salient beliefs aligned with the Theory of Planned Behaviour (Ajzen, 1985) which denotes the social cognitive processes of human behaviour. However, the result enriched the understanding of the psychological process of doping, from a qualitative perspective, and may potentially be helpful in promoting anti-doping specifically for individual sports and team sports.

Keywords: behavioural belief, normative belief, control belief, thematic content analysis

The Avoidance of Taking Banned Performance Enhancing Substances in Sport: A Perspective from Self-

Determination Theory

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Abstract: Although performance enhancement is the primary reason for athletes to dope in sport, there are many other social circumstances where athletes might unintentionally or unwillingly take the banned substances. For example, athletes may be offered some food, drinks, supplements, or medications that contain illegal substances in certain social situations, thus it is important for them to actively seek and update the knowledge about the WADA list of banned substances, aware of the presence of these substances, refuse to take any suspicious supplement/ medication, and avoid the social situations where unintentional intake of banned substances is more likely to occur. Hence, the present study aimed to apply self-determination theory, a prominent theory in social psychology that is well evidenced into the explanation of the motivational patterns of sport behaviours, to offer an alternative perspective to understand how young athletes may actively avoid taking banned performance enhancing substances. Participants were 410 young athletes (consisted of different types and levels of sport players) from Australia. They were asked to fill in a questionnaire that assessed motivation (autonomous motivation and controlled motivation), self-reported adherence (effort and frequency), and intention regarding the avoidance of using banned performance-enhancing substances/ methods, and the intention of doping behaviour. To access their autonomic behaviour of doping avoidance, each participant was given a lollypop at the beginning of the study and was asked whether they took/ ate the lollypop, and whether they read/ aware of the ingredient information of the lollypop at the end of the questionnaire. Multiple regressions revealed that controlled motivation, instead of autonomous motivation, was positively associated with self-reported adherence and intention to avoid using banned performance-enhancing substances/ methods. Both autonomous motivation and controlled motivation negatively predicted intention to dope in sport. Logistic regressions showed that athletes with high controlled motivation to avoid doping were less likely to take and eat the lollypop, and those with high autonomous motivation were more likely to read the ingredient table and aware of whether the ingredients of the lollypop consisted of banned substances. A motivation did not form any significant associations with all the motivational outcomes. In conclusion, self-determination theory may offer an alternative approach to explain the motivational mechanism regarding the avoidance of banned substances in sport. Young athletes who adopted controlled reasons to avoid doping in sport (e.g., not getting caught) tended to report higher behavioural adherence to doping avoidance, whereas those who adopted autonomous reasons (e.g., anti-doping being consistent with life goals) appeared to be more aware of whether the given food/supplement contained illegal substances.

Keywords: anti-doping, awareness to banned substances, ingredient table

Personality Psychology and Doping Susceptibility among Elite Australian Athletes

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University
Abstract: The use of performance enhancing drugs in sport is a worldwide phenomenon. In recent years, social scientists have generated new research findings on the importance of several individual difference variables (e.g., attitudes, motivations) influencing doping intentions or behaviour. However, although most scholars acknowledge that the prediction of doping intentions and behaviour is a complex phenomenon, little research and theory simultaneously considers the effects of multiple types of determinants from different levels of analysis. Drawing from McAdams’ (1995; McAdams & Pals, 2006) integrative, multi-layered framework of personality psychology, we examined individual differences in Level II characteristic adaptations (i.e., motivation, achievement goals, perfectionism, self-presentation concerns, morality) and Level III aspects of one’s identity (i.e., self-esteem, athletic identity) between clusters of athletes who differed according to their susceptibility to doping. Doping susceptibility was measured via a three-item scale assessing responses to a hypothetical scenario offering the opportunity of a performance enhancing substance (i.e., consideration of the offer, degree of temptation, perceived difficulty to reject the offer). In total, 643 elite athletes (42% males) aged between 14 and 66 years (M = 23.75; SD = 8.49) provided useable data. Athletes’ highest level of competition included the Olympics (20%), world (49%), national (24.5%) and state championships (4.5%), with a large portion having attained an international (10%) or national title (60%). Cluster analyses revealed three profiles that were clearly differentiated on the three susceptibility item measures. The “high doping susceptibility” cluster evidenced high levels on all three doping susceptibility indices and represented 17% of the sample (n = 110). The “moderate doping susceptibility” cluster evidenced moderate levels on all three doping susceptibility indices and represented 27% of the sample (n = 176). The “low doping susceptibility” cluster evidenced low levels on all three doping susceptibility indices and represented the remaining 56% of the sample (n = 357). With few exceptions (i.e., performance-approach goals, personal standards), subsequent analyses indicated that the three doping susceptibility groups differed both in terms of their identity and characteristic adaptations, such that increased susceptibility was associated with a less adaptive personality profile (e.g., high concerns over mistakes, acceptance of cheating; low self-esteem). These findings underscore the utility of concurrently examining distinct facets of the person for doping susceptibility.

Keywords: personality profile, characteristic adaptation, individual difference, performance enhancing drugs

Predictors of Doping Intentions and Behaviours: A Meta-Analysis

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Abstract: Doping behaviours refer to the use of illegal performance enhancing drugs (PEDs) and methods to improve sporting performance (WADA, 2009). Apart from violating the rules of competition and the spirit of sport, the use of illegal PEDs can also lead to health risks (WADA, 2009). Nonetheless, doping behaviours are not uncommon at all levels of sport and exercise participation. In the last decade, there has been a growing interest in understanding the psychological mechanisms associated with doping. Therefore, there is a need to summarize the evidence in the literature and identify demographic (e.g., sex, age) and psychological (e.g., attitudes, self-efficacy to refrain from doping) variables that are most strongly related to doping behaviours or intentions to engage in such behaviours. To this end, a meta-analysis (Hunter & Schmidt, 2004) was conducted on available studies in the extant literature.

From a pool of 104 datasets, we eventually used 63 independent published and unpublished datasets that had the available statistical information. We found that factors such as the use of legal supplements, perceived social norms, and positive attitudes towards doping were the strongest positive correlates with doping intentions and behaviours. In contrast, factors such as sportspersonship and self-efficacy to refrain from doping had the strongest negative association with both intentions and doping behaviours. The effects of potential moderators such as sex, publication status, and study design were tested. Although different across distinct levels of moderators, the effects were in the same direction. We also conducted a path analysis based on the theory of planned behaviour (Ajzen, 1991; Fishbein & Cappella, 2006) constructs using the meta-analysed effect sizes. Our results suggested that attitudes and perceived norms (positively), and self-efficacy to refrain from doping (negatively) predicted intentions to dope, and in turn predicted doping behaviours. A direct path from perceived norms to doping behaviours was also found, suggesting that perceptions of others’ behaviours may play a salient role in individuals’ doping behaviours. The findings highlight the need for a broader approach to anti-doping education. We must move beyond a curriculum heavily skewed towards compliance and testing towards one that emphasizes the social context of doping behaviour via norm-based activities.

Keywords: performance enhancing drugs, psychological correlates, effect sizes, path analysis

Social-Cognitive Mechanisms Related to Doping Use in Individual and Team Sport Athletes

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Abstract: The use of doping substances, like any other illicit behaviour, is an example of transgressive conduct that may depend on one’s personal resources and self-regulatory capacities. That is, social structure and environmental factors may operate in concert with personal factors, such as one’s own internal standards and self-sanctions, in regulating reprehensible conducts. Analyses conducted on a comprehensive archival dataset including nearly 3,000 Italian adolescents and young adults involved in a variety of individual and team sport disciplines indicated that the percentages of those using doping substances (1.5%) or supplements (6.7%) were consistent with percentages in the literature. The archival analyses also showed that adolescents and young athletes’ intentions to use and self-reported actual use of doping substances partly depends on their personal beliefs about doping use. In particular, youth doping intentions increased with more positive doping attitudes, stronger beliefs that significant others would approve their doping use, stronger convictions that doping use can be justified and lower capacities to resist to situational pressures. In turn, stronger intentions contributed to greater doping use measured during the last three months. Additionally, these analyses showed that this pattern of relations seems to be particularly evident among those adolescents who are sensitive to or more prone to favorable interpretations of hypothetical solicitations to use doping substances. In particular, both the number and the magnitude of the predictive longitudinal effects on doping intentions increased in those adolescents who were more inclined to assign a positive meaning to someone’s motives for soliciting use of doping substances, with the net result of increases in the portion of variance in doping intentions explained by these predictive longitudinal effects. These archival analyses relied on research assessments tools and data that did not explicitly address the possible role of athletes’ sport disciplines. In fact, it is plausible that specific belief systems and appraisals might differently regulate

doping intentions and doping use among young team sport athletes. With this in mind, the present talk also summarizes an ongoing line of research seeking to identify social cognitive assessment tools that are context-bounded to the experiences of team sport athletes, and to verify the generalizability of these tools across three different international European contexts. In particular, the talk will describe the initial evidence collected via focus groups with expert team sport athletes and coaches, as well as via psychometric assessments of preliminary samples of young team sport athletes.

Keywords: doping substances, attitude, intention

Implicit Association Tests for Measuring Doping Related Cognitions: Immune against Faking?

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Abstract: Valid assessment of doping related cognitions requires measures, which are robust towards deliberate faking. One fundamental claim of the Implicit Association Test (IAT) is its robustness towards faking attempts. This may be one of the reasons why the IAT has become an increasingly popular research instrument. In the past few years, researchers have begun to systematically investigate the IAT's susceptibility for faking anyways. Expanding the extant body of IAT related faking research, our study is the first to assess the fakeability of the so called Brief-IAT (BIAT), which is an IAT variant that has been employed already by different groups of doping researchers. In order to resemble some ecologically valid faking scenarios we investigated the effects of two different faking strategies and repeated faking attempts on one recently proposed doping-BIAT. Ninety-five students (40 females, 21.06 ± 2.29 years old on average) were randomly assigned to a 2×2 factorial design (self-exploring vs. instructed faking strategy × single vs. repeated faking attempts) or a control group (repeated BIAT testing without faking instructions), leading to a total of five testing conditions. All participants performed three successive doping BIAT's. Furthermore, all participants filled out self-report questionnaires assessing doping attitudes, social desirability, faking motivation and self-reported attitude strength towards doping. Within and between comparisons indicate that the BIAT can be faked (with effect sizes of d = 0.98 and d = 1.13 respectively). Neither faking instructions nor amount of experience with the BIAT (both repeated baseline measures and repeated faking attempts) had a moderating effect on faking success (all p's ≥ .12). Faking success in the BIAT may be smaller (mean change in D-Score was 0.54 in our study) than with standard IAT procedures (for which mean D-Score changes of 0.90 have been reported in other studies). It is therefore concluded that – while far from being a "perfect" measure – the BIAT represents a promising tool for assessing athletes' doping attitudes. In order to model real world faking even more appropriate though, further research needs to create experimental conditions in which participants are intrinsically motivated to fake (and are not explicitly instructed to do so).

Keywords: Brief Implicit Association Test (BIAT), social desirability, response bias

Social Norms, Deviance and Doping Use in Professional and Amateur Cycling

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Abstract: In sociological and psychological perspectives, many studies have attempted to investigate the influence of social structure

on individual action. Social norms are a widely used concept for explaining human behavior. Conformity with social norms is met by approval, status, and pride, and deviation is met by disapproval, stigmatization and shame. According to Becker's interactionist theory of labeling, social groups create deviance by making the rules that infraction constitutes deviance, and they apply those rules to a particular people labeling them as 'outsiders'. Previous studies in cycling using an interactionist view of deviance showed that doping is accepted as a shared practice in the peloton. The purpose of this article was to investigate if doping use was considered as a deviant behavior in professional and amateur cycling and to understand how this perception of deviance was built in both contexts. Our investigation was based on 24 semi-structured interviews including eight current young cyclists (six cyclists at the amateur level (U23), two at the professional level), eight former cyclists who were professional cyclists before the Festina scandal, and other people involved in cycling (coaches, physicians, cycling team and individual managers, journalists). Results showed that doping use was not considered as a deviance in professional cycling, but it was considered a deviance at the amateur level. Professional cyclists who refused to dope were considered as 'outsiders' in professional cycling since they did not accept the doping norms at this level of competition. In contrast, doping users were considered as 'outsiders' at the amateur level. The role of some physicians was very important in the construction and maintenance of the doping norms at the professional level. Even if more and more people fight the use of doping, this development was not sufficient to remove the sub-culture of doping at the highest level of cycling.

Keywords: conformity, Becker's interactionist theory of labeling, deviation

Eating disorder issues

Influence of Attachment, Personality and Alexithymia on Athletes' Alcohol Use and Eating Disorders

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Abstract: Objective: Numerous studies emphasize the role of parental attachment, personality and alexithymia in alcohol use and eating disorders among clinical samples. However these variables have not been widely explored among specific athlete samples. Moreover, most studies examine only direct effects of vulnerability factors on risk-taking behaviors, but recent studies stress the interest of more complex models. Consequently, this study focuses on the influence of parental attachment, personality traits and alexithymia on alcohol use and eating disorders among young athletes through a broad model. Method: 434 athletes (236 male/198 female; M= 20.24, SD = 2.02) at different levels (20.3% leisure, 53.9% departmental or regional level, 25.8% national level) have completed different questionnaires assessing eating behaviors (EAT-26), alcohol use (AUDIT), parental attachment (IPPA-R), personality traits (BFI) and alexithymia (TAS-20). Regression analyses and bootstrapping mediation analyses were used to test our hypotheses. Results: Alcohol use and eating disorders are related to insecure parental attachment and alexithymia facets. However, the links with personality traits are different for these two risky behaviours. Alcohol use is related to low conscientiousness and eating disorders to high neuroticism. Consequently, the mediation models for these two behaviours are slightly different. Conscientiousness and the Difficulty Identifying Feelings dimension of alexithymia are mediators in the relationship between maternal insecure attachment and alcohol use. Conscientiousness and neuroticism are mediators in the relationship between maternal or paternal insecure attachment and

bulimia, and neuroticism is a mediator in the relationship between paternal insecure attachment and restriction. Conclusion: We found similar results with athletes as to those from clinical samples regarding parental attachment, alexithymia and personality traits (neuroticism and eating disorder, conscientiousness and alcohol use). As it was previously established in the clinical research, the links between risky behaviors and personality traits vary according to the behaviors' specificity. However, low conscientiousness is a mediator which is common to both alcohol use and bulimia, providing a deeper understanding than previous works emphasizing some predispositions common to these behaviors.

Keywords: personality, attachment, alcohol use, eating disorder, emotions

Personality Traits as Risk Factors for Disordered Eating among French Elite Tennis Players

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Abstract: Objective: Personality traits have been found to have a close link with various psychological distresses (e.g. anxiety, depression, negative mood states, and eating disorder). The purpose of this study was to examine the existence of personality traits, namely, Big-five, alexithymia and trait anxiety as risk factors for negative psychological states and disordered eating among elite tennis players in France. Parental attachment style may also play a role in predicting personality traits and psychological states. Methods: Participants in the current study were recruited from the Roland Garros tournament in France: eighteen elite level French tennis players, 33% men (N=6) and 67% women (N=12), with ages ranging from 17 to 26 years (mean=19.2, SD=2.4). Participants completed the following questionnaires in French: Big Five Inventory (BFI-Fr), Toronto Alexithymia Scale-20 (TAS-20), State Trait Anxiety Inventory (STAI), Positive and Negative affect Schedule (PANAS), Brief-COPE, Inventory of Parent and Peer Attachment (IPPA) and Eating Attitudes Test (EAT-26). Results: In accordance with the literature, neuroticism, alexithymia and trait anxiety correlated significantly and positively with state anxiety and disordered eating among French elite tennis players. Conscientiousness and agreeableness correlated negatively with state anxiety. Moreover, maternal secure attachment correlated positively with conscientiousness and had a positive effect, while paternal alienation was positively associated with alexithymia, trait anxiety, and had a negative effect on a self-blame coping mechanism. Conclusion: The results support that neuroticism, alexithymia and trait anxiety predict negative psychological states and risk taking behaviors (i.e. disordered eating) in high level French tennis players. Parental attachment style is linked to personality traits and affective states. Despite that there was no link with disordered eating .attachment style could probably be linked with other risk taking behaviors.

Keywords: tennis players, emotional state, personality, attachment, eating disorders

Making Weight in Competitive Judo and Its Consequences on Health and Performance

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3. University of Amsterdam, MOVE, the Netherlands

Abstract: Objective: Research has shown that eating disorders are

significantly more prevalent in elite sports and that certain sport types are specifically at risk. So far, studies into this area were mainly executed in aesthetic sports, endurance sports, and body-focused sports, but studies into weight-class sports seem to be an exception. Anecdotal evidence suggests that the repeated necessity for cutting weight could be damaging to the physical and mental health of these athletes and their performance. More insight is needed into the antecedents and consequences of making weight in judo, which would allow for an early detection of problems as well as for the identification of strategies that stimulate healthy sport participation. Methods: The weight making questionnaire was translated and relevant items on antecedents and consequences of weight making practices were added. First, for the validation study, 250 judo competitors were recruited from Dutch judo schools. Included were men and women, non-elite competitors over 12 years of age among all weight classes with at least two years of competitive experience. For convergent validity, correlations with the Eating Disorder Examination Questionnaire (EDE-Q) were computed. For divergent validity, relationships with the Contextual Body Image Questionnaire for Athletes (CBIQA) as well as the Symptom Check List 90 (SCL-90) were analyzed. Secondly, a quantitative study was executed among elite judokas, both men and women, in the Dutch national selections which allowed us to compare weight making between different participation levels. Results: The results show what the contributing factors such as age, gender, weight class, level of competition, beliefs about weight making, social influence and regulations have on the nature of making weight and the extent to which these behaviors become a threat to physical and mental health. Conclusion: The results of this study have identified some crucial factors that are useful for both early detection of problems and the identification of preventive strategies.

Keywords: eating disorders, judo, social influence, health

Sport and exercise Psychology

Burn out and overtraining

Perfectionistic Self-Presentation and Burnout in Elite Coaches

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Abstract: Elite coaches work in challenging and stressful environments. Whereas some coaches appear to handle the pressure well, others do not. One of the potential consequences of succumbing to prolonged exposure to taxing job demands is burnout. Burnout is a stress-related condition that among coaches will manifest in both mental and physical exhaustion and increasingly negative attitudes towards their work. Recent research suggests that coaches may be especially vulnerable to burnout when they exhibit higher levels of perfectionism, in particular, dimensions of perfectionism that capture negative self-evaluative traits. However, as yet, the importance of other elements of perfectionism, such as the perceived need to present oneself perfectly (perfectionistic self-presentation) and the on-going ruminative thoughts associated with perfectionism (perfectionistic cognitions), have not been examined. As a group, elite coaches are highly visible to the public and their performance is constantly scrutinized and judged by media, fans and sponsors. It is

our hypothesis that coaches who respond to this scrutiny by attempting to promote an image of perfection, and hide imperfection, are more likely to suffer from burnout. In addition, when coaches experience more frequent intrusive thoughts focused on the need to perform perfectly, this will increase burnout symptoms further. To test these hypotheses, a provisional sample of 47 elite soccer coaches completed the Perfectionistic Self-Presentation Scale, the Perfectionism Cognitions Inventory, and the Oldenburg Burnout Inventory (capturing exhaustion and disengagement). Hierarchical multiple regression was adopted to assess the predictive ability of perfectionistic self-presentation and the subsequent incremental predictive ability of perfectionistic cognitions. The analyses revealed that perfectionistic self-presentation positively predicted exhaustion and disengagement, accounting for 13% and 16% of variance. In both cases, perfectionistic cognitions did not add any significant additional variance. The findings extend previous research by suggesting that the influence of perfectionism on coach burnout extends beyond its trait dimensions to its self-presentation features.

Keywords: perfectionism, burnout, elite, coaches, stress.

**Communication skills
Making Connections: Expanding
AASP’s Student Initiatives to Promote
an International Sport and Exercise
Psychology Network**

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Abstract: The goal of the Association For Applied Sport Psychology’s (AASP) student initiative, the Internship and Practicum Experience Database (IPED), is to identify up-to-date internship opportunities, provide students information on seeking appropriate and meaningful supervision, and provide students with information on practical ways to seek training in applied sport psychology (AASP, 2013). Currently, the IPED initiative is working to expand the database to listings that are inclusive of international internship sites. As such, this presentation will discuss the expansion of IPED to include international internship and practicum sites and the need to make connections with international sport and exercise psychology practitioners to provide quality training and mentoring opportunities for domestic and international students. The goals and current work of IPED are in line with a second AASP student initiative titled, Across Land and Sea (ALAS), whose mission is to increase the visibility of AASP around the world (AASP, 2012). With the IPED initiative working to create a global database of quality internship and practicum experience sites and ALAS’s goal to increase communication among international professional and student members, the presenter will also discuss: 1) current AASP methods developed to create a more integrated system of networking between international student and professional members, 2) methods to developing student and professional networking internationally, and 3) recommendations for increasing AASP visibility internationally. The author of this presentation will also take time to discuss these initiatives with the members of the audience with the goal of identifying strategies to most effectively move forward with these international initiatives.

Keywords: student initiatives, international, professional development

**Promoting the Profession of Sport
and Exercise Psychology into the
Future**

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3. Association for Applied Sport Psychology
It is in the best interest of all sport and exercise psychology professionals for organizations around the globe to promote the development of the profession of sport and exercise psychology to laypersons and professionals alike. One of the major goals for the Association for Applied Sport Psychology (AASP) is to build the Organization’s presence and visibility and promote the profession of sport and exercise psychology. As a means of achieving this goal, it is essential that members of different professional sport and exercise psychology organizations meet to discuss the issues affecting the field globally. For this reason, the AASP has supported the growth of the Sport Psychology Council moving forward. The AASP is also interested in discussing with professionals from around the world, those issues most pertinent to them, with a goal of developing strategies for collaboration to help deal effectively with such issues. The primary goals for promoting the profession into the future need to include the provision of professional development opportunities for those working in the field, as well as educating potential consumers about the benefits associated with working with those in the profession. The strongest approach for achieving these aforementioned goals likely hinges upon the development of organizational collaborations. The goal of this presentation is therefore to identify the strategies undertaken by AASP to promote the profession of sport and exercise psychology globally, and to initiate a discussion with the members of the audience about the best approaches for moving forward with these initiatives internationally.

Keywords: professional development, international collaboration

**Creating a more Transparent
Organization (AASP)**

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2. Adler School of Professional Psychology
3. Association for Applied Sport Psychology

Given the recent growth of the Association for Applied Sport Psychology (N=1700+ members), the organization has experienced some expected growing pains. This growth has made the process of communicating organizational initiatives with individual members more difficult, and at times may have led to miscommunication. To help deal with these growing pains, the organization has taken steps to develop clear strategic goals for the future (2015). As part of these goals, the leadership of AASP has taken steps to clearly outline the organizational and financial structure of the organization and to increase the value of the organization for its members through new and innovative programming. Furthermore, the organization has taken steps outline for the members its decision making process with regard to important issues such as elections. The purpose of this portion of the symposium will be to outline the steps taken by the organization to handle these growing pains by making our dealings more transparent to the membership, and to dialogue with members of the audience about possible collaborations with other organizations on future programming.

Keywords: organizational development, applied sport psychology

**Career development and career
Transitions in sport**

**The Meandering Road to Excellence:
A Qualitative Examination of Within-**

career Transitions in Elite Sport

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3. Vrije Universiteit Brussel

Abstract: Based upon Wylleman & Lavallée (2004)’s developmental perspective, a qualitative study was conducted with nine successful elite male athletes, medaled in major events (i.e., European championships, World championships, Olympic Games) the purpose of which was to explore through in-depth interviews how they dealt with key events and transitions throughout their sport career. Results reveal not only similarities in athletes’ roads to excellence (e.g., involvement in various sports at the beginning of the sports career then specialization, entry in an elite sport training center, non-linearity of the course of sports career during the mastery stage with alternation between successful periods and poor performance or injury periods) but also several dissimilarities when examining the interactive nature of athletic, social, academic, and vocational development. These results emphasize in research as well as in applied sport psychology the need to focus on the ability of elite athletes to manage with transitions – ‘ups and downs’ – influencing the course of their sport career as well as their development in other domains of life.

Keywords: career transitions, change-events, elite sport, athlete development

**How to Become a Winner in the Long-
Run? Dual Career Experiences of
Swedish Adolescent Athletes**

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Abstract: This presentation will focus on a national level Swedish project aimed at examining adolescent athletes’ transition to, and adaptation at, national elite sport schools (NESS). In this study transitional issues (e.g., demands, resources, coping strategies related to sport, studies and private life) and athletes’ personal attributes (e.g., athletic and student identities) were addressed from a holistic lifespan perspective using longitudinal mix-method (quantitative and qualitative) research design. The instruments used in the two quantitative measurements (autumn and spring) included: the Dual Career Survey (Engström & Stambulova, 2010), the Athletic Identity Measurement Scale (Brewer, Van Raalte, & Linder, 1993), the Student Identity Measurement Scale (Engström & Stambulova, 2010), the Task & Ego Orientation in Sport Questionnaire (Duda, 1989), and the Basic Needs Satisfaction Scale (Chen et al., in press). Participants (main sample) were athletes of 15-16 years old, representing two genders, 27 sports, and 33 NESSs across the country with 261 who took part in the first measurement and 250 who took part in the second measurement. In addition, in-depth interviews were conducted twice a year with 10 participants from the main sample. The results confirmed that starting at NESS meant for student-athletes entering a complicated transition embracing all major spheres of their life. At the beginning of the year the participants underestimated demands of studying, doing sports and living at NESS and overestimated (based on previous relevant experiences) their readiness to pursue dual career at NESS. Later, during the year more awareness and understanding of the reality came, and led to their self-re-evaluation of the adaptation process and outcomes. So, the 1st year at NESS can be seen as a way from an illusory to real adaptation (which continued even in the end of the year). Results confirmed that one of the most difficult aspects in the adaptation process at NESS was finding an optimal balance between sport and

studies. It appeared impossible all the time to give 100% in both. Therefore, student-athletes had to prioritize one side that typically was sport. Some athletes experienced a dissonance between prioritizing sport and receiving a message from coaches/teachers that they are expected to prioritize studies. The study also showed contributions of athletes’ personal development (e.g., athletic identity, task orientation) to the adaptation process. Moreover, perceived total importance of sport, studies, and private life as well as satisfaction with these life domains contributed positively to student-athletes’ adaptation at NESS.

Keywords: dual career, identity, national elite sport schools, transition

**Psycho-socio-cultural Aspects of
Sport Migration of Young Talented
Athletes**

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Abstract: During last years, we have been noticing the trend that young talented athletes opt for continuing their sport careers elsewhere. Talented young athletes on a pre-elite level from different sporting disciplines (e.g., swimming, track-and-field) are migrating from Slovenia mostly to the USA, deciding to continue higher education in USA where they are combining studies with competing for university teams. On a general level, the reason for their migration is twofold: to enhance sporting results by being in a highly competitive environment with good training conditions as well as to gain an internationally acclaimed education. When athlete migrates to another environment, he/she has to adapt on a psychological, psychosocial as well as on a cultural level. The aim of this study is to present preliminary results of athletes’ adaptations on these levels. Using both inductive and deductive content analysis, a case study of a female swimmer that transferred to USA will be presented. A semi-structured in-depth interview schedule was designed for the purposes of this study to elicit psychological, psychosocial and cultural aspects of the athletic migration (Cecić Erpič, Doupona Topič, & Tekavc, 2012). Results of the content analysis will be presented and discussed by using framework based on the Developmental model of sports career (Wylleman & Lavallee, 2004).

Keywords: sport career development, sport migration, talented athletes

**A Longitudinal Examination of
the Psychosocial Values and
Characteristics of Elite Adolescent
Tennis Players**

Chris Harwood, Janki Rajapurkar
Loughborough University

Abstract: Whilst existing talent and youth development models in sport propose a number of psychosocial characteristics believed to be important to talent transition, performance and personal well-being, there is an over-reliance on adult perceptions of psychosocial requirements (Douglas, Harwood, & Minniti, in press). The perceptions of talented adolescent athletes in respect of their psychosocial needs and values is less clear, yet such perspectives are important in terms of athlete support, planning and motivation. This study longitudinally examined the psychosocial values and characteristics of elite tennis players with an emphasis on tracing developmental changes as each

player progressed through adolescence. Eight elite junior tennis players (M=13.75, SD=1.83 years) training at International High Performance Centres were interviewed in three stages over a two year period. Through the use of role model stimuli, vignettes and scaling techniques, Stages 1 and 2 enabled players to identify key psychosocial characteristics of value to their holistic development as a player and person; the degree to which they felt competence or mastery in each characteristic was rated by each player. Thematic analysis reinforced the varying importance and mastery of self-perceptions, emotional competence, social skills, motivational characteristics and behavioural skills. Stage 3 comprised a further interview and review of key psychosocial values and characteristics with all participants 21 months later. Data from stages 1 and 2 were compared and contrasted with data from stage 3 to assist in a fuller understanding of the psychosocial journeys of these players, and how characteristics differed in terms of value, maintenance, fulfillment and mastery. Practical implications for working with talented adolescent athletes will be provided.

Keywords: psychosocial, youth sport, qualitative method

The ‘Dual Career’ of Elite Athletes: Factors Influencing the Combination of Elite Sport and University Study

Stephanie De Croock, Paul Wylleman, Nathalie Rosier, Janja Tekavc VrijeUniversiteitBrussel

Abstract: At the end of secondary education, talented athletes may choose to end their academic pursuit and go for a (professional) sport career or opt for higher education. Research shows that most elite athletes have the intention to undertake higher studies, mainly because of theirpost-athletic career or personal developments. This is confirmed in the evaluation of the effectiveness of the Elite Sport Schools in Flanders where 78% of graduated student-athletes continue into higher education.

When student-athletes are involved in higher education, some problems appear due to the need of excellence in both the academic and sport domains. The holistic model of Wylleman and Lavallee (2004) shows how the development of an athletic career may be interwoven with an athlete's development at the academic level.

An elementary factor in student-athletes' possibilities to combine both careers is the establishment of a structural and organizational framework which allows academic institutes to fulfill the needs of this specific population. Even though many institutions provide special services for student-athletes, there is plenty of room for improvement. The first aim of this study is to make an inventory of the presence of all the student-athletes in the colleges and universities in the Brussels Capital Region. Second, an evaluation will be made for the need of creating a guidance system to promising student-athletes. The goal of this evaluation is to promote sport and higher education at colleges and universities in the Brussels Capital Region.

During the presentation more detailed research data will be presented with regard to the support provided to student-athletes in higher education in the Brussels Capital Region and how these findings link with the holistic model of Wylleman and Lavallee (2004).

Keywords: student athletes, holistic perspective, higher education

European Perspectives on Sport Psychology

Paul Wylleman
VrijeUniversiteitBrussel

Abstract: With this two-part invited symposium, the European Federation of Sport Psychology (FEPSAC) brings together

presentations related to different aspects of sport psychology. In the first instance, presentations will be related to the education in applied sport psychology in Europe, the position of the sport psychology professional within a sport federation, as well as to the development of FEPSAC's flagship journal Psychology of Sport and Exercise (PSE) as one of the world's leading sport and exercise psychology journals. In the second instance, presentations will consider research data on the psychosocial values and characteristics of elite tennis players as they progress through adolescence, to elite sport coordinators' perspective on the junior-senior transition, and to the decision-making process of female elite athletes with regard to motherhood. Finally, two presentations are related to how the motor system affects perceptual or cognitive tasks and to the psychometric properties of the translation of a valid and reliable instrument for competitive anxiety. In this way, both parts of this symposium will present recent empirical data from European sport psychology researchers.

Keywords: FEPSAC, applied sport psychology, elite athletes, female athletes, anxiety instrument

Education in Applied Sport Psychology

Vana R.I. Hutter
VU University Amsterdam

Abstract: The purpose of the presentation is fourfold:

- a) to present an overview of education in applied sport psychology in Europe,
- b) to outline required sport-specific content in education of applied sport psychologists,
- c) to discuss case-examples of issues that trainee sport psychologists encounter,
- d) to share lessons learned in education of sport psychologists.

Sport psychologists work in a unique domain, and have to be knowledgeable about the specificities of the world of sports. Training in both psychology and sport sciences is indispensable in becoming an effective practitioner. It should include a broad spectrum of competencies (see e.g. Tod, 2007; Sharp & Hodge, 2011) and prepare professionals to work in a complex environment (e.g. Andersen, Van Raalte, & Brewer, 2001; Haberl& Peterson, 2006). Education in applied sport psychology in Europe is developing; several countries have quite recently started specialized educational programs (e.g. Sweden, Germany, The Netherlands). With the development of these programs, expertise on education in applied sport psychology is evolving rapidly. A network in which the expertise is shared and remaining questions for educators are resolved will contribute to the quality of sport psychology service delivery.

Keywords: EASY-network, education, professional development

Working with Athletes Inside a Sport Federation: A Question of Positioning

Elisabeth Rosnet
Institut National du Sport de l'Expertiseet de la Performance

Abstract: The paper will present the analysis of a psychologist's position granted by a sport federation according to the topic of the positioning of the professional. It is based upon a more than 20 years' experience of the author in the French Fencing Federation. The position is an official part-time position as psychologist. The main mission integrates both mental preparation and psychological support aspects. It concerns every fencer involved in the top level pathway which begins around the age of 15 years old until the end of the elite career for the best ones.

The analysis of the positioning will be done through the perception of the athletes, the coaches, the national technical direction team, the

elected members and the psychologist. The dimension of the dynamic evolution of this system of perceptions will be included and explained regarding contextual aspects.

It will also include the advantages and the difficulties of such a position and their consequences upon the positioning. More precisely, the relationships between the official status, the role played and the perceptions will be described. The question of the outcomes and of the assessment of the efficiency will also be discussed.

Keywords: mental preparation, psychological support, sport federation; positioning

Development and Strategies of Psychology of Sport and Exercise (PSE)

Bernd Strauss
University of Muenster (Germany)

Abstract: Psychology of Sport and Exercise (PSE) is the official journal of FEPSAC, published by Elsevier and founded by Stuart Biddle (UK). The first PSE issue was published in July 2000. In July 2011 NikolaosNtoumanis (Birmingham, UK) and Bernd Strauss (Muenster, Germany) took over the honor to act as joint editors-in-chief for the next four years. Meanwhile 11 associate editors from four continents as well as an editorial board of 35 members support this journal permanently.

Since 2005 six issues have been published annually, as a print version but also on the Elsevier Website <http://www.journals.elsevier.com/psychology-of-sport-and-exercise>) and along with an online-first publishing option. Meanwhile PSE publishes around 90-100 papers per year. The number of submitted manuscripts shows the increasing importance of the journal and its acceptance within the scientific community. The number of manuscripts submitted for publication has increased steadily from 102 in 2005, to 203 in 2008 to 345 in 2012. The intensive work involved in handling this substantial number of manuscripts is reflected in the large number of different external reviewers (584) who provided reviews last year.

The upward trajectory of the journal is reflected in the 2-year IF of around two in the last years; in 2012 an impact factor of 1,867 has been noticed. The 5-year IF of 2,590 was the highest ever in the history of PSE. We are confident to say that PSE is among the world's leading sport and exercise psychology journals.

PSE publishes papers from all areas of sport and exercise psychology. Papers submitted to PSE should meet a high standard of methodology. The journal is open to all quantitative and qualitative approaches.

We have periodic calls for papers to be published in special issues that will highlight new methodologies, exciting areas of research, or innovative approaches in the applied fields of our discipline. E.g., in this spirit, PSE has published a special issue on "Sport Psychology and the Olympic Games" (edited by Paul Wylleman and Urban Johnson) in 2012. Newly planned special issues can be found on the website.

Our aim for this talk is to give a deeper insight into the possibilities of PSE and the Elsevier website, and the strategies of the editors-in-chief to maintain and increase the position of PSE in the scientific community. Among these are the entire editorial process with respect to quality and speed as well as some ethical related considerations.

Keywords: journal, peer review, PSE, FEPSAC

Significance of the Junior-to-Senior Transition in the Athletic Career

Nathalie Rosier, Paul Wylleman, Stephanie De Croock, Janja Tekavc VrijeUniversiteitBrussel

Abstract: Researchers have examined how talented athletes develop through (as well as after) their athletic career. While different normative challenges have been studied, few empirical data is available on the challenges talented athletes face during as well as after making the junior-to-senior transition. This is surprising as, on average, only one junior elite athlete in three makes a successful transition into the senior elite level. Taking into account the multi-level factors of influence on career development, the developmental lifespan model (Wylleman&Reints, 2010) will be used as a conceptual framework throughout the whole project, of which the current study is part.

According to the developmental lifespan model, athletes face transitions at different levels. When facing the junior-to-senior transition, athletes will not only be a transitional face at the athletic level, but also at the psychological, psychosocial, and academic levels. At the psychological level the transition from adolescence into young adulthood challenges the athletes to develop their own identity. At the psychosocial level, the role of the coach, parents, and significant others will change. At the academic level, athletes will make the transition into higher education or into the job market.

The current study is part of a bigger project which investigates the junior-to-senior transition in Flanders over a period of two years. Athletes ranging from two years before until two years after this transition will be followed for two years, using both quantitative and qualitative research methods. For the present study, interviews were conducted with the elite sport coordinators of the national governing bodies of category I sports in Flanders. Results indicate that the age at which athletes make the junior-to-senior transition is sport-specific and, as a consequence, the factors influencing this transition. During the presentation, more detailed research data will be presented with regard to elite sport coordinators' perspective on the junior-to-senior transition in Flanders.

Keywords: career-transitions, elite athletes, Sport federation

Becoming a Mother during Sports Career or Postponing Motherhood until Retirement from Sport

Nadine Debois¹, Aurélie Ledon², Paul Wylleman³, Elisabeth Rosnet¹

- 1. Institut National du Sport
- 2. Université Champagne-Ardenne
- 3. Vrije Universiteit Brussel

Abstract: Based upon the "push pull anti-push anti-pull" model often used in decision-process studies focused on life changing events (e.g., Mullet, Dej, Lemaire, Raiff, &Bathorpe, 2000; Shultz, Morton, &Wackerle, 1998), a qualitative study was conducted on the decision-making process of female elite athletes who (a) choose to have a break within their sports career for motherhood or (b) decide upon postponing motherhood until after their athletic retirement. Participants included seven elite female athletes of whom three became a mother during their sports career and four decided to postpone motherhood until after athletic retirement. Results revealed that the decision-making process showed an interaction between push, pull, anti-push as well as anti-pull factors whatever the final decision for motherhood or postponement was. Athletes who decided upon motherhood during their sports career mentioned a majority of push factors (e.g., age, partner's desire for parenthood, sport success or failure) whereas athletes who decided upon postponing motherhood referred to mostly anti-push (e.g., no parenthood desire in their partner, performance improvement, Olympic goals) and anti-pull (e.g., worry about missing sponsoring contracts, worry about never being able to regain elite level) factors.

Keywords: motherhood, elite sport, decision-making

Embodiment – Empirical Evidence of How the Motor System Affects

Cognition

Markus Raab, Alexandra Pizzera, Karsten Werner
German Sport University, Cologne

Abstract: Research on embodiment in sports indicated that cognitive performance is informed by simple motor experience and can be primed via specific actions. For instance, recent research showed that judges in gymnastics who are able to perform a specific movement on the beam, rate the movement quality (e.g. measured objectively via a leg-leg-angle) more precisely in comparison to judges of the same license level and judging experience without this specific motor experience (Pizzera, 2012). Additional studies have shown that this relation can also be found in similar as well as different judging tasks such as decision making in fast ball games. Motor experience gained as athletes is significantly related in the performance of trampoline judges and in the prediction performance of ice hockey referees (Pizzera&Raab, 2012). These findings were in line with the results of more basic embodiment research from our lab. They indicated a specific link between a primed movement (e.g. sorting marbles inward vs. outward) and the solution of a problem-solving task (water-jar problem) that can be solved by addition and subtraction. Participants preferred the solution, which was previously induced by the movement priming with a similar concept (Werner &Raab, 2012). This specificity between movement and problem tasking allows us to further experiment to investigate how bodily movements affect the process of solving a cognitive task. Summing up, research on embodiment effects thus may play an important practical and theoretical role in sport psychology that has not been fully acknowledged yet. Therefore further studies are needed to explain effects that embodiment has on coaches, athletes and referees, as well as testing common or distinct underlying mechanisms. The presentation will list current studies from our lab and integrate them into a framework when and how the motor system affects perceptual or cognitive tasks. Evidence from this research will be discussed to advance research and applications of embodiment in sport psychology.

Keywords: embodiment, motor priming, perceptual judgment, referee, decision making

Flemish Version of the Sport Anxiety Scale-2: Psychometric Analysis and Experiences with Cross-Cultural Collaboration

Caroline R.F. Jannes¹, Yago Ramis², Catarina De Sousa²

- 1. Ghent University Hospital
- 2. University of Barcelona

Abstract: The Sport Anxiety Scale-2 (SAS-2; Smith, Smoll, Cummings, &Grossbard, 2006) has been developed to understand competitive anxiety (Worry, Somatic, and Concentration Disruption) in young athletes. The current presentation has two aims: (1) to present the psychometric properties of the translation of a valid and reliable instrument for competitive anxiety that is appropriate in the Dutch speaking region of Flanders; and (2) to discuss experiences of cross-cultural collaboration with Spanish and Portuguese researchers. A translation of the SAS-2 was completed by 449 Flemish competitive youth athletes with a mean age of 12 years from diverse types of sport (sailing, surfing, track and field, gymnastics, fencing, bowling, soccer, basketball, hockey and dancing) and levels in competitive experience (regional, national, international). Several questionnaires such as the Hierarchic Personality Inventory for Children (HiPIC; Mervielde& de Fruyt, 1999), the Dutch version of the Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda et al., 1992) and the Dutch version of the State and Trait Anxiety Inventory for Children

(ZBV-K; Bakker, van Wieringen, van der Ploeg&Spielberger, 2004) were used to examine construct validity. Confirmatory factor analysis revealed the three factors as suggested by Smith and colleagues (2006), and Cronbach Alpha coefficients showed good internal consistency. Several correlations between the three factors for SAS-2 and scales for HiPIC, TEOSQ and ZBV-K were found. The translation of this questionnaire is part of a larger translation project conducted by e.g. the Flemish Federation of Sport Psychology – Workgroup Psychodiagnostics to meet with the need to have measures for youth athletes. During the validation process, a network of several European researchers has been established. In the case of the SAS-2, across-cultural collaboration was started between Flemish, Spanish and Portuguese sport psychologists. Advantages and obstacles will be briefly discussed.

Keywords: sport anxiety, psychometric, cross-cultural

Leadership

Key Initiatives for the Association for Applied Sport Psychology

- Jack Watson^{1,2}, Leeja Carter^{3,2}
- 1. West Virginia University
 - 2. Association for Applied Sport Psychology
 - 3. Adler School of Professional Psychology

Abstract: The Association for Applied Sport Psychology (AASP) is currently in the midst of a period of great growth and development. The membership of the organization is growing in terms of numbers and is spreading internationally. In conjunction with this growth, the organization has taken strides to identify its path forward. In 2010, the organization began working on a strategic plan to help guide the organization into the future (2015). The goals outlined by this strategic plan were to: 1) Create an organizational and financial structure that aligns with and supports the needs of the members, 2) Increase the value of AASP for our members, 4) Strengthen the certification program to enhance credibility of the industry and promote members to the general public, and 4) Build AASP's presence and visibility and promote the field. Since the development of this strategic plan, the organizational leadership has been very clearly focused on making strides towards achieving the goals outlined in the strategic plan. Therefore, decisions about finances, resources and structure of the organization consistently link back to the strategic plan. The purpose of this symposium is to outline several of the major initiatives that AASP has undertaken with the goal of moving the organization forward. The second purpose of this symposium is to initiate discussion with members of the audience about how to collaborate internationally to help accomplish these goals within AASP as well as how best to collaborate with other organizations to promote the development of the profession of sport and exercise psychology around the globally.

Keywords: organizational development, applied sport psychology

Mental training and preparation for performance enhancement

Boxing in the Philippines: Tracing the Footsteps of a Legendary Fighter

Maria Luisa Guinto-Adviento
Ateneo School of Medicine and Public Health

Abstract: The Philippines is renowned as a breeding ground for boxing talent. At the start of 2013, this unassuming country in

Southeast Asia could boast no fewer than six current and 37 former world professional boxing champions. The stellar career of 8-time world champion Manny Pacquiao undoubtedly represents the jewel in the Filipino boxing crown. In this presentation, a detailed exposition is provided of his psychological approach to boxing and to life, based on an interpretative phenomenological analysis (IPA) study conducted just prior to the 2008 Beijing Olympic Games, where he was flag bearer for the Philippines team. The aim of the study was to gain psychological insights into the world of one of the greatest boxers of all time, taking into account the unique configuration of his perceptions, aspirations, motivations and inclinations, within a social, economic, spiritual and cultural context. Born into a life of extreme poverty, Manny began his professional boxing career when he was just 16 years old, standing only 4'11", and weighing much less than the minimum weight division at 98 lbs. Four distinct themes emerged from the IPA, which provide rare insights into his remarkable journey from lowly beginnings to the very summit of professional sport: (1) a strong sense of purpose beyond the self, literally fighting his way out of poverty for his family, community and God rather than any personal glory; (2) the integration of faith and fate, emphasizing the primary importance of conditioning mind, body and spirit via dedicated training, underpinned by his strong faith in a God whose will is for Manny is "to bloom where he is planted"; (3) his belief that sport excellence requires absolute determination, priding himself on training harder and more diligently than any of his opponents; and (4) his assertion that success in boxing requires a distinct form of intelligence to develop the sharp thinking and rapid decision-making while in motion and contact with an aggressive opponent. Now approaching the twilight of his illustrious professional boxing career and already an influential politician in his home country, the insights provided by Manny Pacquiao of a lifelong process of harnessing character strengths developed in the context of great adversity, will hopefully prove instructive to practitioners as they reflect on their own applied practice.

Keywords: boxing, professional, Pacquiao, Philippines, IPA

Cycling in Australia: Preparing for Glory and Dealing with Tragedy

- Georgia Ridler¹, Peter Terry²
- 1. Performance Potential
 - 2. University of Southern Queensland

Abstract: Anna Meares and Amy Gillett are iconic figures in Australian sport for very different reasons, although both are etched into the hearts and minds of the Australian public. Anna Meares, twice world champion and Olympic track cycling gold medallist in Athens 2004 and London 2012, won an unlikely silver medal in Beijing 2008 just months after breaking her neck in a high-speed cycling accident, inspiring the nation through her courage and determination. This presentation recounts the story of her 2004 Olympic triumph in the women's 500m cycling time trial in Athens, where she broke an Olympic record set just minutes earlier by China's Yonghua Jiang, to win gold in a world record time of 33.952 sec. The sport psychology support provided by the first author emphasized meticulous attention to detail in developing and mentally rehearsing a comprehensive race plan for the Olympic final. Recalled in the athlete's own detailed account of events leading into and including the Olympic competition (Meares, 2009), the powerful effects of imagery and performance routines are brought to life with rare clarity. Her account is augmented by the sport psychologist's own commentary on the evolution of her relationship with the athlete and her coach, and the gradual integration of mental training techniques into on-track cycling sessions. The life of Amy Gillett, a dual international in rowing and track cycling, came to an abrupt and tragic end on a country road in Germany, when a teenage driver ploughed into Amy's training group on the 18th of July 2005. Amy was killed instantly and five of her teammates were seriously injured. The first author immediately f

lew from Australia to Europe for a 3-week period as one of three psychologists providing support to Amy's teammates, coaches and family members. It proved to be the most demanding assignment of her career. The professional and personal challenges of the situation and the specific strategies utilized to address them are explained in detail in this presentation. Strategies ranged from grief counseling in makeshift surroundings, to organizing a memorial service for Amy, and eventually to preparing athletes to perform at the impending world championships. The Amy Gillett foundation (www.amygillett.org.au), dedicated to eliminating bike-related fatalities, was established in 2006. It is anticipated that the two case studies described will provide authentic insights into the exacting world of providing sport psychology support to elite performers.

Keywords: cycling, Olympics, grief counseling, imagery, race plans

Wrestling in Iran: Where Old Meets New in Mental Preparation

Khosro Hamzeh
National Olympic & Paralympics Academy

Abstract: The ancient sport of wrestling is Iran's most successful Olympic sport, accounting for more than 60% of all Olympic medals won by the country throughout history. At the 2012 London Olympic Games, Iran won six wrestling medals including three gold medals. In this presentation I discuss my experiences as the mental skills coach of the national freestyle wrestling team of Iran, in preparation for the 2007 World Championships, the 2008 Beijing Olympic Games, and the 2009 World Cup. On-site support was provided at the latter two events. An intensive program of mental skills training was delivered at the Olympic training centre for wrestling in Tehran, usually for 12 hours per week but rising to 20 hours per week as major competitions approached. The program required a balanced strategy that combined contemporary mental training techniques with the more established traditional methods followed by the wrestling community. Alignment with specific religious and cultural imperatives was also an essential characteristic of the mental training program. The mental skills covered in the program were addressed via standard activities such as goal-setting, imagery, competition routines, and refocusing strategies, plus traditional training methods aligned to religious beliefs and some unique methods for motivating the wrestlers. Individual counseling strategies, based on a cognitive-behavioral therapy (CBT) approach, were employed to modify wrestlers' attitudes to winning and losing. Examples of pre-competition reframing strategies used with a world champion and Olympic medallist will be described in detail during the presentation. Lessons learned during these experiences and implications for applied practice, especially when working with wrestlers and/or Iranian athletes, will be summarized.

Keywords: Iran, wrestling, Olympics, culture, religion

ASPASP's Promotion of Sport and Exercise Psychology via Open Educational Resources

Peter Terry
University of Southern Queensland

Abstract: The open educational resources (OER) movement is relatively new but growing rapidly (Brown & Adler, 2008; Butcher, 2011). OERs are free educational materials that can be used for teaching, learning, research, and other purposes. Two key principles of OERs are their free availability over the Internet, and minimal restriction on how the resources are used. Many prestigious universities have developed OERs into free, large scale,

online courses available to all, referred to as MOOCs (Massive Open Online Courses). For example, in 2011 over 160,000 people signed up for a course in artificial intelligence, offered by Stanford University. Some regard the advent of OERs as a serious threat to the future of traditional university education (Ernst & Young, 2012). ASPASP is developing OER initiatives to promote sport and exercise psychology throughout the Asia-South Pacific region. As well as producing the open e-textbook, Secrets of Asian Sport Psychology, ASPASP is working with the University of Southern Queensland, a founding anchor partner of the OER university consortium (see http://wikieducator.org/OER_university), to produce a free online course, Psychological Foundations of Exercise and Sport, to be launched in November 2013. Further, the ASPASP website (www.aspasp.org) is increasingly used as a conduit for locating free e-resources in our discipline, directing members to relevant OER repositories. The focus of this presentation will be to (a) briefly outline the principles and practices of open education, (b) provide further details of ASPASP's open resources, and (c) speculate on future directions and challenges for open education globally (Veletsianos & Kimmons, 2012).

Keywords: ASPASP, OER, online course, Wiki Educator

Advances in Mental Training

Jitendra Mohan, Lars-Eric Unesthal, MeenaKumari Sehgal, Richard Gordin, Michel Gagne
Panjab University, Chandigarh, 160014 India

Recent advances in mental training
Chair: Prof Jitendra Mohan
President: International society of mental training for Excellence
Professor Emeritus of Psychology, Panjab University Chandigarh, India.
Participants:
Prof. Lars-Eric Unestahl, Sweden.
Prof. MeenaSehgal, India.
Prof. Richard Gordin, USA.
Prof. Michel Gagne, Canda.
History
The International Society of Mental Training and Excellence was formed in Malaysia in 1989 by Professor Lars-Eric Unestahl, President of Scandinavian International University in Orebro, Sweden.

I
Mindfulness: An Emerging Frontier of Mental Training for Excellence and Harmony
Jitendra Mohan
The greatest proponent of mindfulness has been Lord Buddha about 2500 years ago, which was responsible for its progress in terms of philosophy and practice, in India, Tibet, China, Japan and elsewhere. The present concept and practice of mindfulness has been successfully demonstrated and accepted in healing as well as enhancing human happiness. Mindfulness blends beautifully with the theme of 13th world Congress.
It refers to ten forms of Buddhistic mindfulness.
Mindfulness is used for stress reduction, elevation of positive emotions, enhancing sports performance and harmony.

II
IMT and the Excellence Model
Lars-Eric Unestahl
Integrated Mental Training refers to a systematic and long term training of mental processes and skills in order to reach Excellence in Sport and Life.
E-model works towards the goal of Excellence, has the present as a starting point towards Excellence, looks at people as the cause to the future, leads to satisfaction and enjoyment and emphasizes continuous improvements in sports and life areas of all fields.

III
A Study of Impact of Yoga Intervention on Cognitive Ability, Stress and Well Being Among College Students
MeenaSehgal

This special experiment revealed the positive impact of yoga training intervention on vigilance, stress management and well-being; establishing the relevance of yoga in modern times.

IV
The Development of Mental Training and Excellence
Richard Gordin
Based upon principles of mental training developed by Unestahl, this employed the CHANGE model (Coaching, Hypnosis, Acceptance, NLP strategies, Generative images and Emotional training). It leads to solutions, goal programming and program process flow. The experience with Olympic and professional athletes has become valid and useful.

V
The Champion Within
Michel Gagne
Working on the science of the mind, it has been demonstrated how to recognize one's thinking, create new routines and draw strengths for success. This is unleashing the inner strengths to create champions.

Keywords: mindfulness, mental toughness, yoga and champion within

Mindfulness: An Emerging Frontier of Mental Training for Excellence and Harmony

Jitendra Mohan
Panjab University, Chandigarh, 160014 India

Abstract: The greatest proponent of mindfulness has been Lord Buddha about 2500 years ago, which was responsible for its progress in terms of philosophy and practice, in India, Tibet, China, Japan and elsewhere. In the recent past his Holiness, the Dalai Lama ushered in a great wave which has swept even the western thinkers. The present concept and practice of mindfulness has been successfully demonstrated and accepted in healing as well as enhancing human happiness. Mindfulness blends beautifully with the theme of 13th world Congress on Sport Psychology, Beijing (2013). Mindfulness is “the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003). Mindfulness (Pali: sati,Sanskrit: smṛti; also translated as awareness) is a spiritual or psychological faculty (indriya) that, according to the teaching of the Buddha, is considered to be of great importance in the path to enlightenment.
The Āgamas of early Buddhism discuss ten forms of mindfulness. The Ekottara Āgama has:
Mindfulness of The Buddha, Dharma, Sa gha, Giving, Heavens, Stopping And Resting, Discipline, Breathing, Body and of Death.
Stress reduction:
Stress has been shown to have several negative effects on health, happiness, and overall wellbeing. One field of psychological inquiry into mindfulness is Mindfulness-based stress reduction or MBSR. Elevation of positive emotions and outcomes
Evidence indicates that mindfulness meditation leads to well-being through increases in awareness. Shapiro et al (2008) found that the Mindfulness Based Stress Reduction (MBSR) and the Eight Point Program (EPP) interventions increased levels of well-being in participants.
Mindfulness meditation as cross-modal adaptation
Bedford (2012) proposed a novel psychological theory of how mindfulness meditation leads to healing based in the field of perception.
Mindfulness and enhancing sports performance
Professional athletes are always looking for ways to create a state of “mind over muscle” in competition. Recent studies, including Mohan et al (2013) have shown that mindfulness practices can help athletes improve their sports performance by increasing focus and concentration. Meditation exercises encourage individuals to engage

in non-judging awareness of their internal experience occurring at each moment, such as bodily sensations, cognitions, and emotions and to environmental stimuli. Certainly, mindfulness is the new frontier in mental training.

Keywords: mindfulness, stress management, harmony

IMT and the Excellence Model

Lars-Eric Unestahl
Scandinavian International University, Orebro, Sweden

Abstract: Integrated Mental Training (IMT) or the “Swedish Model” is defined as a systematic and long term training of mental processes and skills in order to reach Excellence in Sport and Life. The Excellence or E-model is different from the “clinical” or C-model, which still is the dominating model in Society. Some of the differences are:
1. The C-model has the direction of away from the problems while The E-model works towards the goal of Excellence.
2. The C-model tries to get back to the pre-problem situation while the E-model has the present as a starting point towards Excellence.
3. The C-model sees individuals as the result of the past while the E-model looks at people as the cause to the future.
4. The driving emotions in the C-model is dissatisfaction and in the E-model satisfaction and enjoyment.
5. The C-model connects actions and interventions with faults and crisis while the E-model emphasizes continuous improvements of all fields.
The three most important models in the model of Excellence are: The Developmental model .Excellence as a goal for lifelong learning and growth.
1. The Training model. Excellence through systematic, long term and evidence based training
2. The Flow-model. Excellence as an experiential, effective and efficient state of mind providing muscular “relaxense” (optimal tension in the synergists and relaxation in the antagonists) and actions of “relaxed effectiveness” (better results with less energy consumption). The presentation will give examples from IMT programs based on these 3 models and the application of the models and IMT in Sport and in various “life-areas”.

Keywords: integrated mental training, flow, excellence

A Study of Impact of Yoga Intervention on Cognitive Ability, Stress and Well Being Among College Students

Meena Sehgal
Panjab University, Chandigarh- 160014, INDIA

A Study of Impact of Yoga Intervention on Cognitive Ability, Stress and Well Being among College Students
MeenaSehgal
Professor, Department of Psychology
Panjab University, Chandigarh

Abstract: The word ‘Yoga’ is derived from Sanskrit language which means union or to harmonize the activities of mind, body and spirit. Patanjali Yoga Sutra dwells on ethical and meditative practices in addition to the physical postures in its eight fold treatise. Many research studies conducted in India and the west lend credence to health benefits of yoga. Very recently the International Conference of Scientific Yoga held in Serbia in 2011 brought out the experiences of yogis, psychologists and physiologists. They shared on a common platform how Yoga can improve cognitive functioning, alleviate stress and enhance well-being.

Stress among college students is a serious issue. If not handled stress is known to cause health problems, hopelessness, sleep disturbances, lack of concentration and poor academic performance. Hence, it was decided to study the impact of Yogic training on Cognitive abilities Perceived stress and well-being of 100 college students (both males and females) aged 18 to 24 years. Yoga intervention/ training were done for 8 weeks, 3 sessions of 90 minutes per week, totaling to 24 sessions. Yogic components included were sequences of postures, regulated breathing and imagery exercises and meditation. Volunteers filled up consent forms and sociodemographic profile information. As impact of Yogic training had to be evaluated, participants filled up the questionnaires measuring vigilance (cognitive ability) Perceived stress and Well-being before and after the intervention. Results clearly revealed the positive impact of yoga training intervention. It is a promising technique, needing to integrate it into our hectic modern life style for de stressing and releasing our own potential. This presentation demonstrated the importance of Yoga as a major method of mental training for enhancing well-being.

Keywords: yoga, cognitive ability, stress, well being

The Development of Mental Training and Excellence

Richard D. Gordin
Utah State University, Salt Lake City, Utah, USA

Abstract: The philosophy of ISMTE developed included the following principles:
*Principles behind the way the ideal state of peak performance and wellbeing can be created and identified, developed and controlled
*Mental abilities can be regarded and treated the same way as physical abilities and can be trained like physical skills
*Mental training is founded on personal growth and not upon comparison to others
*The best solutions for any problem are already within the athlete or person
*The mental trainer has the task to stimulate the solution-focused processes
*Life is a "do yourself project, where no one can change anyone else
*Lifelong development is based upon daily learning in work and home
*Alternative states of consciousness facilitate the learning of new ways of looking at life
ISMTE emphasizes applications in sport, performing arts, school and education, work and business, and health and relations. My work of past 33 years has been with Olympic and professional athletes. The training can be completed in about four to six months of daily practice. The training begins with basic mental training for the first six weeks followed by self-image training, goal-image training, mental skills training, attitude training and finally emotional training. The CHANGE model of Unestahl consists of methods that are consistent with his philosophy: Coaching (Alternative method of change), Hypnosis (Alternative state of consciousness), Acceptance and Commitment Training (Alternative model of change), NLP (Strategies for change), Generative Images and Cognitive Training (Contents of change) and Emotional Training (Contents of change). The concepts lead from therapy to training, from advice to coaching, from answers to questions, from the past to the future, from problems to solutions, from intellectual goals to goal-programming and from planning to a programmed process flow.
Other methods utilized were: Brain gym, cognitive behavioral therapy, as well as autogenic training and “the Swedish model” or Integrated Mental Training (IMT). In summary, those of us in the field of mental training as it pertains to sport, are in a continuing quest to provide the best services to athletes and coaches around the world. I feel fortunate to be a part of this great and exciting pursuit.

Keywords: peak performance, attitude training, commitment t

raining

The Champion Within

Michel Gagne
Certified Counselor with the International Society of Mental Training
and Excellence, CANADA (MALAYSIA)

Abstract: The Champion within is the secret... "Magic wand" that you've been looking for is not where you've been looking! It takes the principles of Human Performance in any area and shows the foundation for them.
This presentation will highlight the peaks of 40 years of the Science of the Mind.
The Champion within is the ability to perform your best when it matters most, under pressure. Can you deliver a winning presentation to an important client with your boss in the room in the same effective manner as when you were in the room alone practicing? Can we perform as well in our backyard as in front of a huge crowd at the Olympics?
Anyone can perform his best when the economy is great, but what matters most - when the economy is tight, unemployment is high, the stock market is plunging and your competition is growing?
The Champion within trains you to recognize your thinking, refocus that thinking to create new routines of the mind that create thoughts that set you up to succeed. That new thinking draws on your strengths, talents, skills and resources at the right time, in the right place and in the right way all the time.
Confidence influences everything we do. No one can be 100% confident as one does not have complete control of all the variables. But your thinking will allow you to be confident today and tomorrow. Everyone knows how to focus. The key to success is to know where to focus. Focus can be improved and developed. We coach our clients to refocus on where they want to go and how they will get there; and to develop a Winning Game Plan. Focus is paying attention to the right things at the right time all the time.
To perform your best when it matters most, you have to have an internal drive or desire to win. Focus on improving skills and your best rather than competition.
A champion would take a goal and break it down to daily tasks. Then measure the results weekly to make sure they are on track to reach or achieve the goal. They are used to having coaches and take advice. Champions are used to adjusting their effort always.
To awaken The Champion within, learn the Inner Secrets of the Champions!

Keywords: champion, desire to win, confidence

Developing Mental Skills Training Program

Ms. Harsumeet kaur, Professor Jitendra Mohan,
Mr. Rajan Kashyap, Mr. Gajendra Singh
Panjab University, Chandigarh- 160014, INDIA

Abstract: Our initial reason for researching this subject was so that we could find helpful resources to develop Psychological Skills Training Program (PSTP) for young tennis players of age 10 -18 yrs. for whom Chandigarh Lawn Tennis Association (CLTA) serves the role of a guardian. The research on psychological characteristics of elite performers has primarily focused Olympic & World champions; however the mental attributes of young developing & talented athletes have received less attention. There are a limited number of qualitative studies examining young athlete's experiences with sport psychology & mental training. Athletes participating in all levels of sport experience extraordinary high levels of stress, expectations & physical challenges. The current study was an attempt to shed more light on young athlete's personal experience with mental training & sport psychology consulting and to develop PSTP which can help

them in reaching their full potential.
This project was a joint effort of the following:
Prof. Jitendra Mohan- Consultant Sports Psychologist CLTA
Mr. RajanKashyap- Chairman and Founder of CLTA
Mr. Gajendra Singh- Director coaching and development CLTA
Ms. HarsumeetKaur- Mental Skills Trainer CLTA

Keywords: mental training, mental skills, young athletes

Consulting Characteristics

Roland Seiler
University of Bern

Abstract: Young colleagues in applied sport psychology often ask for advice on how to consult athletes. They may be disappointed if they do not receive recipes they may easily apply. The simple reason is that there may be as many approaches to consulting as there are sport psychologists. This bears the risk that not all services meet the highest quality standards and makes it difficult for clients to make a choice and to build up confidence. This symposium offers the opportunity to get an insight in the work of highly experienced European colleagues and their quest for quality.
Applied sport psychologists are permanently challenged to improve the quality of their service delivered to sport, if they want to survive in the highly competitive field of top level sport, where only the highest quality of services is good enough in the quest for medals and victories. Structural quality, process quality and outcome quality, organized in a cyclical structure, have been identified to affect the quality of the service (Birrer & Seiler, 1999).
This symposium tries to highlight some elements of Quality Management that contribute to the improvement of consultation. In the introduction, Roland Seiler gives a survey of (some of) the degrees of freedom a consulting sport psychologist has within the QM framework, and concludes that a reflected philosophy, based on a scientific basis, is needed for successful consultation and permanent improvement. Nadine Debois presents how she analyses the experiences an athlete makes in competition and how she draws conclusions for the training and improvement of mental skills training. Paul Wylleman includes a framework from developmental sport psychology to design age-specific and integrated concepts for mental skills training in children and adolescents. Daniel Birrer includes the more recent concept of mindfulness into the applied work with athletes, thus trying to overcome the traditional goal-oriented approaches of psychological skills training. Finally, Krist offer Henriksen demonstrates how Denmark decided to strategically modify structural elements to improve the quality of the sport psychology services by formulating a professional philosophy.

Keywords: top level sport, consulting, quality service, quality management, sport psychologist

Factors Influencing the Quality of the Consultation Process

Roland Seiler
University of Bern

Abstract: Sport psychology services are considered to be an important brick stone when building athletic success. The strive for better performance is not only a characteristic of athletes, but of the whole support system in top level sport including sport psychology. Sport psychology consultants are permanently challenged to deliver highest quality services to their clients if they do not want to lose their contracts.
Sport psychologists are continuously improving their consulting skills, learn new intervention techniques, read scientific papers and, last but not least, gain experience by accumulating hours of deliberate practice (Ericsson) in sport psychology. Even with increasing

experience, the consultant has a certain number of degrees of freedom and has to make a series of decisions about how he or she wants to work. Quality, however, depends on a number of issues, and not all of them are under direct control of the consultant. It is argued that, in order for these choices being good, the following factors - among others - must be considered: Who is seeking assistance? What are the "issues and problems" (Gardner & Moore, 2006) the athlete is confronted with? What kind of approaches do fit with the client's need? Who is the 'client' the sport psychologist is supposed to work with? If it is a team, is the sport psychologist supposed to work with a number of individuals, with the coach, or with the whole system? Where are the boundaries of the system? What is the role of the sport psychologist in the sport system? All these issues directly affect the process and outcome quality of the sport psychology consultant. A sound theoretical basis, in connection with a distinct philosophy of the intervention, is an important cornerstone for the quality of sport psychology consultation.

Keywords: quality, consulting, decision, sport system, sport psychologist

Integrating Mindfulness in the Consulting of Elite Athletes

Daniel Birrer, Gareth Morgan, Philipp Röthlin
Swiss Federal Institute of Sport Magglingen

Abstract: The nowadays predominately used psychological techniques to enhance athletic performance stem mainly from a psychological skills training paradigm. This approach targets to develop self-control of internal states such as thoughts, emotions, and physical sensations to enhance performance. In clinical psychology the concept of mindfulness is increasingly being used and in the third wave of behaviour therapy mindfulness has been proposed as a common factor across several psychological schools (Martin, 1997). In fact, there are many mindfulness based treatments. All of them emphasize changing the function, not the form of emotion, cognition, bodily sensations, and external stimuli. Accordingly, the objective of mindfulness is not to eliminate unpleasant experiences, but to change the relationship to them. Therefore, using mindfulness as an intervention principle in applied sport psychology marks a paradigm shift and is a new key factor in the consulting characteristic. To date the key factors discussed were if a counselor uses (a) an educational or clinical approach, (b) a program centered or an athlete centered approach and (c) a performance enhancement or a personal development approach (Vealey, 2007). Integrating mindfulness is a new facet in this debate and highly challenging, because the fundamental no goal and acceptance attitude of traditional mindfulness practice seems to be greatly inconsistent with the radical goal orientation of elite sports. Eastern Buddhist philosophical belief is that the practice of mindfulness is a way to relief suffering caused by an uncontrolled mind guided by anger, attachment, and ignorance (Dorjee, 2010). The goal of mindfulness meditation is therefore the liberation of one's desire and will. This (ostensibly) contradicts an athlete's goal to win a competition. Critics of the integration of the mindfulness approach in an elite performance setting with the objective to enhance performance argue that this form of mindfulness practice is a type of spiritual materialism that strays from the practice'soriginal purpose, namely the path to happiness and the cessation of suffering as well as pervasive unsatisfactoriness (Andersen & Mannion, 2011). These critics forget that athletes are not always unhappy, suffering and unsatisfied. In our view mindfulness is a holistic intervention fostering the development of several personal, sport, and performance-relevant psychological factors with great beneficial potential. This presentation will outline how the integration of the mindfulness approach in applied sport psychology will positively affect the consulting characteristic and how to beneficially translate and integrate mindfulness in the Western elite sports context.

Keywords: mindfulness, intervention, acceptance, elite athletes

Nurturing Performance Excellence in Sport: Perceptions of Consultants Helping Elite Athletes Prepare, Execute, and Debrief at Major Championship Events

Natalie Durand-bush¹, Penny Werthner², Leonard Zaichkowsky³, Göran Kenttä⁴
1. University of Ottawa
2. University of Calgary
3. Boston University
4. The Swedish School of Sport and Health Sciences

Abstract: This symposium will focus on performance excellence in sport. Four consultants working with elite athletes who have performed at major championship events such as the Olympics, World Championships, and the Stanley Cup Playoffs will share some of their best practices and the intricacies involved in helping athletes self-manage in high pressure environments. The following questions will guide the consultants' discussion: (1) At major championship events, how do you best help athletes (a) Prepare (b) Execute under pressure, and (c) Debrief? (2) What strategies do you use as a consultant to self-manage in an environment in which you are expected to deliver 24/7? (3) How do you sustain a trusting long-term relationship with athletes engaging in many years of preparation to succeed at major championship events? The first presenter, Dr. Natalie Durand-Bush, will discuss her journey with the Canadian women's curling team who performed at the 2013 World Curling Championships. After accompanying this team at several championships over the last six years, she will share the growing pains the four female athletes and male coach experienced, as well as the deliberate physical, mental, and emotional practice it took for them to succeed. Some of their planning, self-control, and self-reflection strategies will be provided in an attempt to highlight how the team can self-manage in the face of obstacles and setbacks. The second presenter, Dr. Penny Werthner, will speak of the work that was done with athletes who medaled at both the Winter 2010 Olympic Games in Vancouver and the Summer 2012 Olympic Games in London. She will discuss the necessity of developing a close working relationship with both the coach and the athlete, enabling the athletes to develop the specific ability of shifting states between effective focus and a recovery state, and developing an effective sport science leadership group around coaches and athletes. The third presenter, Dr. Leonard Zaichkowsky, will discuss his experiences working with the Vancouver Canucks during their 2011 run to the Stanley Cup final including the final game in which they lost to the Boston Bruins. Season-long and playoff preparation will be discussed as well as coping with the pressure of expectations, the challenges of recovery, and debriefing following competition. The fourth presenter, Dr. GöranKenttä, will discuss how an intervention integrating art and creativity and traditional consulting approaches was used before, during, and after the 2012 Paralympic games in order to facilitate fundamental self-determination needs such as relatedness, perceived competence, and autonomy in the Swedish Paralympic team. An integrated discussion will highlight similarities and differences in the approaches and strategies used by the four consultants to nurture performance excellence in sport.

Keywords: consulting, elite athletes, mental training, performance excellence

Consulting at the 2013 World Curling Championships: The Benefits of a Longstanding Relationship with the

Team

Natalie Durand-Bush
University of Ottawa

Abstract: In a competitive sport context, elite athletes invest considerable time and effort in effectively setting goals, developing plans, focusing their attention to execute tasks, and evaluating their performances. As such, competition outcomes are considered to be a test of “the effectiveness of the athlete’s skill in self-directed thinking and behaving” (Kirschenbaum, 1984, p. 159), or in other words, a test of one’s capacity to self-regulate. Research has highlighted the effectiveness of self-regulatory processes in enhancing sport performance and other psychological variables such as motivation, learning, self-efficacy, and well-being. Consequently, “self-regulatory competencies are a particular focus of applied sport psychologists who do psychological skills training” (Smith, 2006, p. 8). The purpose of this presentation is to share the consultant’s work with an elite Canadian woman’s curling team who has peaked at a young age in comparison to the norm and achieved tremendous success on the world stage. It will be demonstrated how the athletes’, the coach’s, and the consultant’s learned capacity to self-regulate FAST (Feelings, Actions, Sensations, Thoughts) has been associated with enhanced team dynamics and performance. The process spanning a period of six years involved developing an open, longstanding, relationship with the athletes, coach, parents, and the Canadian Curling Association. It also entailed conducting multiple individual and group sessions with both the athletes and coach, engaging in extensive observation, and having ongoing informal chats. These allowed the consultant to collect crucial performance-related data that were then used to help the team Prepare for pressure, Perform under pressure, and Probe after pressure. In particular, this presentation will highlight how the development of self-regulation skills is an ongoing pursuit with peaks and valleys. Relentless individual and collective awareness, self-monitoring, and authentic self-evaluations have enabled this curling team to develop performance strategies that meet every member’s needs. The team’s biggest lessons learned so far are that preparation, open and honest communication, and support are vital not only to win championship events but also to bounce back from setbacks and losses.

Keywords: consulting, elite athletes, mental training, performance excellence, world championships

Effective Consulting at the Olympic Games

Penny Werthner
University of Calgary

Abstract: World Championships and Olympic Games are stressful events for all involved – coaches, athletes, support team, and administrative staff. We know that successful performance in this kind of environment depends greatly on an athlete’s ability to focus effectively, to self-regulate his or her arousal levels, to manage emotions, and to have a comprehensive plan in place for travel, training, and competition (Arave, 2012; Blumenstein, Lidor, & Tenenbaum, 2005; Cotterill, 2011; Davis & Sime, 2005; Dupee & Werthner, 2011; Gould & Maynard, 2009; Hanton, Wade, & Mellalieu, 2008; Thelwell, Greenlees, & Weston, 2006). This presentation will draw on the consultant’s work at the 2010 Winter Olympic Games in Vancouver and the 2012 Summer Olympic Games in London and demonstrate how the key psychological skills were developed with individual athletes to help them achieve optimal performance and win Olympic medals. A particular emphasis will be placed on how biofeedback training (Blumenstein, Bar-Eli, Tenenbaum, 1997; Galloway, 2011) was integrated into the four years of work leading to each of the Games. In addition, the importance of the role of the coach and the sport science leadership group will be discussed. The

relationship between coach-athlete-consultant is crucial, as well as the needs to ensure that all support staff are well prepared to function as a team in the Olympic environment. The discussion will detail how each athlete must be physically, psychologically and emotionally prepared and how each individual on the sport science team has a role to play in ensuring a ‘best performance’ on the day. The emphasis will be placed on all the pieces of the performance puzzle that must be planned and managed throughout the years, including the days leading up to a competition, on the day of a competition, as well as post competition.

Keywords: consulting, elite athletes, mental training, performance excellence, Olympics

Preparing for the Stanley Cup Playoffs

Leonard Zaichkowsky
Boston University

Abstract: This presentation will focus on the consultant’s work with the Vancouver Canucks hockey team during their 2011 run to the Stanley Cup final. The key to Stanley Cup playoff preparation with this team was to use the season schedule to simulate high pressure situations at all times. As such, the playoffs were not any different than the regular schedule and players were constantly reminded of this. Playoff mental and physical preparation was identical to regular season preparation with the exception of using a playoff specific metaphor for success. Emphasis was placed on self-regulation of thoughts, emotions, and actions (Perry, Shaw & Zaichkowsky, 2011; Zaichkowsky, 2012). Biofeedback and neurofeedback instrumentation in the Vancouver Canucks “Mindgym” facilitated the process of self-regulation. Methods of recovery were particularly emphasized because of the grueling schedule and cross-continent flights. Omegawave technology was used to monitor mental and physical fatigue and Fatigue Science technology (Readiband) was utilized for monitoring athlete sleep. These technologies will be described in detail. Debriefing did occur following the loss of the Stanley Cup to the Boston Bruins in the final game. Because of the unusual highly publicized Vancouver riots following this game, debriefing not only occurred with players and coaches but also employees throughout the Vancouver Canucks organization. These processes will be described. In professional hockey, the playoffs take two months to complete and are really a season within a season. The Canucks played a total of 25 games. This exposure is unlike World championships and international competitions in other sports that may take two weeks rather than two months. The consultant’s personal self-care did not appreciably change during the playoffs; he attempted to model personal self-care for the athletes on the team and this included appropriate diet and sleep. Perhaps the most important sport psychology intervention with all elite athletes is having a strong “interpersonal connection”. Without having early established mutual trust, providing assistance to the athletes at the most important pressure-filled time such as the Stanley Cup Championship series would not be possible.

Keywords: consulting, elite athletes, mental training, performance excellence, hockey

Suggestions for Improving CC-AASP Certification Process

Jack Watson
1. West Virginia University
2. Association for Applied Sport Psychology

Abstract: At the forefront of the Association for Applied Sport Psychology strategic planning goals is the push to improve upon

the certification process that is currently in place. The process for certification was established by the organization in 1989, and has changed very little since that time. In early 2012 the Future of Certification Ad Hoc Committee was developed with the goal of reviewing all aspects of certification for the purpose of making suggestions intended to strengthen the program and make it more valuable to members and the public. Such suggested changes may include making the exam more internationally relevant, coordinating the certification with other organizations, creating an exam based system, making the certification committee independent from the organization, looking into the possibility of creating more than one level of certification or more than one type of certification (e.g., exercise vs. performance). This committee has met routinely throughout this process and has made suggestions to members and Fellows of the organization. Currently, the committee is working on answering questions and assessing input from stakeholders and making needed modifications to their suggested changes. The current goal is to have a final version of the proposed modifications to the certification completed prior to the 2013 conference in New Orleans in October so that a vote can be held to approve these suggested changes. The purpose of this presentation is to outline the processes undertaken by the AASP Future of Certification Ad Hoc Committee and outline the projected steps forward. The presenters will also engage the members of the audience to learn more about their perceptions of certification and the certification process currently in place within AASP.

Keywords: certification, professional development

Issues in Imagery Research in Sport

Tony Morris
Victoria University

Abstract: Imagery is a powerful cognitive process that most people use widely in all aspects of their lives. In sport, imagery has been applied for many purposes, including learning skills, enhancing performance, managing emotions, focusing attention, increasing confidence, coping with stress, and facilitating recovery from injury and heavy training. Although there is a long history of research on these applications of imagery, sport psychologists still have limited knowledge about the optimal application of imagery. In this symposium, we present recent research on key issues for the application of imagery in sport. Ruiz and Watt examine the validation of a Spanish language version of the Sport Imagery Questionnaire (SIQ). The SIQ is a measure of imagery functions, which can be used to guide the delivery of effective imagery interventions by matching imagery scripts to the key functions of imagery for the current purpose, such as enhancing flow or increasing confidence. Goldzweig et al. report on preliminary analyses exploring the potential of a short form of the Sport Imagery Ability Measure (SIAM). Knowing individuals’ imagery ability is equally important in the design of interventions. Although the SIAM has shown promise in this respect, the original has a substantial administration time for use in applied work, so a reliable and valid short form would be beneficial. Wakefield et al. address the issue of the optimal dose of imagery by examining frequency of imagery sessions within a PETTLEP framework. Despite much research on aspects of imagery dose, the optimal number of sessions per week is still unclear. Research by Wakefield et al. throws light on this important issue for the most effective and efficient delivery of imagery training. Bhasavanija et al. present a study that applies imagery to enhance hand-warmth in golfers, following up on a recent, successful study. As in that study, the current research examines the impact of increasing hand-warmth on putting performance. Finally, Thanikkal et al. report on the use of brain-mapping to examine differences in brain function during internal and external imagery perspective use, based on the proposition that imagery and movement are functionally equivalent in the brain. The presentations in this symposium all aim to advance knowledge in ways that will increase the effectiveness of imagery interventions in

sports contexts.

Keywords: imagery, imagery use, imagery ability, portable devices, brain-mapping

Factor Structure and Internal Consistency of the Spanish Version of the Sport Imagery Questionnaire

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2. Victoria University, Australia

Abstract: The aim of this study was to examine the internal consistency reliability and factor structure of the Spanish version of the Sport Imagery Questionnaire (SIQ), which assesses cognitive and motivational functions of imagery use. Participants were 363 athletes (236 male, and 127 female) ranging in age from 14 to 64 years (M=24.29, SD=7.76). Athletes were recruited from 31 sports across three competitive levels (i.e. regional, national, international). The sports practiced by the participants were classified by the researchers as athletics (n=31), combat sports (n=36), aquatics (n=47), transition sports (n=35), cycling (n=22), invasion contact ballgames (n=40), invasion non-contact ballgames (n=91), and non-invasion ballgames (n=50). Confirmatory factor analyses (CFA) were performed with the Mplus statistical package, using the robust maximum likelihood estimator (MLR) for standard errors. The CFA representing the 30-item five factor SIQ model revealed poor fit to the data. Model fit improved after considering modification indices provided by Mplus in a step-by-step fashion ((χ^2 / (df) =1.84; CFI=.90; TLI=.89; RMSEA=.05; SRMR=.05). Reliability was evaluated through internal consistency analyses of the scale. Cronbach’s alpha coefficients for each subscale ranged from .72 (CG) to .86 (MS), indicating that the scale had sound internal consistency. Differences in athletes’ imagery use were examined across the following categorizations: competitive level; open versus closed skill (class 1); moving target versus reactive (class 2); and a new classification considered by the researchers titled ‘performance domain’ (class 3) created from the sport groupings listed earlier. Multivariate analyses of variance (MANOVA) revealed that athletes’ competitive level was associated with significantly higher levels of cognitive general and cognitive specific imagery. Further MANOVA analyses indicated that no significant differences existed between athletes for either class 1 or class 2 categorizations. However, a significant main effect was found for imagery differences for athletes grouped according to class 3. Post hoc analyses revealed significant differences for athletes involved in combat sports with participants from athletics, aquatics, and non-invasion ballgames. Overall, these results provide positive additional support for the claim that the SIQ has a reproducible factor structure and that the measure has internal consistency for measuring imagery use in Spanish athletes. Inferential analyses revealed only limited significant contrasts between athletes grouped according to a variety of classification approaches. This finding suggests that continued work is required in determining frameworks around which to consider differences in the performance requirements of athletes upon which we currently create sport classifications.

Keywords: imagery, imagery use, confirmatory factor analysis, classification of sports

From Strength to Strength: A Single-case Design Study of PETTLEP Imagery Frequency

Caroline J. Wakefield¹, Dave Smith², Tony Morris³
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2. Manchester Metropolitan University, UK

3. College of SES and ISEAL, Victoria University, Melbourne, Australia

Abstract: Imagery is one of the most commonly used mental skills. Recent research has been focussed on the process of imagery and the potential mechanism(s) that lead to the positive performance effects observed following its use. Despite this, the volume and frequency of imagery needed to produce optimal effects has been relatively under-researched, particularly in relation to the PETTLEP model of imagery (Holmes & Collins, 2001). Research that focussed on this issue with a netball shooting task revealed a significant improvement in performance in the group performing imagery three times per week. Participants using imagery less frequently did not show a performance change. However, large individual differences were apparent within this group-based design and interventions were conducted over a relatively short period of time. Therefore, the present study examined the effects of differing frequencies of PETTLEP imagery on bicep curl performance, using a single-case design. Following a baseline period, four participants completed PETTLEP imagery 1x/week, 2x/week, or 3x/week for 22 weeks in a counter-balanced pattern, with five or six weeks spent on each intervention phase. In order to replicate the potential experiences of an athlete, participants completed their imagery at home. The imagery was video-aided by a first person perspective recording, showing them completing a set of bicep curl repetitions. Components of the PETTLEP model were emphasised throughout. For example, as the video was individualised, perspective, timing, and emotions were monitored. Performance was measured weekly by a one repetition maximum (1 R.M.) bicep curl, completed at the end of each week during both the baseline and intervention periods. Results indicated that PETTLEP imagery had a positive effect on performance of this strength-based task, with the four participants improving their performance from baseline to overall intervention by 81.81%, 79.19%, 34.87% and 17.88% respectively. Additionally, as the frequency of imagery increased, a larger performance effect was apparent. These results support the notion that PETTLEP imagery can lead to strength gains if performed at least 1 x per week, but that completing imagery more frequently may exhibit larger performance gains.

Keywords: magery, dose-response, PETTLEP, biceps curl

Freestyle Skiing in China: Psychological Training Approaches for the 2010 Olympic Aerials Team

Liwei Zhang¹, Jin Wang², Kai Zhang¹
1. Beijing Sport University
2. Kennesaw State University

Abstract: From December 2008 to February 2010, our sport psychology consulting team helped the Chinese freestyle aerial skiing team prepare for the 2010 Winter Olympic Games in Vancouver, Canada, where the team won three of the six medals on offer. Our primary objective was to enhance the athletes' self-confidence and self-control. The main forms of psychological training we used included group seminars, individual counseling, special topics discussions, biofeedback training, theme visits, and cognitive enhancement of psychological principles. We also used creative approaches to psychological testing and self-monitoring. To a large extent our psychological training program resulted in positive outcomes by helping the athletes cope with anxiety, improve the consistency of their performances in competition and improve their thinking skills, which were the three major areas that were identified as causing athletes' problems psychologically. At the same time, taking into account the athletes' specific perspectives rooted in the Chinese culture, we addressed the core values of self-confidence, self-control and self-development for the purposes of developing and establishing good behavioral habits and a positive mind-set of mental training as our intended psychological training model.

This presentation will focus on five subtopics: (1) the purpose of psychological training, (2) the implementation of the psychological training, (3) monitoring the psychological training, (4) outcomes of the psychological training, and (5) our three-level psychological training model. It is our hope that our applied psychological consultation approaches and successful experiences of working with the Chinese Olympic athletes will provide some insightful information to our fellow professionals, coaches, athletes and sport psychologists.

Keywords: aerials, Olympics, mental training

Baseball in Japan: Psychological Consulting with Professional Teams

Yoichi Kozuma
Tokai University

Abstract: Although baseball is a Western sport introduced to Japan, the history of baseball in Japan is strongly influenced by bushido (the way of the samurai warrior) and budo (Japanese martial arts). This cultural perspective towards baseball is often reflected and grounded in the approach and method of Japanese baseball training and practices. Non-Japanese ideas were not considered until the 1990s, when professional teams became interested in sport psychology and were actively seeking ways to educate their players for mental training skills and techniques. For the past 20 years, I have worked with seven professional baseball teams and over 500 high school teams. Our focus has shifted from trying to breakdown the long standing cultural tradition that has prevented many Japanese teams from utilizing and accepting mental training and other psychological performance enhancement skills to a more positive transformation of recognition, acceptance, and application of mental training and support from the field of sport psychology. In this presentation, the Japanese situation of mental training in baseball will be introduced and two case studies of mental training and psychological consulting for professional baseball teams will be discussed.

Keywords: bushido, budo, samurai, professional, high school

The Effect of Mental Imagery Rehearsal on Athletic Performance among Athletes in Selected Universities in South-South Zone of Nigeria

Athanasius Nwanegbo Amasiatu
University of Port Harcourt, Nigeria

Abstract: The study examined the effect of mental rehearsal in athletic performance among athletes in selected Nigerian universities. Sports Imagery Evaluation (SIE) developed by Vealey and Greeleaf, University of North Carolina (2004) was adapted for data collection in four universities in the South-South geo-political zone of Nigeria. The Sport Imagery Evaluation (SIE) was administered to 100 subjects from the four selected universities using purposive sampling technique to obtain the required sample size of 50 males and 50 females. Using Sports Imagery Evaluation scripts, five research questions were formulated and five hypotheses were tested based on the objective of the study and tested with simple percentage and chi square. The analysis showed a significant relationship between mental imagery and motor skill development and therefore recommends the application and total involvement of mental imagery rehearsal in athletic training regimen in all levels of athletic training to enhance sports performance.

Keywords: mental imagery rehearsal, evaluation, motor skill and sports performance

Study of Mental Strategies and Attention Process in Elite Tunisian Athletes

Sabeur Hamrouni¹, Stephen HARVEY², Selma GUIZANI¹, Chourouk KCHAOU¹

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Abstract: This research is part of a study that highlighted the importance of mental strategies in sports (Richard et al., 2006) and it proposes to:

- a. clarify the relationship between these strategies and the attention process (as cognitive component) of the athlete
- b. searchfor a possible relationship between the mental strategies and the attention process according to the nature of the sport (team sports vs. combat sports), the age group (cadets-juniors vs. seniors) and the two profiles of strategies (training and competition strategies) in relation to team sports vs. combat sports.

This study was conducted on a sample of N = 87 all top male Tunisian athletes with an average age of 18.5, SD= 3, practicing team sports and combat sports. For the purpose of our study the test of performance strategies (Thomas et al., 1999) and the Victoria-Stroop-Test (Bayard et al., 2009) were used.

Our study showed that athletes in combat sports, unlike their counterparts in team sports, use fixation of goals and activation strategies in training, while no difference in competition strategies was found. The cadets-juniors were more anxious to seek better strategies of training and competition than seniors. However, the top athletes used mental strategies during the training phase (internal dialogue, activation, and setting of objectives) much more than their counterparts in the two types of sports. Our study also found positive correlations between the quality of attention and the imagery strategy, relaxation and automaticity.

These results can be explained by the fact that combat sports require more energy, wakefulness and mental concentration to perform the appropriate movements. They are consistent with the literature, which states that athletes in combat sports have a stronger desire to do their best than athletes in team sports (Singer, 1970). On the other hand, athletes who have more automaticity in training achieved a good score with the Victoria-Stroop test. By competition strategies, imagery and relaxation are well correlated with a high level of attention: the more relaxed the athletes are in competitions using the imagery strategy, the more they managed to perform better in the Stoop-Victoria. These results prompted us to work in the strategy of relaxation, imagery and automaticity more seriously on a daily basis to optimize sport performance in top Tunisian athletes.

Keywords: mental strategies, attention process, tunisian elite athletes

Psychological Consultation and Mental Training for Chinese Elite Athletes

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Abstract: Five studies of physical sports, skills-leading sports, antagonistic sports, team sports athletes, and Chinese and foreign sports psychology workers working pattern contrast make up this symposium. According to the characteristics of psychological training and psychological state of elite athletes, the five research studies aimed to explore the multi-level sports psychological consultation and training system, which is suitable for all kinds of situations such as competition, training, daily life and education. On the

basis of psychological consultation and training system, directional psychological intervention for athletes would be applied in sport psychological services on site. Both of the systems and psychological interventions would play an important role in athletes' potential development, the best athletic performance creation, and athletes' mental health. Furthermore, these psychological interventions were applied directly in special athletes' psychological characteristics during the sensitive period, that is, early in psychological adaptability and behavior habits of psychological intervention.

In conclusion, the five studies obtained the following results: Firstly, psychological consultation and training system for high level athletes, who come from physical sports, skills-leading sports, antagonistic sports, team sports athletes, were established. Secondly, a cross-cultural comparison was made in service models of applied sport psychology. Thirdly, special psychological intervention methods duringthe sensitive period were explored. Last but not least, every method mentioned above were applied in sporting practice and received an outstanding achievement.

Keywords: psychological consultation, mental training, elite athletes

Study on the Efficient Pattern and Measure of Counseling and Mental Training for Chinese Physical Events Athletes

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Abstract: On the basis of exploring the efficient pattern and measure of psychological intervention for Chinese physical sports athletes, this paper investigated the athlete's psychological characteristics during special sensitive periods (adolescence, weight control and injury period, as well as competition period) through interviews and questionnaire surveys. The results from the research showed that a complete athletic psychological counseling and mental training system had not been built yet by athletes, psychologists, coaches and team leaders. The physical sports athletes lacked professional counseling with only a few elite athletes receiving guidance from psychologists, friends, teammates, family, and coaches, who played a leading role in the athlete's psychological interventionsby offered emotional support by simply listening. Likewise, the leader, doctor and other staff of the team played a supporting role in the psychological intervention process. For the physical sports athletes, the main problems were competition psychological problems such as anxiety and psychological fatigue. To solve these problems, this research showed that the men's marathon runner's psychological quality was enhanced significantly through cognitive behavioral training and biofeedback training.

Keywords: physical sports, counseling, mental training, athletes

Study on the Efficient Model and Measure of Counseling and Mental Training for Chinese Skills-leading Athletes

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Abstract: This study aims to explore the features and relationship of athletes, coaches, leaders and assistant team members in skills-leading sports in China from the aspects of psychology, and finally find a right way help the athletes. In this study, a theory model about counseling and mental training had been proposed by mean of

interview, questionnaire survey and psychological measurement. Later, based on the former study, we tried 3 kinds of intervention as demonstration. The investigation told a lot of psychological feature of the athletes doing skills-leading sports in China which is very helpful to counselor, such as the dimension of psychoticism, nervosity, extroversive and introversive, disguise are intermediate type, but the dimension of disguise relatively high. Lacking of consciousness to seeking help when the athletes meet with stress, the athletes cannot lead off the negative emotions in a right way, personal faith is rarely used to self-help. All the psychological and mental problems of the athletes are linked with games, and so on. Besides, the investigation presented a role-panorama of the significant others in the process of intervention, such as coaches, leaders and other related personnel giving guidance and counseling for athletes were all based on experience. They take the athletes' performance as the most important criterion to assess the effect of psychological intervention. The coaches and leaders play the leading role during the psychological intervention. The team doctor, fitness coaches and other related personnel play the helping role during the psychological intervention. According to the former study, some very effective intervention programs were designed. Based on the cognitive-behavioral intervention, a program consisted of techniques of goal setting, imagery training, relaxation training and self-talk control was remarkable to enhanced seven Olympic divers' mental skills. The intervention of competition scheme and pre-performing routines was an effective intervention to help 3 archers' improving the accuracy and constancy in games. The calligraphy therapy as an effective intervention relieved a coach of his serious mental fatigue in this study.

Keywords: skills-leading sports, counseling, mental training, Chinese athletes

Psychological Consultation and Mental Training for Athletes of Antagonistic Sports

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Abstract: Though a lot of work has been done in psychological interventions for athletes, it still remains unintegrated and far related to sports specialty. Based on the biopsychosocial model, effective psychological intervention patterns in antagonistic sports would be constructed and examined in the present study. First, 339 athletes from eight antagonistic sport events (badminton, boxing, etc.) participated in the survey and their mental issues and solutions in training or competitions were investigated. The survey suggested that most mental issues of athletes of antagonistic sports were closely related to their competition performance and career development. The psychological adjustment methods they often used were enhancing confidence, relaxation and searching for social support. Second, two sports teams (boxing and badminton) were selected and the psychological interventions (rational-emotive therapy, behavioral therapy, biofeedback training, group therapy, etc.) were implemented for the athletes from the two teams. The interventions followed the Process- HierarchicalPsychological Consultation and Mental Training Model, whichadvocates the combination of sport tasks and athletes' development. Though the obtained results of the interventions were good, the model needs to be further examined and refined.

Keywords: psychological consultation, mental training, antagonistic sports

The Pattern and Measurement of Counseling and Mental Training for

Chinese Team Sports Athletes

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Abstract: A good working system on athletic counseling and mental training can help to design and execute a psychological intervention's plan, enhance the pertinence and effectiveness related to the psychological intervention's measure, and improve the performance of the sports psychological professional work. For the purpose of exploring the efficient pattern and measurement of psychological intervention for Chinese team sports athletes, this paper investigated the psychological state of Chinese athletes first, and then accordingly proposed a theory model about the athletic psychological counseling and mental training by way of interviews, questionnaire surveys and psychological measurements. The results showed Chinese athletes had a low level of social cohesion and a high level of social anxiety. It also suggests the theory model should include six kinds of significant others for Chinese athletes, namely the team leader, coach, team staff, family, friends and teammates, all whose roles are different. For the athletic psychological state, the leader, coach, and staff of the team are the key observers and source collectors, and the psychologist is the diagnostician. For the athletic psychological intervention, the psychologist is the plan designer and director, the coach and the leader are the plan executors and the plan designing participators, while the family, friends, team doctor and other team staff are the active influences and the teammate is the passive influence. The coaches and team leaders are the key people in the model and the transformer between the psychologist and athlete. Furthermore, the results of this research were applied to design the psychological intervention system for the Chinese Women's Water Polo team preparing for the London Olympics. Lastly, the performance during the London Olympics showed the athletes' psychological potential was enhanced significantly through group counseling, group psychological courses, and diary mental training, which had been designed according to the theory model.

Keywords: team sports, counseling, mental training, athletes

Service Models of Applied Sport Psychology: A Cross-Cultural Comparison

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Abstract: The differences of applied sport psychology service models in different countries were compared in the present study. The aims of the study were to explore the key implicative factors of service effect of the applied sport psychology service (ASPS) including consulting and mental skills training, and a more reasonable model could be set up within the system. The competitive sport system (i.e. the context of ASPS) was interpreted within the Action Theory perspective. The Sport Psychologist's Service Inventory was developed according to the Action Theory. Twenty nine items from the Person, Environment and Task subscales were randomly arranged. The Chinese and English versions were developed in parallel and then cross back-translated by native speakers. Twenty applied sport psychologists in China (group a) and 19 overseas sport psychologists (group B) took part in the present study. All of them have more than 3 years practical experience in ASPS. All participants were invited to finish the Sport Psychologist's Service Inventory via email or online. After the return of the survey, the data was collected and analyzed with SPSS. Chi-square and/or T-test were applied in the data analysis. Significant differences between the two groups were revealed in the person, environment and task elements of ASPS. Suggestions to improve the effect of ASPS were proposed from three aspects including professional development, service environment,

and service content.

Keywords: applied sport psychology, service model, action theory, cross-cultural comparison

Routines in Sport - Cognitive and Mental Perspectives

Ronnie Lidor
The Zinman College

Abstract: Athletes typically adopt performance routines in order to feel in control – both physically and psychologically – over what they are required to do before, during, and after a sporting act. In order to achieve a high level of proficiency in their sport, and to be optimally prepared for participating in competition, athletes should know in advance what they are required to do during their actual performance. In addition, they need to know how to assess their performances in order to benefit from the results of this assessment in future performances. Task-pertinent performance routines can help athletes prepare themselves effectively for the sporting act, and in turn improve their performances. A performance routine has been defined as a systematic sequence of physical (motor) and psychological behaviors that are demonstrated before, during, and after the execution of a sporting task. In fact, a performance routine is an integral part of the athletes' repertoire during the time he or she is (a) preparing him- or herself for the sporting act (i.e., a pre-performance routine), (b) executing the sporting act (i.e., a during-performance routine), and (c) assessing and reacting to the way he or she performed the sporting act and/or the outcome of the act (i.e., a post-performance routine). An effective performance routine should include a set of overt physical behaviors demonstrated by the athlete before he or she begins the sporting task. In addition, a good routine should include psychological elements, such as focusing attention, in order to enable the performer to cope effectively with distractions associated with the performed act – both external (e.g., noise generated by the crowd) and internal (e.g., negative thoughts). In this symposium we will focus on psychological aspects of routines, both the cognitive and mental. We will elaborate on the contribution of routines to achievement and provide some empirical evidence stressing the benefits that athletes can gain by the consistent use of routines. We will also provide a number of examples of routines that can be used by athletes. The symposium is composed of an introductory part (Ronnie Lidor), followed by three research presentations (Schack, Heiko, and Konstantinos; Lidor, Ziv, and Tenenbaum; and Ziv and Lidor). A commentary on the three presentations will be made by Dieter Hackfort.

Keywords: routines, sport, performance, skills

Structure and Cognitive Building Blocks of Routines

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Abstract: Routines are based on behavioral and mental building blocks for improving or stabilizing performance. They have a particular structure and contain robust as well as modifiable sequences. Furthermore, they enable athletes to evaluate the environment of previous competitions. For example, bouncing a ball in a volleyball service routine provides information about the ball, the floor, and the muscle-states to the server. This information can be used to calibrate the motor system and best prepare it for the action. Altogether, an important task of routines is to create a mental mindset that will foster athletes' best performances. Examples of an optimal mental calibration and resulting mindset include establishing a performance goal, generating task-specific mental rehearsal, and i

dentifying mental tools (e.g., self-instruction) to trigger beneficial performance reactions. To illustrate our understanding of routines, we are going to present empirical studies and examples of our coaching work in volleyball and golf.

The purpose of our first study on volleyball was to examine the relationship between the player's overhand service performance and the use of regulatory routines in the German Youth Female National Team. Mental representations of this movement and the integration of routines into the movement's phases were investigated by the Structural Dimensional Analysis (SDA-M) method. The Routine Questionnaire was administered to collect self-report data. Results indicated that the mental representations of routines are organized in a hierarchical, tree-like structure. The coach's performance ranking was significantly correlated with the athlete's mental representation of invariance values (i.e., structure quality), indicating a close relationship between mental representation of movement routines and performance.

The aim of the second study was to investigate the influence of two different routine integration strategies on volleyball float-serve performance, and on the structure of players' mental representations. Thirty female players participated in our study. One group was trained in routines using imagery, another group trained using the method of routine introduction, and the third group acted as a control group. Players' imagery ability, hand and ball velocity, serve accuracy, and the movement mental representation were assessed. The imagery group served with significantly greater accuracy, and with significantly increased ball velocity. At the same time, players' movement mental representation became more similar to those of experts, in a hierarchical manner. Based on our studies and on our practical experience in coaching, it seems that routines calibrate all competitive components at a mental level to achieve optimal performance.

Keywords: routines, sport, golf, volleyball

The Use of Attentional Instructions across Different Closed Self-paced Tasks under Non-distracted and Distracted Conditions

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The Zinman College

Abstract: Closed self-paced tasks (e.g., free-throw shots in basketball, golf putting, or dart throwing) are those performed in an environment that is both stable and predictable, in which the initiation of the act is decided by the performer. In closed self-paced tasks, the performer can typically activate a routine or protocol of motor and psychological behaviors that are consistently performed prior to and during the act. Among the psychological tools that can be used before and during the initiation of a closed self-paced event is an attentional strategy. The aim of the current study was to examine the effectiveness of external and internal focusing attention instructions on the performance of three throwing tasks under both quiet and distracted conditions. The main finding that emerged from this study was that during acquisition, the external focus of attention led to improved performance when compared to internal focus of attention and control (no instructions), but only under quiet conditions. It was also found that during both auditory and visual distraction conditions, both types of focusing attention produced similar levels of performance, and both of these groups were superior to the control group (no instructional focus). In addition, it was revealed that shifting focus to a far object was more difficult than focusing on or shifting attention to a close target. Based on the findings obtained in this study, it is suggested that sport psychology consultants provide their athletes with external focusing attention instructions when practicing

sport skills.

Keywords: routines, ball throwing, attention, transfer

Attentional Instructions and Gaze Behavior under Quiet and Distracted Conditions

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Abstract: Focusing attention is pertinent to the performance of closed self-paced motor tasks. In general, it appears that focusing attention externally can lead to improved performance. However, a number of issues decrease the ecological validity of this assumption (e.g., lack of a transfer design in the attention studies). The purpose of this study was twofold: (a) to examine the effectiveness of internal and external focus of attention instructions on the performance of a golf-putting task under quiet and distracted conditions, and (b) to examine the relationship between attentional focus instructions and gaze behavior under these conditions. We measured performance and gaze behavior variables in both conditions in three groups: (a) internal focus, (b) external focus, and (c) control. Each participant performed a golf putting task during three phases of learning: (a) acquisition, (b) retention, and (c) transfer. The main finding of this study was that a higher level of accuracy and consistency was observed in both the internal and external attentional focus participants under the distracted conditions than that of the control participants. We also found that quiet eye (QE) duration was longer in the external focus participants than in the internal focus and control participants, and that QE durations of over 1,200 msec were related to improved accuracy and consistency. We recommend that athletes be provided with attentional instructions, not only when they are performing under quiet conditions but also under distracted conditions. In addition, an optimal QE for a given performer may be developed in the future if he or she uses attentional focusing strategies when performing closed self-paced tasks.

Keywords: attention, golf, noise, performance

Learning from Competitive Experience towards Improving Mental Skills Training

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Abstract: Most texts about performance enhancement in sport are based on the assumption that efficient training - including physical, technical, tactical and psychological development - fosters peak performance. Based on this perspective, most books published in applied sport psychology focus on mental skills training methods and their implementation in preparatory training sessions for competitive performances (e.g., Williams, 2010). Resorting to recognized mental skills training methods for learning and improving mental skills constitutes a necessary foundation for young and inexperienced athletes. The more athletes gain in experience and expertise in their sport, the more sport psychology support providers need to take singularities and preferences of each athlete into account. In elite sport, competitive experience analysis, which takes into account both the athlete's characteristics (e.g., behavior, emotional states, sports career experience) and performance environment (e.g., competitive context, staff), does not only enable the evaluation of the mental skill training's efficiency or the athlete's strengths and weaknesses for determining what skills to improve, but it is also used for thinking about and finding innovative and individualized ways of mental training. With this

perspective, it becomes necessary for the sport psychology support providers to resort to both knowledge and intuition attained through experience. For example, competition debriefing may emphasize a specific psychological skill to work on, such as self-talk or relaxation. But most of the time, what emerges from debriefing in elite sport is that performance impairment is often due to a set of small details in psychological, as well as other aspects of the performance, environments which interact during action. Working separately on each one is hence not enough. The challenge for the athlete, the coach and the sport psychology support provider is to find or create training situations as close as possible to a competitive situation, with the aim to learn to face to the given competitive situation efficiently rather than to independently improve each skill involved.

Keywords: Elite Sport, Competitive Experience Analysis, Integrated Mental Skills Training

Providing Developmental and Holistic-Based Sport Psychology Support Services to Tennis Players

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Abstract: This presentation will provide insight into the background, development and use of sport psychology support services based within the developmental and holistic perspective of the holistic athletic career model (Wylleman&Reints, 2010; Wylleman, De Knop, &Reints, 2011). Using a combination of a qualitative and quantitative research methodology, 14 tennis coaches working on a daily basis with 12 to 18 year-old players in the elite tennis school of the Flemish Tennis Federation (VTV) were questioned on (a) their knowledge on mental coaching, (b) the mental functioning of their players in function of age and level of performance, (c) the learning and training of mental techniques with young players, and (d) the role and influence of significant others on the mental functioning of young players. Results showed, amongst others, that the coaches advocated the need to specify mental training and mental coaching in terms of the function of specific mental skills and/or attributes as well as terms of specific age groups. It also showed that mental training of young players should not only be conducted on a day-to-day basis but should also be integrated, as fully as possible, in young players' daily on-court training provided by the coaches themselves rather than via a sport psychologist or mental consultant. A developmental model on mental skills was developed for teaching, training and using six mental skills (motivation, self-control and self-discipline, self-confidence and mental strength, concentration, relational and communication skills, lifestyle management skills) with tennis players in three age groups (8-11 years, 12-14 years, 15-18 years). Experience with this developmental model will be discussed including recommendations for the provision of applied service provision as well as for further research.

Keywords: sport psychology support, developmental, holistic, talented players, tennis

Inside the Professional Philosophy of Team Denmark's Sport Psychology Service Delivery

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Abstract: Denmark is a small country with large ambitions in international sport. As an elite sport institution, Team Denmark cooperates with the sport specific federations to coordinate all efforts to promote Danish elite sport and particularly Olympic sport. One

such effort is sport psychology service delivery. In Denmark, the sports psychology profession has until recently been characterized by a diversity of approaches with little overarching consensus on the professional philosophy and intervention strategies among consultants in the field. This has meantthat the quality of service delivered has varied in focus, duration and quality to a degree, where sport psychology has suffered a tarnished reputation among coaches and sports federations. In 2008, Team Denmark decided to enhance the quality and consistency of applied sport psychology services in Danish elite sport by employing a permanent staff of sport psychologists. In that sense, sport psychology service delivery was at a stroke reorganized from independent and privately working consultants to being included in the professional elite sport organization. The team began its work by formulating an overarching professional philosophy. This paper describes the rationale, content, and implications of this philosophy, including: (a) basic beliefs and values of the sport psychology practitioner, (b) theories of intervention and behavior change, (c) objectives of the sport psychology intervention, (d) the content and focus of the interventions, and (e) sport psychological services and methods. Through case examples of applied sport psychology interventions with Danish elite level athletes, the present paper will demonstrate how high quality service requires coherence across all five levels of the philosophy. This professional philosophy has been widely implemented in Danish elite sport. Implications of introducing the professional philosophy include a more unified service delivery across Denmark and the fact that sport psychology services are demanded more than ever in Danish elite sport.

Keywords: sport psychology service, professionalisation, philosophy, Denmark

Applied Sport Psychology in Ibero-American Countries

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Iberoamerican Society of Sport Psychology

Abstract: Sport psychology has grown significantly over the last years in some Ibero-American countries. The professional development of sports psychologists has allowed the implementation of major projects in the field of mental training in different levels of performance from young athletes to the elite, as well as in physical activity contexts. In 2005, the consolidation of the Iberoamerican Society of Sport Psychology (SIPD) facilitated and established a network of professionals which brought a significant growth in this science, with actions such as the organization of an Iberoamerican congress every two years, a scientific journal and the recent launch of a Master degree program in sport psychology.

Keywords: mental training, sports psychology, psychology of physical activity, athletic performance, iberoamerican.

Mountain Bike Athlete: Mental Training and Preparation Process for the XVI Pan American Games, Guadalajara 2011

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Instinto Sport Psychology Consulting

Abstract: It all began with a project named: "IncubadorasPanamericanas" (Pan-American incubators), which supported the creation of a training program to prepare and enhance an athlete's performance throughout a journey of preparation and complete devotion, to excel the athlete's personal and professional goals that were directed to the date many competitors were waiting

and preparing for, namely the XVI Pan American Games 2011. The training was previously organized and prepared in different phases. Each phase had a purpose and goal that assisted the athlete's performance step by step. Tools that were used included questionnaires, structured interviews, observation analysis, self-report measures and biofeedback training. These tools were applied in training, simulated competition and competition situations. In the middle of the process, the athlete had a control assessment whereby we evaluated the abilities, both physiological and psychological skills. This allowed us to identify and compare the athlete's progress towards the goals of the entire program. Also, after the big competition, the athlete was evaluated for the last time to identify his mental, emotional, and cognitive states after his competition, which also provided useful information. The program was considered to be interdisciplinary, that is, professionals gathered to work together to assist and promote the athlete's goals and desires.

There are interesting results from all of this. We were able to identify exceptional changes in the athlete's mental aspect, as well as behavioral, and cognitive variables. The athlete refers to the XVI Pan American Games 2011 as one of his greatest achievements, not only to wear his country's flag, but to step forward in his own personal growth as an elite athlete.

Keywords: mountain bike,mental training, sport psychology, Pan American Games

Psychological Profile of Mexican Athletes who Participated in the XVI Pan American Games Guadalajara 2011.

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Instinto Sport Psychology Consultancy

Abstract: The following study is descriptive and shows the psychological profile presented as a sample of the Mexican delegation that participated in the Pan American Games in 2011. These Games are among the elite sport competitions in the world; the sixteenth edition was held in Guadalajara, Jalisco, Mexico. The event hosts 42 countries in North America, Central America, South America and the Caribbean. For Mexico and Guadalajara especially, the event became a catalyst for sports preparation structurally, economically and socially.It is the reason why the country built the best sport structures for the athletes and why there was an increased demand for Mexican psychological training. This edition of the event led to the need to include high-level strategies for enhancing sports performance. For that reason, INSTINTO Sport Psychology Consultancy developed an applied psychology program to increase the quality of the athletes against the requirement that competition presented to them. Incubators Pan American is the name of the psychological training program where 75 athletes attended from Jalisco, representing 10% of the Mexican delegation at the Pan American Games. The application period was 11 months. This paper shows the psychological profile of Mexican athletes obtained from the application of the test PAR P1-R, an inventory of the valued aspects of the psychology of the athlete in training and competition (Serrato, 2007). The sample yielded the following average results on the scales that comprise the instrument. These scores show the closeness to the ideal profile proposed by the author: self-confidence: 7 ideal 9, motivation: 8 ideal 9, concentration: 7 ideal 9, emotional sensitivity: 5 ideal 4, imagination: 7 ideal 9, positive attitude: 7 ideal 9 and challenge in competition: 9 ideal 9. The test was applied a week before the competition. Participation in the sixteen editions was historic both in representation and in the country's sports scores. The descriptive nature of the study does not allow the correlation between the mental training model used and the results obtained; however the scores observed shows a positive profile of the athletes who represented the

Mexican delegation. The intervention of INSTINTO was generated as an area of specialized mental training where the athlete can develop a category of competition sufficient to meet the high psychological demand for events of this level.

Keywords: Pan American Games, psychological profile, mental training, Mexican athletes

Brief Intervention Program: Improving Psychological Skills of a Basketball Player

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Universidad de Vigo

Abstract: Sports psychologists must be able to be creative and to adapt to the personal characteristics of their clients. To achieve great results in a few sessions they usually use a brief intervention program consisting of five sessions. In this symposium we talk about an example of such an intervention with a basketball player. The program includes the entire process of a psychologist intervention: rapport establishment, evaluation, clinical sessions, sessions in the field, and tracing (by email or phone during the program and at the end of it). In this presentation we show the intervention applied to a male basketball player of 22 years of age who was playing in a fourth Spanish category team as a point guard. The intervention demand was to be focused during the entire play. Other variables dealt were leadership and increase self-confidence in decision-making. During the clinical sessions (3 sessions) we used cognitive behavioural therapy and some coaching tools. In the field sessions (2 sessions) conducted on a basketball court, basketball activities were used for training the mental skills of the player. The results obtained were very successful in the third variables treated.

Keywords: basketball, mental training, leadership, concentration, decision making

Art and Creativity: An Intervention Used Before, During and After the 2012 Paralympic Games in London

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Abstract: The purpose of this presentation is to describe how an intervention integrating art and creativity and traditional consulting approaches was used with the Swedish Paralympic team at different stages during the 2012 Paralympic Games. The intervention involved a preparation phase prior to the Paralympics, a second phase at the event to enhance key foundations that supported performance, and a debriefing phase after the Games. This intervention was used to target the basic needs described in self-determination theory in order to ultimately facilitate relatedness, perceived competence, and autonomy in the Swedish Paralympic team which included 59 athletes and 50 coaches. Art and creativity in this intervention involved bringing into play art exhibitions, which included paintings created by the Swedish team, live music, and the creative expression of thoughts, feelings and behaviors through key words. Traditional sport psychology consulting approaches were carefully coordinated throughout the phases to help the athletes mentally prepare for the Games and to be able to peak and execute under pressure at the event. Although performance was a huge focus of the intervention, health and life concerns such as being compared to traditional athletes and norms were also at the forefront of the work conducted. In order to maximize the athletes' well-being after the Paralympic Games, exit strategies were used and emphasis was placed upon supporting everyone in their transition back into every day routines.

Facilitating self-determined motivation was also important to help the athletes feel a sense of accomplishment, regardless of the outcomes achieved at the Games. As such, the post Paralympics debrief weekend that was held to evaluate the athletes' experiences and to plan ahead was perceived to be just as important as the pre-camp in which the athletes participated leading up to the Games. This weekend was also a key in sustaining a trusting long-term relationship with the athletes and coaches. Finally, one of the greatest rewards the consultant experienced on a personal level was getting a true sense and understanding of what it means to be resilient in one's practice.

Keywords: consulting, elite athletes, mental training, performance excellence, Paralympic Games

Towards a Short Version of the Sport Imagery Ability Measure

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Abstract: A substantial amount of research has been invested to understand and estimate factors influencing the effect and scope of imagery ability and use. Several research tools have been developed to estimate imagery ability and imagery use in reliable and valid ways. One measure of imagery ability that has exhibited noteworthy use beyond developmental research is the Sport Imagery Ability Measure (SIAM; Watt, Morris, & Andersen, 2004). The SIAM is a task oriented, multimodal, multidimensional, imagery ability measure. The SIAM includes four generic scenes which athletes imagine, then rate their imagery on 12 subscales (five dimensions, six sense modalities, and imagery of emotion). The SIAM has been translated into several languages and has demonstrated good psychometric qualities across diverse cultures. The current research is based on data collected during the validation of the Hebrew version of the SIAM. The purpose of the research was to examine the psychometric qualities of a shorter version of the SIAM. A shorter version, if validated, may be useful for large-scale imagery studies and for applied work as feedback indicates that the original scale appears long to athletes, taking 20-30 minutes to complete. Participants were 80 athletes (20 elite, 60 amateur) who completed the full version of the SIAM. The data was split into two parts, each part including two of the four generic scenes presented in the SIAM (Short version 1: "Home Venue", "Successful Competition"; Short version2: "A Slow Start", "Training Session"). For each subscale we calculated a total score based on the mean of the relevant subscales from the two chosen scenes. Correlations between subscales based on the long version of the SIAM and the subscales based on the short version1 of the SIAM were found to be around .90, and correlations between the long version of the SIAM and short version2 were found to be around .85. Correlations between subscales of the two short versions were found to be around .60. Subscales of each of the shorter versions were found to discriminate significantly (p<.05) between amateurs and athletes, with somewhat clearer discrimination for version 1 (Home Venue, Successful Competition). Based on the results and following replication with a new sample, we recommend using a shorter version of the SIAM for large-scale studies (with preference towards version1) and applied work when time with athletes is limited, while using the longer version of the SIAM in more intensive clinical contexts.

Keywords: imagery, imagery ability, short form, correlations

Using Imagery of Hand Warmth in Competition for Oxygen Consumption

and Golf Putting Performance Enhancement

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Abstract: The aims of this study were to examine whether imagery of hand warmth affected levels of oxygen saturation rate, heart rate, and perception of hand warmth during a simulated competition, and whether the imagery of hand warmth affected golf putting performance during simulated competition. Participants were Thai golfers (N = 3). One was a Thai male professional golfer (55 years old, handicap = 0), another was a Thai male amateur golfer (16 years old, handicap = 10), and the third was a Thai female amateur golfer (31 years old, handicap = 7).Each golfer was screened for at least moderate imagery ability using the SIAM. The golfers then performed putting in a practice context and a simulated competition and their oxygen saturation and heart rate were monitored. They also completed a rating of perceived hand warmth. Each golfer then undertook three weeks of training sessions using imagery to increase hand warmth five times a week. Then the golfers performed the putting task again under simulated competition and practice conditions. Again, oxygen saturation, heart rate, and perceived hand warmth were monitored. The results indicated that a) prior to the imagery intervention, golf putting error tested during the high stress, simulated competition increased when compared to putting error in the low stress, practice situation, b) gradual reductions were observed in oxygen saturation rate and heart rate during the imagery intervention, and high levels of perceived hand warmth were found in all three participants, and c) after the imagery intervention, participants' golf putting error during simulated competition was lower than before the 3-week imagery training when compared to putting error in both the practice situation and the simulated competition prior to the imagery intervention. In conclusion, imagery that focused on increasing hand warmth had a positive effect on oxygen saturation, heart rate, perceived hand warmth, and golf putting performance in simulated competition. These results suggest that imagery interventions that aim to increase hand warmth have the potential to improve autonomic nervous system function and enhance the performance of fine motor sports skills, such as golf putting.

Keywords: imagery, oxygen saturation, heart rate, perceived hand warmth

Standardized Low Resolution Electromagnetic Tomography during Movement, Imagery and Observation of Movement

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Abstract: The aim of the present study was to localize brain centers activated during observation of movement, actual movement, and internal and external perspective imagery. The participants were 22 student volunteers from universities around Melbourne. They were screened for their imagery perspective ability using the Vividness of Movement Imagery Questionnaire-2 (VMIQ-2) prior to testing; low scorers were excluded. We employed a finger-movement task withvideo clips from internal and external views. The views exhibited someone's finger holding down a white triangular key on a custom-

built keyboard which had five keys: the white triangular ready key, and four blue rectangular target keys. We exhibited eight video clips in random sequences on a computer monitor placed in front of the participant beyond the task keyboard, four showing an internal view (the perspective of the participant) and four showing an external view (the perspective of the monitor). Participants watched the video clips in each of three research conditions, namely movement, internal imagery, and external imagery. Each condition was repeated 40 times and participants responded according to the demands of the research conditions. EEG data was collected using two 32-channel coupled SynAmpsTMEEG systems (NeuroScan., Inc., Abbottsford, Victoria, Australia) and a 64-channel Electro-cap (NeuroScan, Inc.) with electrodes positioned according to the extended international 10-20 system (Jasper, 1958) and with standard montage. We used sLORETA software to do source localization for EEG data and visually examined the areas of the brain activated. We found that movement and internal imagery activated Brodmann areas 2, 4, 20, 21, and 40, whereas external imagery activated Brodmann areas 19, 20, 22, 37, 39 and 40. Observation of movement activated Brodmann areas 6 and 40, the pre-motor area, part of the human mirror neuron system. The results exhibited involvement of the primary somatosensory cortex and primary motor area during internal imagery, whereas external imagery activated associate visual areas. Both internal and external imagery activated the supra-marginal gyrus that forms part of the human mirror neuron system and is known to have a role in movement imitation. The results are discussed in relation to the proposition that internal perspective imagery is functionally equivalent to movement and external perspective imagery is functionally equivalent to the observation of movement.

Keywords: imagery, internal perspective, external perspective, mirror neurons, brain-mapping

Mood and emotion in sport Psychological and Physiological Factors of Risk-taking Behaviours

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4. University of Amsterdam, the Netherlands

Abstract: This symposium deals with some risk-taking behaviours attached to sport performance (e.g. disordered eating, alcohol use, stress consequences, transgressive behaviours). The main focus is the emotional regulation and its links to personality traits, emotional regulation and physiological responses. A multidisciplinary approach is clearly needed when dealing with emotions.

The first presentation takes a psychobiological approach studying stress manifestations on a 16- week period for high-level female tennis players. Clearly the training program had an impact, and preventive measures were taken to preserve the athletes' health. The three following presentations focus on disordered eating in high-level athletes. The first, with high level tennis players, takes into account the role of personality traits and negative effects on disordered eating. With a larger number of athletes from different sports the second also studies the role of personality in eating disorders and alcohol use, but integrates parental attachment and alexithymia in a broader model. The third encompasses social factors, such as significant others, to identify threat factors to physical and mental health in weight making in judo. Finally, the last presentation focused on transgressive behaviours in sport and how self-regulatory skills can be important with adolescents experimenting with risky activities.

These different studies will help draw an emotional profile and

putforward important social factors to better understand risky behaviours in sports and therefore recommend preventive measures.

Keywords: risk-taking behaviours, emotional regulation, psychology, physiology

Motivation in sport

Committed Performers or “Tortured Souls”? The Motivational Dynamics Underpinning Perfectionism in Sport

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Abstract: Perfectionists have recently been referred to as “tortured souls” (Hoffman et al 2012). This symposium examines research into the paradoxical nature of perfectionism in athletes. It is presented by an international group of scholars and seeks to address how perfectionism may lead to both heightened achievement striving and enhanced performance while at the same time inducing motivational processes that threaten psychological well-being and undermine sustained performance. In this symposium we will first describe the multidimensional and multifaceted nature of perfectionism and explain the motivational dynamics underpinning different forms of perfectionism in order to provide a suitable context for examining recent empirical research. We will then present five empirical studies. The first paper by Gustafsson et al., examines how the achievement environment created by parents interacts with dimensions of perfectionism, to influence athlete burnout. The second paper by Jowett et al., uses a diary study to undertake a fine grained analysis of fluctuations in the emotional responses of athletes taking part in a cricket tour. Jowett examines the degree to which perfectionism influences fluctuations in pride, shame and guilt across a five day tour. The third paper by Hall et al., examines how different forms of perfectionism induce distinct patterns of motivational regulation, and how these predict levels of enjoyment, anxiety and burnout in recreational athletes. The fourth paper by Hill et al., uses multi-level modeling to examine whether team perfectionism contributes to performance in rowing. The fifth paper by Hassmen et al., looks beyond the effects of trait perfectionism to examine the influence of perfectionistic self-presentation on burnout in sports coaches. The symposium will conclude by offering a critical analysis of perfectionism research in sport and offer suggestions on future directions.

Keywords: perfectionism, motivation, performance, burnout

Does Perfectionism Predict Pride, Shame and Guilt in Junior Athletes while on a 5-day Cricket Tour?

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Abstract: Late summer county cricket tours can be a defining moment for junior cricketers. Good performance on tour may secure a place in the squad for the winter training period, while poor performance could lead to being dropped from the squad. Cricket tours require young athletes to travel away from home, often for the first time, face challenging opponents, and perform consistently for long hours on consecutive days. Consequently, they represent demanding environments in which players are likely to encounter the emotional highs and lows of sport (Jones, 2003). With this in mind, research suggests that higher levels of positive, stable emotions are indicative of healthy patterns of emotionality. In contrast, higher levels of negative emotions and greater day-to-day fluctuation are indicative of unhealthy patterns of emotionality and wider psychological dysfunction (Kernis, 2003). Outside of sport, dimensions of perfectionism have emerged as predictors of different patterns of emotionality (Dunkley, Berg, & Zuroff, 2012). The current study aimed to extend this research by examining whether perfectionism predicted aggregate levels and fluctuations of pride, shame and guilt on a junior cricket tour. Participants were 52 male junior county cricketers (M age = 13.85 years, SD = .72). They completed measures of perfectionistic strivings and perfectionistic concerns (Cox, Enns, & Clara, 2002; Gotwals, Dunn, Causgrove Dunn, & Gamache, 2010) prior to a 5-day summer tour where they would compete every day. They then completed measures of pride, shame, and guilt at the end of each day on tour, for 5 consecutive days (Marshall, 1996). The results indicated that perfectionistic concerns positively predicted lower levels of pride and higher levels of shame and guilt across the 5 days. Perfectionistic concerns also predicted greater daily fluctuation in shame and guilt. In contrast, perfectionistic strivings did not predict either aggregate levels or daily fluctuations in the three emotions. The findings extend the current literature in this area by highlighting the potential for perfectionistic concerns to contribute to more negative emotional experiences among junior athletes involved in intense competition.

Keywords: perfectionistic strivings, perfectionistic concerns, emotionality

Perfectionism, Motivational Processes and Their Impact on Enjoyment, Anxiety and Burnout in Youth Sport Participants

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Abstract: While perfectionism is considered by many to be a broadly debilitating personality characteristic its influence in sport appears to be somewhat paradoxical (Flett & Hewitt, 2002, Hill, Hill & Appleton 2012). Not only does it provide the impetus for heightened striving, but it also gives rise to a number of motivational processes which appear to undermine the quality of achievement behaviour, engender disaffection and hinder sustained investment. Hill, Hill & Appleton (2013) have argued that one reason perfectionism may reduce the quality of motivation is because it diminishes perceived control over the fulfillment of important goals. This belief stems from ideas first proposed by Hewitt and Flett (1991) who argued that the various dimensions of perfectionism differentially affect self-determination. Research has confirmed that when perfectionism induces less self-determined forms of regulation it has psychologically debilitating effects in elite junior athletes. For example, Jowett, Hill, Hall & Curran (2012) recently found that dimensions of perfectionism which reflected perfectionistic concerns were associated with controlled forms of motivation that contributed to athlete burnout.

A further study by Appleton & Hill (2012) found that amotivation mediated the relationship between socially prescribed perfectionism and athlete burnout. To date, however, no study has considered the degree to which perfectionism influences motivational processes and the sporting experience in recreational youth athletes. Therefore, the purpose of this investigation was to examine the association between different dimensions of perfectionism, motivational processes and enjoyment, anxiety and burnout in youth footballers. The sample comprised 1000+ recreational youth footballers aged 10-14 selected from clubs in the UK and Spain. As part of a larger inventory, athletes completed the Multidimensional Inventory of Perfectionism in Sport (Stoeber, Otto & Stoll, 2004), a shortened version of Hewitt and Flett’s (1991) Self Oriented and Socially Prescribed Perfectionism Scale (Enns & Cox, 2002), the Behavioural Regulation in Sport Questionnaire (Lonsdale, Hodge & Rose, 2008), the Intrinsic Motivation (Enjoyment) Inventory (McAuley, Duncan & Tammen, 1989), the Sport Anxiety Scale-2 (Smith, Smoll, Cumming & Grossbard, 2006) and the Athlete Burnout Questionnaire (Raedeke & Smith, 2001). Initial correlational findings indicated that all forms of perfectionism were positively associated with extrinsic forms of regulation. Only self-oriented perfectionism was weakly associated with intrinsic motivation. All forms of perfectionism were positively associated with both anxiety and athlete burnout, but only self-oriented perfectionism was weakly associated with enjoyment.

Keywords: perfectionism, motivation, achievement, self-determination, anxiety, burnout

Perfectionism and Team Performance: Team-Oriented Perfectionism Drives Teams to Achieve Higher Performance in Competition

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Abstract: Perfectionism is an achievement related personality trait that has been found to predict performance across a number of achievement contexts, including sport (Stoeber, 2011, 2012). Specifically, dimensions of perfectionism that reflect perfectionistic strivings have been found to contribute to better athletic performance. In contrast, those that reflect perfectionistic concerns have negligible, or occasionally inverse, associations with athletic performance. To date, this research has examined the perfectionism-athletic performance relationship exclusively at an individual level (i.e., an athlete’s perfectionism predicting personal performance). The current study extends this research by examining whether the level of perfectionism evident at a team level predicts team performance. Two-hundred and thirty-one adult rowers (114 male and 117 female aged between 18 to 41 years), representing 36 different boat crews, completed paper-and-pencil measures of self-oriented (perfectionism directed towards the self), team-oriented (perfectionism directed towards team mates) and team prescribed (perfectionism perceived to be imposed by team mates) perfectionism prior to competing in a four-day rowing competition (Enns, Cox, & Clara, 2002). Multilevel regression modeling revealed that the level of team-oriented perfectionism within each crew predicted better team performance. However, the level of self-oriented and team prescribed perfectionism within each crew was not associated with team performance. The findings suggest that imposing perfectionistic standards on team mates can drive teams to greater levels of performance.

Keywords: rowing, motivation, and achievement

Self-Regulatory Mechanisms of Transgressive Behaviors in Sport: The role of self-determination

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Abstract: Objectives: Over the last two decades, a growing body of research has documented the contributing role of self-efficacy beliefs and self-regulatory skills in prosocial and transgressive spheres of daily functioning. Recently, the role of self-regulatory mechanisms in moral disengagement has been demonstrated in sport contexts; however, the antecedents of self-regulatory efficacy variables are not well known. The purpose of these two studies was to examine the role of self-determined motivation on resistive and affective self-regulatory efficacy and on moral disengagement in sport. Method: Study 1.Two hundred and ninety-eight voluntary students were invited to complete three questionnaires: (a) the self-determination motivation scale for physical exercise, (b) the resistive self-regulatory efficacy in sport scale, and (c) the moral disengagement in sport short scale.Study 2: One hundred and twenty-eight athletes were randomly assigned to one of three conditions describing a virtual training session within different contexts: (a) sustaining autonomy, (b) emphasizing external control, and (c) without motivational information (control group). Measures included a manipulation check of the induced contexts and situational measures of resistive and affective self-regulatory efficacy and moral disengagement. Results: The results of study 1 indicated that resistive self-regulatory efficacy partially mediated the relationships between extrinsic/intrinsic motivation and moral disengagement. The model showed (a) negative relationships between extrinsic motivation and resistive self-regulatory efficacy, resistive self-regulatory efficacy, and moral disengagement; and (b) positive relationships between intrinsic motivation and resistive self-regulatory efficacy. The results of study 2 showed that the context emphasizing external control resulted in poorer scores of affective self-regulatory efficacy than the context sustaining autonomy and the control condition.Discussion: These findings indicate that self-determination may positively influence self-regulatory efficacy and be a protective factor for moral disengagement. Autonomy support may therefore encourage the development of self-regulatory skills in adolescents experimenting with risky activities. Longitudinal studies are needed to confirm this hypothesis.

Keywords: transgressive behaviors, autonomy support, external control, self-regulation

The Interaction between Perfectionism and Parent-initiated Climate When Predicting Burnout among Junior Competitive Athletes

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Abstract: Research has found some dimensions of perfectionism to predict burnout symptoms among junior athletes (e.g., Hill, Hall, Appleton, & Kozub, 2008). Therefore, in order to better understand how to safeguard the welfare of perfectionistic junior athletes from burnout, factors that attenuate or exacerbate this relationship need to be identified. In acknowledgement of the importance of parents in youth sport participation (e.g., Keegan, Spray, Harwood, & Lavallee, 2010), the current study examined whether perceptions

of the motivational climate initiated by parents interacts with dimensions of perfectionism (striving sand concerns) to influence burnout symptoms. Participants were 237 junior competitive athletes (124 male and 113 female aged 16-19) from a variety of team and individual sports. Athletes completed the Parent-Initiated Motivational Climate Questionnaire-2 (White &Duda, 1993), the Multidimensional Perfectionism Scale (Frost et al., 1990) and the Athlete Burnout Questionnaire (Raedeker & Smith, 2001). Moderated regression analyses revealed that perfectionistic concerns were a positive predictor of total burnout and all burnout symptoms, whereas perfectionistic strivings did not independently predict total burnout or any of the symptoms. There was one significant 2-way interaction and two significant 3-way interactions. The 2-way interaction indicated that high levels of perfectionistic striving contributes to lower devaluation in the face of increasing perceptions that parents emphasized success without effort (i.e., an ego-involving climate). The two 3-way interactions indicated that a combination of high perfectionistic concerns and low perfectionistic strivings contributed to higher total burnout and devaluation as perceptions that parents emphasized success without effort increased. The findings suggest that perceptions of parents influence the level of burnout reported by perfectionistic junior athletes.

Keywords: perfectionism, burnout, elite athletes, stress, motivation

Training coaches to create a more empowering and health-conducive climate in grassroots sport: The multi-country ‘PAPA’ project

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Abstract:This symposium will commence with a brief description of the background to and rationale for the European-wide ‘PAPA’ (Promoting Adolescent Physical Activity) Project and details regarding this multi-country trial. The first presentation will focus on the implications of youth sport for children’s physical activity and health. Findings from the PAPA project on the observed objective and subjective physical activity levels observed in grassroots football and their correlates will be highlighted. Next, we will briefly review research grounded in Self Determination Theory and/or Achievement Goal Theory, which has examined the interrelationships between aspects of the motivational climate created by the coach, motivation-related processes and indicators of well- and ill-being in youth sport. Results will be presented from a test of cross-country invariance (Spain, England) in a theory-based process model (an empowering coach climate - players’ motivation - enjoyment - intention to continue playing) in the case of youth grassroots football players who participated in the PAPA project. In the third presentation, we will look at the potential ‘dark side’ of youth sport. Specifically, attention will be placed on the dispositional and social environmental factors that predict adaptive as well as maladaptive motivational outcomes in young athletes. Finally, we will conclude with a synopsis of the theory-based Empowering Coaching™ programme. Reflecting the employment of both quantitative and qualitative methods, preliminary findings will be shared from the PAPA project, reflecting grassroots coaches’ responses to the coach education workshops. The symposium will conclude with a brief indication of future research directions within the PAPA project.

Keywords: motivation, youth sport, self-determination theory, achievement goals, motivational climate

Health Benefits of Participation in Football in Adolescence

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5. University Joseph Fourier
6. Autonomous university of Barcelona
7. Norwegian School of Sport Sciences
8. York St John University

Abstract:A main aim of the PAPA project is to establish the health benefits of participation in youth football for adolescents. In the first part of this presentation we will present evidence that adolescent Greek footballers meet the requirements of physical activity involvement which have been specified by international health organizations. These findings stem from objective measurements of moderate-vigorous physical activity over a period of one week. These measurements have been conducted within the context of the implementation of the PAPA research project in Greece. Then we will present evidence about the positive psychological benefits of participation in youth football for Greek adolescents. We will specifically focus on the positive associations among physical activity, vitality and general self-esteem for a large sample (N = 1511) of Greek adolescents. Finally, drawing on the measurements of all PAPA partners across the first wave of data collection involving football young athletes across five European countries (N = 7789), we will provide evidence that these psychological benefits generalize across European countries with diverse culture, climate, sport infrastructure and living conditions. Overall, the findings that we accumulated through the PAPA project provide strong evidence for the health benefits of participation in football in adolescence.

Keywords: children’s health, objective physical activity, youth sport, self esteem

Perceived coach empowering climate, players’ motivation, enjoyment and intention to continue playing football: A study of cross-country invariance

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2. University of Birmingham

Abstract:One focus of the PAPA project was to conduct cross-cultural tests of the motivational theories relevant to the promotion of well-being and engagement in youth sport. Self-Determination Theory (SDT, Deci & Ryan, 2000) postulates that when the social environment created by the coach is autonomy supportive, autonomous motivation will be promoted, and in curs well-being and optimal functioning will be favoured. The major purpose of this study was to examine whether these interrelationships are invariant across young football players from two of the PAPA countries, namely, Spain and England. Specifically four objectives were pursued: (1) to test whether measures of the key constructs were parallel across the two countries; (2) to compare mean scores on targeted variables between countries; (3) to test the hypothesized model structure on each data set (for each country) independently; and (4) to test for equivalence in the hypothesized structural model between both countries. 3009 grassroots footballers (1522 Spanish boys and 115 girls with a mean age = 11.44 + 1.16; and 1161 British boys and 187 girls with mean age = 11.41 + 1.56) completed as part of a larger inventory, the questionnaires assessing the variables of interest.

Overall, measures of the key constructs were parallel across Spain and England. Significant differences between countries in all the study variables except for amotivation were found. The hypothesized model structure on each data set (for each country) was supported and the hypothesized structural model was equivalent between both countries. Results supported the tested SDT-based model with young athletes who live and play football in two different countries. Findings showed the importance of empowering climates in the promotion of enjoyment and intentions to continue playing soccer and present one potential motivational mechanism that explain these relationship.

Keywords: motivational climate, motivation regulations, self-determination theory, youth sport; enjoyment

Antecedents of debilitating patterns of motivation in youth sport participants

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Abstract: While the PAPA project seeks to promote adaptive achievement striving and to help children achieve positive outcomes through participation in sport, it is well known that not all children perceive sport to be a positive experience. When sport is considered to lack meaning and enjoyment, attrition is a likely outcome. Sport participation has many alluring qualities for children, and most will initially encounter a variety of positive experiences that stimulate motivation. For some, however, the consequences of continued participation may be insufficient to sustain motivation and may in fact lead them to perceive sport as increasingly aversive. To ensure that sport participation is largely a positive experience for children it is important to understand the factors which may lead motivation to go awry. Research utilising both achievement goal theory and self-determination theory has identified that dispositional factors such as endorsing an ego orientation, and environmental factors such as the creation of a performance climate by coaches, and controlling interpersonal style of coaches may significantly undermine the quality of children’s sport motivation. The present research sought to test the influence of these variables on various measures reflecting both adaptive and maladaptive motivational consequences. The sample comprised 1000+ recreational youth footballers aged 10-14 selected from clubs in the UK and Spain. As part of a larger inventory, athletes completed the Task and Ego Orientation in Sport Questionnaire (Duda & Nicholls, 1989), the perceived motivational climate in sport questionnaire-2 (Newton et al, 2000), the Coaches Controlling Interpersonal Style Questionnaire (Bartholemew et al,) the Intrinsic Motivation (Enjoyment) Inventory (McAuley, Duncan & Tammen, 1989), Subjective vitality (Ryan & Frederick), General Self-esteem (Marsh et al), the Sport Anxiety Scale-2 (Smith, Smoll, Cumming & Grossbard, 2006) and the Athlete Burnout Questionnaire (Raedeker & Smith, 2001). The results of analyses examining the association between athletes goals, the perceived coaching environment and various motivational outcomes indicated support for contemporary theories of motivation and confirmed that these variables play a significant role in understanding how achievement motivation may go awry in children’s sport.

Keywords: motivation, achievement, self-determination, anxiety, disaffection, burnout

The Empowering Coaching™ Program and Its Implications for Promoting Healthy Youth Sport Engagement

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University of Birmingham

Abstract: In this final presentation, the evolution and foundation of the Empowering Coaching™ program will be highlighted. This educational training program, which pulls from an integration of principles and constructs embedded in Self Determination Theory (Deci & Ryan, 2000) and achievement goal frameworks (Ames, 1992; Nicholls, 1989) aims to (a) help coaches understand the nature and determinants of quality motivation in their players, and (b) work with coaches in developing new strategies and modifying current practices so that they can create a motivational climate for their athletes which is empowering, engaging and enjoyable. Within the PAPA project, the Empowering Coaching™ was customised for youth football and translated into 4 other languages for delivery to grassroots coaches across 5 European countries (i.e., England, France, Greece, Norway and Spain). The implementation of and coaches’ responses to this program were examined via both qualitative and quantitative methods. In evaluating the impact of the Empowering Coaching™ workshop, we also are considering cross-season changes in the players’ motivation and indicators of their well- and ill-being. Preliminary findings emerging from the PAPA project will be highlighted. The presentation will conclude with an indication of further research questions that will be posed and analyses conducted on the extensive data set that has emerged within the project. The implications of this work for enhancing coach education in Europe and other countries around the world will also be discussed.

Keywords: motivation, youth sport, motivational climate, coach education

Psychological aspects of youth sport Nigerian Traditional Culture as Panacea for Sports Development and Healthy Lifestyles

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Abstract: Culture is a wide permeation of many aspects in terms of the social, educational, belief systems, traditional rites, religious activities, occupational activities, specific costumes for specific occasions, material wealth and indigenous culture to many racial groups are of essential needs and purposes in proper and relevant perspectives. It is significant to add that culture also has a concern for the indigenous recreational and competitive sporting activities in Nigeria such as Ayo, traditional wrestling, moonlight games, Abula game, water sports (swimming, sailing, canoeing, diving, regattas, etc.) and traditional dances (apala, bata, fuji, atilegwu, biripo, ecobi, kelenkedimma, etc). These are all cogent and copious means of recreation. Participating in such activities engages the whole body and creates positive and pleasant moods and emotions as well asa healthy lifestyle. Nigeria has a population of about 170 million people; the diversity of languages includes about 250 ethnic groups and cultures, cutting across the various ethnicities. For the purpose of this study only a few cultures that are most popular were selected for this presentation since all cannot be covered in just one paper. Culture as a concept is all encompassing. It has a wide permeation of activities. The focus of this paper (symposium) is therefore to:
-Highlight the various aspects of Nigerian culture that are useful for health and wellness.
-Highlight specific indices of the aspects of Nigerian culture that are sports and recreation related.
-Highlight the diffusion of specific identities of our culture into different ethnic groups in the country.
-Depict some areas of Nigerian culture as recreational packages for actualization of wellness and physical fitness.
-Identify some traditional games/sports and dances utilizable in the

acquisition of total human body development.
Keywords: culture, traditional, health, wellness

Psychological benefits of exercise

Yoga Effects on Psychological and Functional Variables in Alzheimer’s disease: Patients and Caregivers

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Abstract: This research seeks to identify the effects of a hatha-yoga program on psychological (quality of life, depression, working memory and processing speed) and functional (basic and instrumental activities) variables in Alzheimer’s disease (AD) patients, and assess the effects of this program on caregiver burden. It was based on the results of a pilot study. The design was a pre-test post-test quasi-experimental study. The participants were 10 volunteer patients and their caregivers. The patients were diagnosed with moderate Alzheimer’s at a Memory Clinic in Bogotá, and they had a mean of 75 years old. The measures to assess patients were: Quality of Life in patients diagnosed with Alzheimer Disease (ADRQL); Geriatric Depression Scale (Yesavage); Mini-mental State Examination (MMSE); working memory and processing speed indexes of the Intelligence Scale WAIS III of Wechsler, Trail Making Test (TMT-A), Lawton and Brody Instrumental Activities of Daily Living Scale (IADL) and Barthel Activities of Daily Living Scale. To assess caregivers, the Zarit Caregiver Burden Inventory (ZBI) and Satisfaction with Life Scale (SWLS) were applied. Qualitative observations on patients and caregivers were taken during the intervention. The yoga program consisted of 32 sessions, twice a week, of one hour. Each session contained warm up exercises; hatha yoga asanaswereoriented to work on flexibility, balance, strength, respiration, cerebral oxygenation and venous return, and it also included a relaxation stage. The data analysis used descriptive and inferential statistics. Wilcoxon text supports participants’ improvement in psychological and functional variables. The program is available to aid as an alternative intervention for patients with AD and their caregivers for professionals and researchers. However, with an increased number of patients and caregivers, there are plans to obtain more empirical evidence, as well assess the program impact in the following six months after this ends.

Keywords: hatha yoga, Alzheimer disease, quality of life, program intervention

Health Behaviour Change Interventions In Real Life: Are We Moving Forward?

Stuart Biddle, Joan L. Duda, Pedro J. Teixeira
ISBNPA

Abstract: This symposium brings together three presentations focusing on behaviour change interventions directed at influencing sedentary behaviours, leisure-time physical activity, and weight management. Using findings and examples from past and on-going projects which included theory-based interventions, the three experts will describe major findings from their studies, highlight common difficulties in testing behaviour change theory and interventions in real life contexts, and reflect on future research directions in the field of behavioural physical activity and weight control. First, Prof. Stuart Biddle, will overview a behaviour change intervention designed to reduce sitting time in young adults at risk of type 2 diabetes. He will discuss why behaviour change has been difficult and raise issues

on the psychology of sedentary behaviour. Next Prof. Joan Duda will highlight the Self-Determination Theory-based intervention approach taken, barriers to implementation encountered and findings emanating with reference to two trials: one in a community-based exercise on referral scheme and the second on-going trial in a clinical setting involving patients with rheumatoid arthritis. Finally, Prof. Pedro Teixeira will describe a large randomized controlled trial for overweight women - the PESO trial, also based on Self-Determination Theory -, highlight major findings, and reflect on the application and testing of behaviour and motivation theories in the context of weight management.

Keywords: interventions, behaviour change, sedentary behaviour, physical activity, obesity

Facilitating autonomous motivation for physical activity and well-being in at-risk and patient groups

Joan L. Duda, Peter Rouse
University of Birmingham

Abstract: In this presentation, I will describe the intervention strategies employed and findings emanating from two randomized control trials that pull from Self Determination Theory (SDT). The first entailed the delivery and evaluation of SDT-informed one-on-one consultations to promote the adoption and maintenance (6 month follow-up) of physical activity and associated effects on mental health in the case for (at risk for CVD) individuals who were referred to a 3-month exercise on referral programme by their GP. Contrasts were made with standard provision within the exercise on referral scheme. The second trial is on-going, and centres on implementing SDT-based intervention strategies (within the one-on-one consultations and the training of exercise instructors who lead/supervise gym sessions) to facilitate change in physical activity levels and associated well being among rheumatoid arthritis patients. Drawing from the experience of and lessons learned in these two community-based trials, practical challenges impacting the implementation and fidelity of intervention delivery will be highlighted. Measurement issues that are faced when testing the effectiveness of SDT-grounded physical activity interventions will also be discussed.

Keywords: self-determination theory, physical activity promotion, autonomous motivation, well-being

Promoting lasting weight control based on self-determination theory

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Abstract:The present chronic disease model of health and health care puts a high burden on long-termself-regulation by individuals. Paradoxically, interventions aimed at promoting sustained healthbehavior change in areas such as diabetes, obesity, and physical activity have not been sufficiently successful. One reason could be that models and theories underlying (or inspiring) the majority of past and current interventions were developed to predict behavior adoption/level, but are lesswell-suited to explain and guide behavior change, namely the effective integration of new behavioralpatterns into people’s values, lifestyles, and routines. Providing a detailed and qualitativeanalysis of motivational dynamics, self-determination theory has recently (re-)emerged as a framework toexplain why and how people can develop ownership over, assume responsibility for, andself-endorse particular behaviors patterns in a sustained way. It also provides solid guidance todesign interventions for that purpose, based on the level of psychological need satisfaction. In this presentation, a 1-year group intervention for

overweight women
based on self-determinationtheory will be described, and 3-year results for body weight and key motivational and behavioraloutcomes, including different forms of physical activity (including “non-sedentary behaviors”),will be presented. The discussion will focus on theory-based mechanisms by which theintervention produced its long-term results, on the motivational underpinnings of lasting(autonomous) behavior change in the area of weight control, and on implications for futureinterventions.

Keywords: self-determination theory, self-regulation, obesity, autonomous motivation

Stand by me! Observations on the psychology of sedentary behaviour from Project STAND

Stuart Biddle
Loughborough University

Abstract: There has been a great deal of interest recently in behavioural medicine and the wider health sciences in the study of ‘sedentary behaviour’. This research focus has centred on ‘sitting time’ as a health risk. Sedentary behaviour is not the conceptual opposite of moderate-to-vigorous physical activity; some people can be highly active through bouts of exercise but also engage in high levels of sitting throughout the day. However, rather little has been written about the psychology of sedentary behaviour. This presentation will draw on a behaviour change intervention – Project STAND (Sedentary Time ANd Diabetes) – to present some challenges to psychologists wishing to work on sedentary behaviour change. Project STAND is a RCT designed to reduce sedentary behaviour in adults under 40 years age who are at risk of type 2 diabetes. The intervention comprises a 3-hour structured education workshop, one follow up phone call, and self-monitoring. Initial analyses of Project STAND at 12 months suggest little or no behaviour change. Key issues to consider include: intervention potency and the use of educational strategies; habits and less conscious processing of sedentary behaviour cues (including the role of motivation); use of theory and behaviour change techniques; perceptions of risk for this kind of sample.

Keywords::sedentary behaviour, behaviour change, structured education

Psychological factors in injury prevention and rehabilitation

Measurement and Design Considerations in Psychology of Sport Injury Research

Leslie Podlog, Maria Newton
University of Utah

Abstract: Over the past 15 years a number of research designs have been employed in examining the psychosocial factors influencing injury occurrence, rehabilitation, and the return to sport (Heil & Podlog, 2012). Researchers have traditionally relied on quantitative approaches in gaining insight into the demands, perceptions, and experiences of athletes in each rehabilitation phase. In particular, the literature is replete with cross-sectional designs employing self-report instruments. Such findings are limited by response biases and are unable to offer insights into the causal relationships between psychological factors, behaviours, and injury outcomes. Increasingly, repeated measure longitudinal designs have

been utilized as they offer a unique insight into temporal changes in injured athletes’ cognitions, emotions, and behaviors. For instance, multi-time point designs, implicit association tests, and objective behavioural measures are gaining favor. Limited use however, has been made of experimental designs given the obvious ethical and pragmatic limitations on the manipulation of independent variables (e.g., creating circumstances under which athletes are more or less likely to incur an injury). Recently, sport psychologists have also adopted a range of qualitative designs that provide a window into the lived experience of injury. Specifically, action research, ethnodrama, emotional disclosure and journaling, autoethnography, and narrative analysis have gained popularity (e.g., Mankad et al., 2009; Smith & Sparkes, 2002). Ultimately, the types of research designs that are employed hold important implications for the conclusions that can be drawn and the contribution of any particular study to the wider body of knowledge. The purpose of this symposium, therefore, is to stimulate increased consideration and awareness of key measurement and design issues that should be addressed if researchers are to adequately examine the unique challenges and demands faced by athletes in various injury phases. Accounting for the transient nature of athletes’ responses to injury, there will be four presentations, each of which will consider a specific research method(s) and injury phase: (a) pre-injury, (b) injury onset, (c) injury rehabilitation, and (d) return to sport. The first presenter will discuss injury prediction studies and prevention studies highlighting prospective designs in the prediction phase and experimental prevention studies. The second presenter will focus on measurement of psychological and behavioral variables relevant to the injury onset period. The third presenter will describe the benefit of longitudinal designs for examining outcomes (e.g., adherence) relevant to the injury rehabilitation phase. Finally, the fourth presenter will review qualitative studies conducted on the return to sport.

Keywords: psychology of injury, longitudinal designs, implicit association tests

Psychological and Behavioural Variables in Sport Injury: Are You Measuring What You Think You Are?

Derwin K. C. Chan, Martin S. Hagger
Curtin University

Abstract: Measurement is central to all scientific research. If the assessed variables in a study lack face validity and construct validity (e.g., convergent, concurrent, and discriminant validity), the results, even if there are significant findings, can be heavily biased because the assessment fails to reliably and precisely capture the essential components of the intended constructs. Research concerning the psychological and behavioural antecedents of sport injury or the quality of rehabilitation for sport injury is no exception. In the area of the psychology of sport injury, most research often makes the assumption that the validity of the measures is acceptable when they have been taken from previous validation studies, even after certain adaptations (e.g., changing the subject or context of the items). Even though some researchers are using a very stringent approach to develop items based on theories or previous research findings, and expert panels provide evaluations and comments, the new items might not necessarily reflect the conceptualisation of the constructs among respondents (e.g., injured players) because the item development were merely driven by a top-down and theory-imposed process. Item development guided by a qualitative approach that provides the key contents and operationalisations of the variables using a bottom-up and respondent-imposed method is important to capture the essence of psychological and behavioural constructs of sport injury. On the other hand, over-reliance on self-report and Likert-scale format measures is quite commonly seen in research measuring athletes’ adherence or intention to safety or rehabilitation guidelines. Such research could unavoidably confound the measurements by

social desirability, memory bias, general response tendency, and mere measurement effect. This presentation will discuss the problems and potential solutions (e.g., implicit association test, biomechanical measure of behavior) concerning the validity, reliability, and objectivity of psychological and behavioural assessment in the context of sport injury.

Keywords: face validity, construct validity, operationalisation, response bias, implicit association test

Longitudinal Designs and Causal Modeling for Investigating Sport Injury

Martin S Hagger, Derwin K.C. Chan
Curtin University, Australia

Abstract: A fundamental research question in psychological science concerns causation: What variables cause changes in other psychological or behavioural variables? In the context of sport injury, psychology researchers are interested in understanding the causes and effects of sport injury or other related psychological or behavioural outcomes. For instance, research has suggested that motivation for sport injury rehabilitation might lead to athletes’ positive attitudes towards rehabilitation, but one might argue that attitude towards rehabilitation also contributes to motivation. The gold standard method to examine the cause and effect of these two variables is to run a randomised controlled trial (RCT) with a crossover design, manipulating either motivation or attitude in separate time points. However, artefact random error resulting from treatment effectiveness, sample inadequacy, attrition, and measurement errors for this type of injury-related research often creates considerable challenges for researchers when designing a RCT among patients whose injury type, severity, treatment plan, and recovery progress could be very different. Moreover, when the variables interested involve incidence of injury or clinical outcomes, experimental manipulation would become unethical. These explain the prevalence of using correlational studies with cross-sectional design in the research concerning the psychology of sport injury, even though correlation does not infer causality. This presentation will discuss how the use of longitudinal designs, such as prospective or cross-lagged panel designs, with the aid of advanced modelling techniques, such as autoregressive path models, may offer alternative solutions to address research questions concerning causes and effects of the psychological and behavioural variables of sport injury.

Keywords: prospective study, cross-lagged panel design, autoregressive path models

Design Issues in Pre-injury Research – A Note on Prediction and Experimental Designs

Andreas Ivarsson, Urban Johnson
Halmstad University

Abstract: During the last three decades, increased attention has been devoted towards psychological variables influencing injury risk (Hackfort & Kleinert, 2007). Of these prediction studies, a majority have used prospective designs with one single measurement point and continuous injury recording over a number of weeks. In order to grasp the changes in those variables, the use of repeated measure designs with multiple measurement points is warranted. Obtaining data from multiple points will enable use of advanced statistics, such as latent growth curve analysis. Unlike regular analyses (e.g., ANOVAs), growth curve analyses focus on within-person change and how within-person changes in state variables could affect injury

risk. Based on findings from injury prediction research, investigators have targeted such variables (e.g., daily hassles, coping) in experimental studies aimed at preventing injuries. A meta-analysis, covering seven experimental studies, showed most studies to be effective in decreasing the number of injuries in the experimental groups (overall Hedges g Effect size = .81; Tranaeus, Ivarsson & Johnson, submitted). Even if the experimental studies have used true or quasi-experimental designs, several methodological issues can be addressed. First, in most of the studies a number of different mental skills are included in the intervention approach leading to difficulties in differentiating which specific mental skills may be responsible for producing reductions in injury. Second, since most of the experimental studies conducted used no-attentional control groups (i.e., the participants in these groups will not be given a placebo treatment), it is likely that large effects could be explained by the Hawthorn effect. Third, in most studies, researchers discuss the importance of their results based on suggested cut-off criteria for the p-values and/or effect sizes (ES). This procedure could be addressed as a limitation since p-values and/or effect sizes do not indicate anything about the results’ clinical significance (e.g., Ivarsson, Andersen, Johnson & Lindwall, 2013). Also, the fact that non-adjusted ES, which were reported in all studies providing ES, are positively biased due to sampling error (Synder & Lawson, 1993) might have led to overestimation of the intervention effects. This presentation will (a) highlight the designs of previous prediction studies while focusing on advantages of longitudinal repeated-measure designs (b) discuss different experimental designs that have been used in injury prevention research and, (c) suggest methodological and statistical considerations for future research on injury prevention.

Keywords: injury risk, prospective designs, latent growth curve analysis

Research on the Return to Sport Transition: A Reliance on Qualitative Approaches

Leslie Podlog, Maria Newton
University of Utah

Abstract: Recent recognition that athletes who are physically eady to return to sport following injury may not be psychologically prepared has spawned research on the return to sport transition. This research focuses on the time frame when athletes are progressing from rehabilitation to training and full competition. Given the dearth of empirical research on the topic as well as the unexplored nature of the uncertainties surrounding this particular transition, researchers have largely relied on qualitative designs. In particular, Podlog and colleagues (Podlog & Dionigi, 2009; Podlog & Eklund 2006, 2007a&b, 2009) conducted a series of studies examining the applicability of self-determination theory (SDT) in better understanding and interpreting athlete (2006) and coach perspectives (2007; 2009) on the return to sport as well as the meaning of a “successful” return. In the study with athletes, a longitudinal design was employed in which athletes were interviewed on 3-4 occasions as they completed their rehabilitation and entered the competitive arena. Results highlighted a range of intrinsic and external motives to return to sport, various stress sources, the importance of coping with adversity, and the enjoyable/positive aspects of returning to compete. Findings from the coach investigations (Podlog & Dionigi 2009; Podlog & Eklund, 2007) centered on perceptions of the stresses of returning and coaches’ role in helping athletes overcome the challenges and demands associated with the return to sport. Qualitative designs have also recently been employed to examine what it means to be psychologically “ready” to return (Podlog et al., in preparation) and to better apprehend the factors leading to perceptions of growth and higher performance levels following the return (Wadey et al., 2013). In addition to the aforementioned qualitative studies, a number of cross-sectional investigations (Podlog & Eklund 2005; Podlog et al., 2010),

intervention case studies (Evans et al., 2001), and one experimental study using hypothetical scenarios (Podlog & Eklund 2010) have been conducted. Limited use has been made of experimental designs given the obvious ethical and pragmatic limitations on manipulation of independent variables (e.g., creating more or less favorable circumstances under which athletes return to sport – applying pressure to return on some athletes but not others). This presentation will (a) highlight qualitative designs commonly employed in the return phase, (b) provide examples of cutting-edge novel designs and, (c) suggest design considerations for future research on the return to sport.

Keywords: Return to sport, qualitative designs, self-determination theory

Psychology of coaching Using Nigerian Traditional Dances as a Technique for Stress/Anxiety Management among Female Soccer Players

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Abstract: The role of a sports psychologist in developing athletes’ optimum sport performance cannot be overemphasized. It is on this note that some major negative psychological problems like stress and anxiety have been identified and practical ways (such as using Nigerian traditional dances) in controlling or managing the problems are being utilized for better performance. Stress has been defined as the body’s physical and chemical reactions to circumstances that frighten, excite, confuse, endanger and irritate the body system. It simply means, “Body’s response to adverse demand”. In its simplest form, anxiety may be defined as a subjective feeling of apprehension and heightened psychological arousal. On the other hand, dance has been defined as elegant and regular movements which are harmoniously composed with a beautiful attitude and contrasted gestures of the body. It is an act of composing step with grace and precision of movement to the rhythm of music (Okonkwor, 2013). Within the context of the Nigerian culture, there is remarkable gender stereotypes in social activities of which sports is only a part. Sports such as wrestling, horse riding, boxing and, until recently, football, are exclusively reserved for male competitors. Briefly stated, to be feminine in most Nigerian society is to be “calm or docile” while to be masculine is to be “aggressive, tough and highly competitive”. It is under this gender contradiction (as well as the general Nigerian problems of fuel crisis, instability, insecurity, dwindling economy) that female soccer players are faced with negative emotional responses such as stress and anxiety. It is a national embarrassment that Nigerian sports psychologists have not been given much official responsibility to handle psychological problems of athletes, especially that of female soccer players who have more reasons to be affected by stress and anxiety. However, some Nigerian sport psychologists have continued to make meaningful strides towards helping athletes with their psychological problems. Ikulayo Stress Management Approach (ISMA) was propounded, experimented, utilized and validated as a useful technique in managing competitive stress. The present intervention designed as Okonkwor Anxiety Management Procedure (OAMP), whicis summarized in four major steps (Realize, Identify, Cope, Evaluation – RICE), basically aims at using Nigerian traditional dances in managing both stress and anxiety. Though stress and anxiety are often confused to mean the same thing, the two concepts are not exactly the same. They are two sides of a coin. Anxiety is a healthy emotion that everyone feels at some points in life and sustained anxiety problems are often a result of the body’s reaction to stress and internal pressure. The focus of the present research is to address the two concepts as a twin brother.

Keywords: anxiety, stress, dance

Psychophysiology and neuroscience perspective Case Study in Applied Psychophysiology: Using Biofeedback and Neurofeedback with an Olympic Athlete

Penny Werthner
University of Calgary

Abstract: A number of key mental skills (e.g., confidence, concentration, motivation, and emotion control) are associated with success at the Olympic level. Successful performance in the highly stressful environment of the Olympic Games depends greatly on an athlete’s ability to self-regulate his or her arousal levels, and to focus effectively. The purpose of this case study was to explore the effectiveness of a biofeedback (BFB) and neurofeedback (NFB) intervention with an athlete preparing for the winter 2010 Olympic Games in Vancouver, BC. The athlete had been competing internationally for 10 years. A 16-session BFB/NFB intervention, using a modified version of the Wingate five-step approach, was implemented in conjunction with an existing psychological skills training program over the span of one year leading up to the Olympic Games. Initially a psychophysiological stress assessment and an 18-site electroencephalography (EEG) assessment were conducted. The BFB intervention (muscle tension, heart rate, respiration rate, heart rate variability, peripheral body temperature, and electrodermal activity) was used to train the athlete’s ability to activate and deactivate arousal levels in training and competition, and to recover effectively. NFB measures the electrical activity of the brain and was used to train the athlete’s ability to recover and focus effectively in training and competition. The BFB findings indicated that initially the athlete needed to work primarily on two modalities, electrodermal activity (EDA) and peripheral body temperature. Over the course of the 16 sessions (1-1½ hours in length) the athlete learned how to manage those two modalities and overall developed the ability to create an optimal level of physical activation for herself. The NFB findings indicated the training was effective in helping the athlete learn to increase alpha in order to optimize her deep recovery state and effectively reduce busy brain (high beta). In her words she learned to “let go” and refrain from “thinking too much”. In the 10th training session she stated “this is getting really good, I am just feeling my body”. By the end of the intervention she was able to shift from alpha to beta 1 at will. Implications for the use of biofeedback and neurofeedback as an effective complimentary tool to sport psychology training will be discussed.

Keywords: psychophysiology, biofeedback, neurofeedback, high-performance, self-regulation

Reaction Time Training Combined with Biofeedback and Neurofeedback with Canoe/Kayak Athletes

Sommer Christie, Penny Werthner
University of Calgary

Abstract: The difference between success and failure in 200-meter canoe and kayak events is measured in milliseconds. The gold medal for the 200-meter kayak in the summer 2012 Olympic Games in London, UK was won by a margin of 294 ms, and the difference between not reaching the podium and winning a bronze medal was merely 31 ms (Men’s Kayak Single (K1) 200m Results, 2012).

The ability to focus effectively and manage arousal is crucial to the ability to react quickly off the start. Moreover, the inability to self-regulate arousal and attention has been shown to reduce reaction time (RT). Mediated by the ability to self-regulate physiologically and neurologically, biofeedback (BFB) and neurofeedback (NFB) training have been shown to reduce anxiety, improve attention, and enhance performance. The research objectives of this study were to determine whether RT training in combination with BFB/NFB enhances an athlete's ability to self-regulate physiologically and neurologically, and therefore reduce his RT. The participants were five male canoe (n=2) and kayak (n=3) athletes. Each athlete participant completed one BFB/NFB baseline assessment, 10 hours of BFB/NFB training, and a total of 300 RT trials each (10 sets of 30 individual trials) over the span of six weeks. RT trials were conducted in the lab on a paddle ergometer to simulate as much as possible real life race starts. Psychophysiological data (heart rate, muscle tension, respiration patterns, electrodermal activity, peripheral body temperature, and brainwave activity) were recorded simultaneously with RT using a synchronizing device. Within subject factor analysis revealed no statistical significant time effect ($F(9.36) = 1.825, p = .097$). However, although not significant, there was a trend toward improvement in start times for three of the five athletes. Limitations to be addressed in phase two of this pilot study will include: (1) a larger sample size, (2) a control group, (3) variation of the duration of the foreperiod, and (4) the addition of warm-up time and practice trials.

Keywords: reaction time training, biofeedback and neurofeedback, canoe/kayak athletes

Relations among Mood, Salivary Alpha-amylase and Cortisol Secretion in Adolescent Tennis Players

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2. University of Coimbra, Portugal

Abstract: We examined the effects of 16 weeks of training on diurnal patterns of salivary alpha-amylase (sAA), cortisol, and the ratio of sAA over cortisol (AOC) in twelve national adolescent female tennis players. Stress and recovery were also evaluated using the Recovery-Stress-Questionnaire for Athletes-RESTQ-Sport. Data were collected after a 2-week rest (January, W0), and 4 months after W0 (W16). Subjects collected five saliva samples throughout a day. Between W0 and W16, the tennis players participated in both national and international tournaments and won 48% of their matches. For comparison, they won 72% of their games between September and December. While all participants displayed the previously shown decrease after awakening in adolescents at W0, they showed a rise in the alpha-amylase awakening response and a higher alpha-amylase activity output at W16 compared to W0. For the daily rhythm of cortisol we found subjects having a low overall output of salivary cortisol and a blunted response to awakening at W16. Furthermore, there was an increase in the AOC ratio at W16, and a negative correlation between this ratio and the sport-specific recovery score. Our findings offer support for the hypothesis that increase of training load during the study period induced asymmetric activation between the two stress systems, in relation to psychological alterations and performance decrease. These results provide encouragement to continue exploring the impact of training programs using a psychobiological approach among young athletes in order to prevent fatigue and preserve the health of these athletes.

Keywords: stress, tennis players, training load, psychobiological approach

Biofeedback in Sport

Boris Blumenstein^{1,2}, Iris Orbach¹, Tsung-Min Hung³, Shih-chun Kao³, Jen-Yin Su³, Chung-Ju Huang⁴, Penny Werthner⁵, Sommer Christie⁵.
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2. Givat Washington Academic College for Education
3. National Taiwan Normal University
4. Taipei Physical Education College
5. University of Calgary

Abstract: Technology of biofeedback has had great promise for the field of sport psychology in the last three decades. Moreover, the importance of biofeedback for performance enhancement was found in research and practical fields. The general aim of the present symposium is to discuss the current state of biofeedback and neurofeedback for the field of sport psychology. It is for this reason that research findings and biofeedback application will be discussed in four presentations. The first presentation will be focused on integration of biofeedback training in athletic preparation. The authors propose an original LMA approach, which is based on the periodization principle and technology of biofeedback. This approach makes it possible to transfer psychological skills to athletes' daily practice. In the second presentation, case studies on neurofeedback training in golf are discussed. The results and possible issues related to the utility of neurofeedback training on performance enhancement for elite athletes in particular will be presented. The third presentation will focus on the effectiveness of biofeedback and neurofeedback interventions for a professional athlete preparing for theWinter 2010 Olympic Games in Vancouver. Implications for the use of biofeedback and neurofeedbackas an effective complimentary tool for psychological training will be discussed. In the fourth presentation, results of a pilot study in which reaction time training was combined with biofeedback and neurofeedback in canoe/kayak athletes will be presented. Results, limitations, and future directions will be explored.

Keywords: Biofeedback, neurofeedback, athletic preparation, psychological preparation

Biofeedback Training in Athletic Preparation: LMA Approach

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Abstract: Psychological/mental preparation is an important part of any sport training program. Scientific literature, as well as practical experience, indicates the positive effect of psychological skills training (PST) on successful athletic performance. Among a variety of mental training approaches/techniques being used in PST, biofeedback training (BFBT) is one of the most powerful techniques for improving psychological skills and performance enhancement. A major challenge is transferring the biofeedback training from the laboratory to daily athletic preparation. We propose an innovative psychological skills program that was developed based on researches and personal consulting experience with elite athletes during four Summer Olympic Games. The approach is composed of three dimensions: Learning, Modification and Application (LMA). BFBT is integrated with other psychological techniques/strategies as one intervention package in the training process. The originality of the LMA approach is related to the periodization principle and technology of biofeedback. Moreover, the training process of the LMA approach is provided in laboratory/ training settings under six stress distraction situations. This training process makes it possible to transfer psychological skills from the laboratory to athletes' daily practice and competitions.

Keywords: biofeedback training, psychological preparation, LMA approach, periodization principle

Theta Neurofeedback on Golf Putting Performance

Tsung-min Hung¹, Shih-chun Kao¹, Jen-Yin Su¹, Chung-Ju Huang²
1. National Taiwan Normal University
2. Taipei Physical Education College

Abstract: Maintenance of a focused mental state is a major characteristic associated with superior sport performance. Frontal midline theta has been indicated to reflect the top down attentional processes that are relevant to the maintenance of attention. In sport, lower and more stable frontal midline theta has been related to better golf putting and basketball free throw performance. The purpose of this presentation is to report a case study that employed frontal midline theta (Fm θ) neurofeedback training (NFT), a subset of biofeedback, on skilled golfers to demonstrate the utility of NFT on improving sport performance. The general procedures of implementing the NFT will be presented. The results and possible issues related to the utility of NFT on performance enhancement for elite athletes in particular will be discussed.

Keywords: neurofeedback, golf putting, frontal midline theta

Theoretical and applied issues Exercise Adherence

Stuart Biddle¹, Mavis Asare¹, Nikos Chatzisarantis², Martin Hagger²
1. Loughborough University
2. Curtin University

Abstract: Exercise psychology has become increasingly prominent over the past two decades and adherence to physical activity has been a core area of concern. This symposium tackles several perspectives on adherence, including theory, interventions and the emerging area of sedentary behaviours.

Keywords: exercise psychology, theory, interventions, sedentary behavior

Effects of Theory-based Interventions on Physical Activity Participation

Nikos Chatzisarantis, Martin Hagger
Curtin University

Abstract: Although the benefits associated with regular participation in physical activities are well documented, little is known about how to promote participation in physical activities. This presentation provides an overview of theory-based interventions that aim to promote physical activity participation. In addition, the current presentation evaluates utility of an intervention that was based on self-determination theory in promoting physical activity. A field experiment was conducted. The goal of the experiment was to motivate participants to attend exercise sessions in a gym four times per week over a two week period. Participants (male = 75, female = 77, mean = 22.80 years) were randomly allocated to a condition that supported the psychological need for autonomy and two conditions that did not support the psychological need for autonomy (rationale-only or forced-choice conditions). In the autonomy support condition, participants were provided with (i) choice about whether or not to engage in the exercise program and (ii) a rationale that emphasized the benefits of the physical activity program. In the forced-choice condition, participants were provided with a rationale that emphasized the benefits of the physical activity programs as well as they were forced to participate in the exercise program. In the rationale-only condition, participants were provided with a rationale that emphasized the benefits of the physical activity program. It was demonstrated that

91% of participants achieved the goal of the intervention program when the intervention program supported the psychological need for autonomy. In contrast, 60% of participants achieved the goal of the intervention program when the program emphasized the benefits of physical activity. Moreover, 48% of participants attained the goal of the intervention program when the program enforced choice ($p < .001$). Most importantly, results demonstrated that the proportion of participants surpassing the goal of the intervention program dropped from 91% to 55% in the condition that supported the psychological need for autonomy ($p < .001$). Results demonstrate the practical significance of intervention strategies supporting the psychological need for autonomy is not only manifested in their potential to produce a greater average benefit relative to interventions that do not support psychological needs. Rather the value of autonomy-supportive interventions lies in their utility to produce a great benefit in a large proportion of individuals.

Keywords: theory, intervention, self-determination theory, need satisfaction

Physical Activity and Mental Health in African Children: An Intervention Study

Mavis Asare, Stuart Biddle
Loughborough University

Abstract: Few experimental field research designs have been used to investigate the association between physical activity and mental well-being in young people. Moreover, there is little evidence of the influence of physical activity on mental health in the African culture. The purpose of this study, therefore, was to examine the association between physical activity and mental well-being in African adolescents. An experimental design was used with 60 adolescents (27 males, 33 females) aged 13 to 18 years (mean=14.5 years) living in Ghana. Recruitment was from two private schools. Participants' physical activity and mental health were assessed both at baseline and at the end of the intervention. Physical activity levels were measured using the Physical Activity Questionnaire for Adolescents and by pedometer; cognitive functioning was assessed with the Raven's Progressive Matrices test, physical self-worth measured with a subscale of the Physical Self Perception Profile, and body dissatisfaction was assessed using body image silhouettes. The participants in the experimental group participated in additional after-school aerobic physical activities, twice a week for 6 weeks. Experimental and control groups were similar at baseline. Participants in the experimental school scored significantly higher at the end of the intervention on self-reported physical activity [$F(1,56)=481.42, p < .05$], and on pedometer steps [$F(1,28)=368.34, p < .05$] than participants in the control school. Moreover, experimental participants scored significantly higher on cognitive functioning [$F(1,56)=34.77, p < .05$], physical self-worth [$F(1,56)=39.75, p < .05$], and less on body dissatisfaction [$F(1,56)=21.48, p < .05$]. Participation in moderate to vigorous physical activity appears to enhance cognitive functioning and physical self-perceptions among African school students. These findings are consistent with studies that have examined the association between physical activity, cognitive functioning and mental health indicators among adults and young people in western cultures.

Keywords: physical activity, mental health, field experiment, physical self-worth, cognitive functioning, Ghana

Exercise Adherence and Sedentary Non-adherence: Issues for a New Psychology towards Less Sitting

Stuart Biddle
Loughborough University

Abstract: There has been a rapid growth in the study of ‘sedentary behaviour’ in the past decade. This research focus has centered on ‘sitting time’ as a health risk, and has included a plethora of studies on health outcomes of high levels of sitting, how to measure sedentary behaviour, what the correlates of sitting might be, and how best to reduce sitting time. Sedentary behaviour is not the conceptual opposite of physical activity in so far as some people can be highly active through bouts of exercise but also engage in high levels of sitting throughout the day. Deleterious health outcomes of sitting have often been shown to be independent of moderate-to-vigorous physical activity. In order to understand the behavioural antecedents of high levels of sitting, an analysis of correlates is required. These can then be used in the design and implementation of behaviour change interventions. This presentation will briefly review what we know about correlates and behaviour change methods of sedentary behaviour. It will highlight the paucity of psychological knowledge in the understanding of sedentary behaviour. It will be argued that typical social-psychological theories that have been applied to physical activity are inadequate in explaining sedentary behaviours due to the conceptual differences between these two clusters of behaviours. To better understand sedentary behaviour psychology we need to emphasise the influence of less conscious processing, habit, and the role of behavioural prompts, including the use of self-monitoring.

Keywords: sedentary behaviour, sitting, correlates, behaviour change

Integrating Psychological Theories to Predict and Promote Adherence to Physical Activity

Martin Hagger, Nikos Chatzisarantis
Curtin University

Abstract: This presentation aims to provide contemporary views on integrative theoretical research in the fields of social and health psychology and how they can be applied to further understand the processes that lead to physical activity and exercise. The integrative approach focuses on eliminating gaps in theories, reducing redundancy, and increasing parsimony. The idea is to arrive at a nuanced, narrowed-down set of psychological constructs across theories that have the most efficacy in predicting physical activity behaviour, explaining adherence to physical activity, and developing interventions that will be most effective in changing behaviour. We will present a series of examples (empirical, narrative review, and meta-analytic) to illustrate the advantages of theory integration and how it can offer a ‘streamlined’ view of the processes underpinning physical activity behaviour. We will illustrate how increased parsimony is both desirable theoretically and salient from a behaviour change and intervention perspective. Through the elimination of redundancy, integrated theories highlight the essential social-psychological variables and processes that do most of the ‘work’ when it comes to predicting and explaining physical activity behaviour and adherence. These variables and processes will then become targets in integrated theory-based interventions to promote physical activity adherence in health promotion contexts. Specifically, we will give examples from frequently used theories in exercise psychology, such as the theory of planned behaviour, social cognitive theory, and self-determination theory (SDT), and demonstrate how integration has helped further advance understanding of physical activity behaviour and behaviour change. Finally, we report on a meta-analysis of empirical studies examining how the theory of planned behaviour and SDT can be integrated to provide complimentary explanations in physical activity behaviour.

Keywords: theory, integration, redundancy, parsimony, behaviour

change

Self-report Measure of Physical Activity for Colombian Urban School Workers

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Abstract: This study tested psychometric properties of the “Physical Activity Urban School Workers measure” (PAUSW), a self-report instrument. Statements were generated from a literature review and by national and international meetings with 15 experts in the field. The statements were sorted and rated using concept mapping methodology, grouped into five clusters and were depicted as a three-dimensional map. The clusters were physical activity at work, physical activity at home, and physical activity in leisure time, physical activity as a means of transport and physical activity in sport fitness. Questionnaires were administered to 400 school workers from Bogotá. Rasch item response theory and traditional validation approach were used. Analyses included tests for dimensionality, model fit, and additional construct validation. Positive correlation between PAUSWand Borg measure were obtained (p<.05). The PAUSW, a 30-item measure, met stringent Rasch analysis fit and uni-dimensionality criteria and had high internal consistency and item reliability. The validation results were supportive of the theoretical framework. The measure is available to aid in the assessment of PA of school workers by both professionals and researchers. Theoretical refinements developed using the empirically generated item hierarchy may help to improve assessment and intervention in the field of physical activity.

Keywords: physical activity, assessment, concept mapping, rasch analysis

Symposium

Symposium

Methodology Methodology development

Virtual Reality, Attentive Systems and other Technologies in Sport Psychology – Introduction and Overview

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Abstract: In the last 20 years new technologies like Virtual Reality, Augmented Reality and Neurotechnology were developed in areas such as military service, medicine, and sport- and neuropsychology. As would be expected, areas like sport psychology research and applied sportpsychology take advantage of these technologies. Virtual reality (VR) is a technology which allows a user to interact with a specific computer-simulated environment (for instance a golf course). New simulations include additional sensory information such as sound, proprioceptive or tactile feedback. With the help of advanced Augmented Reality (AR) technology (e.g. real time feedback for motor action) the information about the surrounding real world of the user becomes interactive and digitally usable. AR makes our environment richer in terms of feedback and creates a mixed reality between our environment and a movement related, computer generated feedback. Neurotechnologies (NT) are different technologies used to improve performance of athletes, patients or normal people based on information about the individual neurocognitive status of the subjects (via cognitive or neurophysiological measurements). Sportpsychology opens up special opportunities to use, test and improve such technologies to make research oriented and applied fields of sportpsychology more visible and more attractive for athletes, other disciplines and institutional investors. Because there has been an increasing interest in the potential social impact of new technologies, such as virtual reality, we could argue that new technologies will lead to a number of important changes in human life and activity. It is an important goal of the NEWTEC-committee to evaluate the current situation concerning new technologies in different areas in the world and to demonstrate the opportunities to use these new technologies in sportpsychology. Furthermore, to outline proper new technology procedures in the field of sport psychology, guidelines should be established. This has already been done with the Internet (see SSP; AAASP), though the Internet is only one element of new technologies and not really a very new one. Therefore NEWTEC needs to address ethical standards in the whole field of new technologies.

Keywords: virtual reality, augmented reality, neurotechnologies, sportpsychology

Psychophysiological Monitoring during Performance in Sport

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Abstract: There is growing interest in the study of theoretical and applied issues regarding psychophysiological processes underlying performance experiences in sports (Strack et al., 2011). Psychophysiological monitoring, which enables the study of such processes, consists of assessing activation and functioning levels of the organism. Psychophysiological measures allow for a multidisciplinary understanding of mind-body interactions (Cacioppo et al., 2007). Within the sport domain, such measures are used to uncover those mediating mechanisms that underlie expertise acquisition and optimal performance experiences. In fact, multimodal and multidimensional assessments across domains (e.g., motor behaviour, sport psychology, psycho-neuro-physiology) have been used to measure performance-related cognitive and emotional experiences. For instance, self-reports, behavioural data, and kinematic observations are common methods within the sport and exercise psychology realm. Psychophysiological techniques include electrodermal activity recording (EDA), breathing rhythm via piezo-based respiratory belts, electromyography (EMG), electrocardiography (ECG), and electroencephalography (EEG). Notwithstanding, it is important to monitor the entire spectrum of psychophysiological, cortical and behavioural features related to performance in order to (1) identify athletes’ individual zones of optimal functioning, (2) evolve performance enhancement guidelines based on bio- and neurofeedback techniques, and (3) improve self-regulation skills to inhibit choking under competitive pressure. To this extent, we want to offer an overview of psychophysiological techniques and their applications in sport and exercise psychology. Additionally, we will discuss consulting experiences with Olympic shooters and elite race drivers. Particular emphasis is given to the notion that attentional focus, affective states, and psychophysiological patterns differ among optimal-automatic, optimal-controlled, suboptimal-controlled and suboptimal-automatic performance experiences. Specifically, the recently proposed multi-action plan (MAP) model, which is grounded in idiographic analysis of skilled athletes, is presented in light of evidence on how unique psycho-bio-social states can underlie distinct performance-related experiences (Bertollo et al., in press; Bortoli et al., 2012).

Keywords: psychophysiology, SCL, EEG, performance improvement, multi-action-plan

Attentive Systems: Modern Analysis Techniques for Gaze Movements in Sport Science

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Abstract: Multi-modal techniques have been recently applied to investigate athletes' overall perception, decision and movement behaviour under conditions that are as natural as possible in order to get insights for training optimization processes. However, the use of modern techniques can be quite complicated, requiring special technical knowledge and complex analysis methods. With the help of reliable and intuitive soft and hardware solutions, the effort required for data recording, visualization and analysis can be reduced significantly. In this abstract, we describe two recently developed solutions for data recording and analysis, with a focus on eye movements. Mobile eye tracking systems allow us to record participants' gaze behaviour while they move freely in an unrestricted area and have sensory-motor contact with the environment. Whereas these mobile systems can be easily set up and operated, the recorded scene video with overlaid gaze cursor has to be manually annotated – a very time consuming and error-prone process. In order to overcome these problems, we developed a software package for semi- or fully-automatic video analysis and annotation (Essig et al., 2011). We evaluated our software by comparing its results to those given by manual annotation using scene videos of a typical day-by-day task. Results show that our software guarantees reliable automatic video analysis even under challenging recording conditions, while it significantly speeds up the annotation process. In a further approach, we synchronized a monocular mobile eye-tracker with a Vicon motion-capture system. Combining the data of both systems, we can calculate and visualize a 3D gaze vector within the Vicon coordinate frame of reference. By placing markers on objects and participants in the scene, we can automatically compute participant specific results for various gaze parameters in complex 3D scenes. We evaluated our software in a preliminary study where participants had to observe a human demonstrator preparing a mug of coffee or hot chocolate (Maycock et al., 2012). Although, participants typically follow the hand or the object in the hand that is moving (see also Mataric and Pomplun, 1998), we also observed jumps in the focus of attention to objects that were about to be acted upon. These jumps are thought to help with path planning and with the finding of suitable landing points for grasps.

The analysis of attentional behaviour combined with other techniques, such as mental representation structures as a cognitive reference structure of performance control (Schack, 2004), opens up new paradigmatic approaches to sport-related expertise research.

Keywords: eye tracking, motion tracking, attention, automatic annotation, 3D gaze vector

Mental Representation and Virtual Reality Agents

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Abstract: Mental representations of actions possess an important function in the execution and the control of complex movements. Basic action concepts (BACs) were identified as the cognitive elements in long-term memory to store perceptual features of actions. With the structure dimensional analysis of mental representation (SDA-M), the cognitive structure can be measured and assessed. Here, we present recent work on both the development of mental representations in skill acquisition and the application of these findings in a close-loop interaction scenario between an athlete and a virtual agent acting as a coach. Oftentimes during practice, coaches and athletes interact by drawing on different mental representations, and thus talk at cross-purposes. Such a situation, in which the coach does not take into account the athlete's representation structure, can be characterized as being representation-blind. To solve this problem with a new technology, we present a virtual reality approach where we apply the SDA-M in order to enrich a virtual agent with knowledge

about a human's movement representation. Specifically, in this scenario, the human agent provides information on his movement representation structure by conducting the SDA-M. Based on this information, the virtual agent analyzes the human's representation structure and gives an individualized feedback. In doing so, it acts with mimic, self-generated gestures and speech. Thus, in this scenario, both human and virtual agents exchange mutual information. To analyze the representation structure, the virtual agent makes an alignment with an appropriate reference structure of its database, employing invariance measures. Moreover, movement errors can be identified by comparing the individual cluster solutions of the BACs. However, a database is needed that connects performance and mental representation structure of different skill levels to create a sufficient feedback. The identified faults in specific movement phases lead in useful instructions of the phase and adequate training advices from the virtual agent. Routines combine the problem specific instructions and advices with suitable gestures. It is planned that the instructions can be applied with different methods like mental imagery or physical practice. This close-loop interaction scenario is an innovative application for sports that will help to overcome the problem of representation-blindness in training situations and to empower athletes to expand their training environment by a coach-independent technological system. Taken together, we will present recent work on the development of mental representations in early skill acquisition and delineate the implementation of these data in our virtual reality scenario.

Keywords: cognitive representation, virtual agent, SDA-M, motor learning, virtual reality

Neurofeedback and Performance Enhancement in Precision Sports

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Abstract: Self-report studies have shown that focused attention and feeling in control are the two essential components of optimal mental state athletes experienced during peak performance. According to the Psychomotor Efficiency Hypothesis, the cortical counterpart of the optimal mental states can be characterized by a reduction in the activity of nonessential cortical regions during the skilled motor performance. EEG psychophysiological studies have found that several EEG frequency components were associated with superior performance. Specifically, qpower at the left temporal, central and occipital area, θ at the mid frontal area, SMR at the central area, and coherence between the midfrontal and temporal areas were associated with better performance in precision sports. One legitimate procedure to determine the validity of these components as cause for superior sport performance is to manipulate these components to examine if sport performance will change as a result of these manipulations. Neurofeedback training, a self-regulation method that assists subjects to control EEG activity by providing the EEG activity status, has been useful for the manipulation of the components aforementioned. As such, this presentation reports studies that applied neurofeedback training as a means to enhance performance, particularly in precision sports. Specifically, preliminary studies have shown qpower at the left temporal area, θ at the mid frontal area, and SMR at the central area were effective in enhancing performance for air pistol shooting and golf putting. These results together shed light on the potential of applying neurofeedback training and better understanding of mental control intervention during performance in precision sports.

Keywords: neurofeedback, sport performance, attention, psychophysiology

Methodology problems

Exploring Mixed Methods Research in Sport and Exercise Psychology: Questions of Quantity and Quality.

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Abstract: Research labeled mixed methods is becoming increasingly widespread, with some researchers, both within and outside Sport and Exercise Psychology, going so far as to call mixed methods research “the third paradigm” (in addition to a “quantitative paradigm” and a “qualitative paradigm”). However, key questions remain, some rather fundamental, about mixed methods research. Firstly, and most fundamentally, is how far a distinction between quantitative and qualitative paradigms is a false dichotomy? Don't the terms quantitative and qualitative refer to types of data or analysis approaches rather than research paradigms, and if so, how can mixed methods be a “third paradigm”? Secondly, how widespread are genuinely mixed methods approaches? There is certainly a growth in the quantity of research labeled mixed methods, but how many of these studies are simply using different methods to answer different, albeit related, research questions? Such approaches might best be labeled “parallel methods” rather than “mixed methods” research, but they appear to account for a large proportion of what has come to be regarded as a “mixed methods paradigm”. Thirdly, how far do genuinely mixed methods, in which insights are integrated rather than presented in parallel, provides the robust insights and reach the standards of research quality of unidimensional research designs? While some may see mixed methods as a “growing trend” in Sport and Exercise Psychology, this should not be confused with mixed methods “growing trendy” and thus being courted by research funders and journals for its perceived innovation rather than because of the robustness of the insights it offers. These are the issues and questions that this symposium seeks to address. Firstly, through a discussion of research into the use of performance enhancing substances by young elite athletes, Hagger and Chan show how integrated mixed methods approaches can help develop converging evidence. Secondly, Smith argues that many mixed methods approaches in Sport and Exercise Psychology relegate qualitative data to a secondary or simplistic supporting role to quantitative data and fail to pay attention to the process of genuinely integrating findings. Thirdly, Chatzisarantis explores the potential of mixed methods to add value to the development of multi-theory models in exercise psychology. Finally, Weed asks why researchers are so keen to undertake mixed methods research, and uses two systematic reviews of sport participation evidence to argue that a holistic consideration of “added value” provides a useful quality marker for, and guide to the use of, mixed methods research.

Keywords: mixed methods, research quality, quantitative, qualitative

Added Value as a Quality Measure for Mixed Methods Research: Coherence, Confusion or Conflation?

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Abstract: A key question for researchers considering undertaking mixed methods research in Sport and Exercise Psychology is “why?” Why are mixed methods necessary to explore the research area? On the positive side, a mixed methods approach may add another perspective over a unidimensional research design, but more

negatively, it may invoke ontological and epistemological confusion and lead to parallel perspectives rather than coherent conclusions. Given that genuine mixed methods research seeks to generate integrated insights, one key danger of mixing methods is inappropriate conflation: of assumptions, of designs, of techniques, of analysis and of findings, leading to regression to the lowest common denominator of shared insights that limits rather than enhances what the research can contribute to the body of knowledge. The question researchers should ask themselves, therefore, is will a mixed methods design genuinely add value? Will it enhance and extend the reach and coherence of the research, or simply add confusion and conflate insights to the point that a mixed methods design may inhibit what the research has to say?

This paper explores these issues in relation to the synthesis of qualitative and quantitative data through systematic review, meta-analysis and meta-interpretation. In particular, it draws on evidence reviews for developing physical activity and sport participation legacies from major events, and of recreational cycling participation and engagement. In the legacies work, an integrative approach was taken in which qualitative and quantitative data were synthesized through meta-interpretation, adding value by enhancing understanding not only of the participation outcomes of major events, but also of the processes by which outcomes are generated. In the cycling research, a recursive approach was taken in which the progress of a quantitative meta-analysis informed the conduct of a qualitative systematic review, and vice-versa, at each stage of the methodological process, adding value by increasing the completeness and coherence of the insights provided into the nature of recreational cycling participation and its antecedents. In summary, the paper provides examples of two studies in which the coherence of insights were enhanced by carefully planned mixed methods designs. The paper will conclude by arguing that focusing holistically on the ontological, epistemological, methodological, analytical and practical “added value” of mixed methods designs can provide an important quality measure and a guide to their appropriate use within Sport and Exercise Psychology research.

Keywords: mixed methods, added value, systematic review, meta-analysis, meta-interpretation

Virtues of Mixed Methods Research for Providing Converging Evidence: Experiences and Recommendations

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Abstract: Researchers applying Sport and Exercise Psychology are increasingly using mixed methods approaches in order to provide support for a given effect or phenomenon. The purpose of using mixed methods is that it allows a researcher to develop multiple forms of evidence that converge on a particular trend or relationship and thus allows the researcher to be more confident that the existence of the effect or phenomenon and its nature. An example of such an approach is designing studies that adopt quantitative and qualitative designs to study the effect of interest. A quantitative approach would typically adopt the hypothesis-testing framework and measurement issues typically expected in a positivist (“scientific”) approach. A qualitative approach would devise ideas and perspective on the construct of interest from experiential data derived from interviews or focus group testimonies. The quantitative data would provide support that the effect existed and perhaps some information on the nature of that relationship, such as the mechanisms involved and the direction of causality, depending on the study design and constraints. The qualitative data would embellish this link and, critically, provide detailed corroboratory information on the nature of the relationship, centred about the experiences of individuals, which may also shed

light on processes and mechanisms. We present findings from project examining intentions to use illegal performance-enhancing substances in young elite athletes, adopting quantitative and qualitative. We will demonstrate how the quantitative approach using a particular theory identified the links between psychological factors such as attitudes, moral norms, self-efficacy, and motivation and intentions to dope, while the qualitative approach identified emergent themes that corroborated the quantitative finding but also shed light on the factors that gave rise to these perceptions and the processes involved.

Keywords: mixed methods, converging evidence, performance enhancing substances

Mixing Methods in Sport and Exercise Psychology: Critical Reflections and Thoughts for the Future

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Abstract: There has, in recent years, been a growth in mixed-methods research within Sport and Exercise Psychology. Against this, this paper critically discusses mixed-method research with a view to raising questions about the quality of mixed-methods work done and stimulating dialogue on how research that combines qualitative methods quantitative methods might be done in more informed ways. After stressing that mixed-method research is important, and should be done, a case is offered as to why Sport and Exercise Psychology needs to engage with the mixing of quantitative and qualitative methods in a more critical and careful manner. It is argued that within Sport and Exercise Psychology there is little evidence of mixed-method researchers genuinely integrating their findings. This is hampered by the general absence in the literature of how validity and generalizability can be integrated in ways that are consistent with and respect the differing epistemological assumptions that guide qualitative research and quantitative research. It is also proposed when researchers do seek to integrate methods, a methodological orthodoxy prevails that favours quantitative methodologies, neo-liberal ideologies, and an audit culture obsessed with significantly flawed metrics (e.g. impact factors). Much of mixed methods research further turns qualitative research into a form of quantitative research. Within Sport and Exercise Psychology, this is partly done by assuming that methods can be triangulated to provide detailed corroboratory information or get at the truth as it really is. The paper concludes by arguing that when considering doing mixed methods research, sport and exercise psychologists need to attend to their epistemological and ontological assumptions and the power relations that operate. It is also argued that because it is rare that researchers in possess the adequate expertise in both qualitative research and quantitative research to produce excellent sport or exercise psychological research, researchers need to develop relationships that are built on trust, the recognition of difference, and the appreciation that quantitative research is not superior to qualitative research (or vice versa).

Keywords: mixed methods, methodology, qualitative research

Criteria for Developing Multi-Theory Models in Exercise Psychology

Nikos Chatzisarantis
Curtin University

Abstract: Theory-based interventions are now pervasive in the physical activity literature. Numerous theoretical perspectives have been used to develop and evaluate interventions such as the theory of planned behavior and self-determination theory (Chatzisarantis &

Hagger, 2005). One problem associated with the practice of using multiple theories of motivation is concerned with development of complex models and interventions that are difficult to implement in practice. The paper will provide a brief overview of multi-theory models and provides solutions related to development and evaluation of parsimonious multi-theory models, including the role that mixed methods approaches might play in such development. Specifically, the presentation proposes three criteria of theoretical integration: (i) use of experimental methods as a means of testing discriminant validity between theories and models (ii) identification of distinct processes and (iii) timing of interventions implied by different models. The presentation also argues for an open list of criteria related to theoretical integration.

Keywords: multi-theory model, experimental methods, mixed methods

Special issues
Cultural issues
Overview: Culture and Physical Activity

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Abstract: The anatomy and physiology of people is fairly consistent across cultures, and physical activity generally has a protective effect for all people. Nevertheless, physical inactivity is a problem across cultures. Physical inactivity is the fourth leading risk factor for global mortality (WHO, 2010). Physical inactivity levels are rising in many countries, a statistic that has major implications for the prevalence of noncommunicable diseases and the general health of the world's population. One could argue that many researchers in the area of Sport and Exercise Psychology have been culturally incompetent. Many of the theories used within Sport and Exercise Psychology have been largely developed in studies using White, English-speaking, middle/high SES participants, with the assumption that they apply to everyone. Unfortunately some practitioners are also culturally incompetent in that they ignore the cultural identities of themselves and their clients. Wells (2000) offered a model of cultural development with six stages. Three cognitive stages, cultural incompetence, cultural knowledge, and cultural awareness, come first and emphasise gaining knowledge about culture and its manifestations. The affective stages emphasise attitudinal and behavioural change through the application of knowledge gained in the cognitive phase. The three affective stages are cultural sensitivity, cultural competence, and cultural proficiency. Wells (2000) noted two guiding principles for cultural development: (a) maintaining a broad, objective, and open attitude toward individuals and their cultures (avoiding the use of one's own culture as a yardstick against which other cultural practices are judged), and (b) avoiding seeing individuals as alike because stereotyping does not allow for individual differences. We hope that this symposium helps attendees with cultural knowledge and awareness. The affective phase requires actual engagement with people from diverse cultures, something that the ISSP World Congress is well placed to promote.

Keywords: Physical inactivity, cultural development, cultural competence

Race/Ethnicity as a Variable in the Perception of the Ideal Body Composition/Physique

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Abstract: Within contemporary societies, there appears to be a growing interest in the way in which individuals evaluate the quality of one's physique. Particularly related to this interest are the concerns of many about the growing incidence of obesity in our societies. Researchers from across the globe have pursued the relationship between body composition and variables such as physical self-concept and social physique anxiety. For example, adolescents and adults from Portugal and Spain (Hagger et al., 2010) and Asia, Pacific Islands, and Australia (Latner et al., 2011) have been assessed. In the United States, of special concern is the perspective that the race of the person affects his/her perception of what the ideal physique should be. This view seems especially true for females. This presentation reviews the literature dealing with the perception of the ideal physique with an emphasis upon societal stereotyping and cultural perspectives. A summary of findings from our research with respect to comparing the body composition and social physique anxiety of different American racial/ethnic groups indicates that: over the five year span of USA early adolescents (10-14 years-old) both body composition (CDC BMI and BMI percentiles) and social physique anxiety (SPA) increase; girls evidence higher BMIs and SPA than boys consistently across this age span; and the greater the BMI the higher the SPA. Concerning race and females specifically, over the age span studied differences in BMI and SPA between White and Black girls were negligible. However, when using the CDC body composition classifications, a difference between the two races was evident for girls classified as "obese" with White girls having significantly higher SPA than the Black girls. This racial difference supports the hypothesis that larger Black women are more accepted in the Black culture and thus have lower anxiety with respect to a larger body composition. This cultural difference appears to develop during early adolescence and does not become evident until the teen years but longitudinal investigation is needed to determine the validity of this hypothesis. With respect to growing concerns about the "obesity epidemic," attempts to motivate adolescents of different races may then require different approaches. Research with adolescents world-wide could determine whether the same relationship between race, body composition, and social physique anxiety observed in the US is present in other cultures.

Keywords: social physique anxiety, societal stereotyping, cultural perspectives

Cross-Cultural Study of Reasons for Exercise and their Relationship to Enjoyment and Self-Efficacy

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2. Merrimack College

Abstract: Despite well-established benefits of habitual physical activity, 51% of US adults fail to meet the guidelines for exercise (ACSM, 2010). Because low exercise participation rates also are prevalent in China (Chen, 1998), this cross-cultural investigation focuses on whether Chinese and US university students who differ in reasons for exercise also differ in exercise enjoyment and self-efficacy. Students (N = 426) who were from a metropolitan Chinese university (64 males; 149 females) and from a Midwestern US university (42 males; 171 females) completed inventories at the beginning of regularly scheduled instructional classes. Measures included Reasons for Exercise Inventory (REI), Physical Activity Enjoyment Scale (PACES) and the Self-Efficacy Questionnaire (SEQ). Results of a 7 x 2 x 2 (Reasons x culture x sex) ANOVA on PACES scores indicated that students who exercised primarily for the intrinsic reasons of enjoyment, fitness, and mood enjoyed exercise more than those who exercise for appearance/extrinsic reasons (weight control, p < .05; physical attractiveness, p < .01; body tone, p < .05). Results of a 7 x 2 x 2 ANOVA on self-efficacy indicated that women with

different reasons for exercise differed in self-efficacy (p< .05) and that US students were higher in self-efficacy than Chinese students (p < .001). In conclusion, university students from Eastern and Western cultures who exercised primarily for enjoyment, fitness, and mood enhancement reported significantly higher enjoyment scores than students who exercised for appearance-related reasons. These relationships were similar for Chinese and US students and for men and women. The higher levels of exercise self-efficacy for US students were most evident in the men and illustrate the value of including both male and female students from distinct cultures. Practitioners should emphasize intrinsic reasons for exercise and promote self-efficacy for life-long exercise participation.

Keywords: reasons for exercise, enjoyment, cross-cultural

Travelling Sport Psychology

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Abstract: On-field support is one of the key service areas of applied sport psychologists. Sport psychologists travel with teams to various places and provide psychological support in training and competitions. Building on the ongoing working relationship, sport psychologists work with their clients based on the same principle wherever they are. Nevertheless, there may be cultural challenges situated in places with different cultures; sport psychologists can play a role in addressing those cultural issues to facilitate athletes' performance. In this presentation, we discuss our everyday practices as applied sport psychologists travelling with Hong Kong athletes to training camps in the US, Europe and Mainland China. It is noticed that psychologists can help athletes to adjust and fit into the local training systems in different places, such as the high intensity and authoritarian coaching in Mainland China for table tennis, the "laissez-faire" system in daily life aspects in Europe for windsurfing, or the parallel development in sport performance and personal development in US system for tenpin bowling. Despite the psychological adjustment for ongoing tedious training; self-discipline, life management, and psycho-education would be some key services for sport psychologists travelling with the teams. Sport psychologists can also help in translation and team management, particularly if the trip is long in duration.

Concerning competitions, one of us working with Hong Kong tenpin bowling athletes helped them participate in local leagues in Spain and Germany. Athletes experienced cultural shock in those tournaments because they were facing an aggressive atmosphere among opponents, which is way different from what they have experienced in Asian tournaments. Sport psychologists helped them design coping strategies and stay focused internally. The National Games of PR China is a quadrennial national multi-sports event in China, competed among all provincial teams, including the special administrative regions, Hong Kong and Macau. It is the most important tournament for all provincial teams and sport ministries financially, as well as possibly the highest level tournament for some provincial athletes. However, for Hong Kong teams, which are generally eligible to compete in all world level tournaments as official delegates, the National Games is important, but not the most important. As a result, Hong Kong athletes may experience defensive or even aggressive attitude from Mainland athletes during the tournament. Hong Kong athletes may be regarded as annoying and making unnecessary obstruction to others. Hong Kong-based sport psychologists can help athletes make proper adjustment and cope with these extra pressures.

Keywords: applied sport psychology, on-site support, cultural context

Developing a Transnational Career in Sport Psychology – a Student

Perspective

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2. West Virginia University
3. Independent

Abstract: Researchers have suggested that the academic profession has changed considerably in recent years, characterized by a distinct turn towards de-nationalization (Kim, 2009; Jöns, 2011). Nevertheless, not only is research on this current trend of academic mobility in our field of Sport and Exercise Psychology limited, but the experiences of students who pursue transnational careers have also never been addressed. Due to the lack of research, we do not really understand why this shift is occurring, what the experiences of transnational careers are like, and what the consequences to students and the academic field are. All three authors received the majority of their education in sport psychology abroad: in Australia, Finland, Denmark, Germany, the United Kingdom, United States of America and Greece. By reflecting on our experiences through three short stories, we are aim to offer insight into how transnational career development shaped (continues to shape) us as young professionals in the field. Our three short stories will illustrate how our transnational education affected us in the past, the present and future. Fernanda’s story will depict her challenges in adapting to both the academic and the national culture of Australia. Noora’s story will explore how her international experiences challenged her approach to research. Sae-Mi’s story will tie these experiences together by reflecting on the future trajectories of transnational careers. We will end our discussion by reflecting how our personal struggles affected our professional development and by sharing the lessons we learned from our experiences. Our stories revealed that developing a transnational career influenced how we understood ourselves as well as the Sport and Exercise Psychology profession. We also found that we faced similar difficulties as well as similar growth experiences. For example, being alone in another country for the purpose of education often caused us to bury ourselves in work. Moreover, gaining cultural awareness was imperative to our adaptation. Pursuing a transnational career, we constantly question our identities and our values. Finally, the limited organizational support causes us to question whether the academic culture is truly becoming a transnational space or whether we are simply minority add-ons to the core culture that continues to stay local.

Keywords: transnationalism, academic career, internationalisation, cultural adaptation

Lessons Learned as a Transnational Sport Psychology Consultant

Peter C. Terry
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Abstract: In this presentation, I discuss my experiences as an applied practitioner working transnationally in a wide variety of cultural contexts. During the past 30 years, I have worked as a consultant with international athletes and teams from Canada, England, Wales, Brunei, Malaysia, India, Singapore, South Africa, Australia, Ireland, and Brazil. This applied work has taken me to more than 100 international events, including nine Olympic Games. The experience of working with such a diverse range of athletes in multifarious sporting domains and varied cultural contexts has, via regular self-reflection and peer consultation, taught me many things about the art and science of applied sport psychology. With frequent reference to a 6-stage reflective practitioner model (see Anderson, Knowles, and Gilbourne, 2004), my philosophy towards consulting and my modus operandi has evolved from what started as a didactic, performance-oriented, mental training style to become a person-centred, emotion-f

ocused, cognitive-behavioural therapeutic approach. The evolution of my professional approach reflects my personal journey from a passionate young practitioner, schooled in sport psychology as a sub-discipline of sports sciences, into a registered psychologist with a much broader range of performance-enhancement and therapeutic skills, and a far greater sensitivity to cultural influences on sport performance and personal well-being. In this presentation, I will describe various models of consulting with athletes (Terry, 1994), strategies for consulting in new cultural contexts (Terry, 2009), and pathways for training neophyte practitioners (Andersen & Tod, 2011). I will also recall real-life incidents from the “coal face” of sport psychology to address a range of practitioner issues, such as the use and abuse of psychometric testing, the limitations of a psychological skills training approach, the dangers of unconditional positive regard, the inevitability of encountering clinical pathology among athletes, the use of technology in consulting, and some of the ethical dilemmas facing a sport psychologist when travelling with teams. My orientation throughout this presentation will be to identify strategies that work and don’t work in the real world of applied sport psychology.

Keywords: applied sport psychology, transnational consulting, professional philosophy

Training and Certification in Sport and Exercise Psychology: Cross-Cultural Perspectives from Four Continents

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3. University of Jyväskylä

Abstract: Globalization in the field of Sport and Exercise Psychology (SEP) brings opportunities for cross cultural communication. With increased exposure to global perspectives, sport psychology professionals need diverse experiences to become more multicultural competent (Alleyne, 2007; Ryba, 2009). Each geographic region approaches SEP research and practice differently. Understanding diverse training models offers sport psychology professionals an opportunity to reflect on the important cultural characteristics within SEP education, research, and consultation models, which also helps increase multicultural awareness and sensitivity. Multicultural awareness can help sport psychology professionals become more proficient working with clients, students, and scholars from diverse backgrounds. The purpose of this symposium is to offer models of SEP training across four different cultural contexts, including China, Australia, North America, and Europe. The symposium will provide a venue for presenters and participants to gain awareness of diversity issues, engage in international dialogue, and enhance cross cultural cooperation related to education, research and consultation. Presenters from each region will overview the structure of graduate programs and certification/ licensure paths available, highlight any relevant cultural factors imbedded within training programs or research approaches, and provide insight into opportunities for applied work with club, Olympic, or professional teams. The presenters will leave time at the end for symposium attendees to offer reflections or react to the similarities and differences in the approaches to training, and the potential relevance for the future of global sport psychology.

Keywords: training, certification, cross-cultural perspectives, consultation, supervision

Students’ Experiences with Global Training Models in Sport and

Exercise Psychology

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2. None

Abstract: Divergent training models present challenges for graduate students as they make decisions on what training to pursue in what part of the globe. When pursuing education in a new country’s academic setting, it is important that students not only know the required courses and hours of training that are required, but also have an understanding of the conceptualization of what SEP is in that country. Student experiences across these settings suggests that factors particular to the country can be highly influential, including culture, structure of academic settings, and stage of SEP development in the country (i.e., if there is an accreditation process, professional regulations). In countries with no accreditation process, as in the case of Brazil, students who want to pursue a career in SEP will have to create their own professional pathway. Students may need to look for supervision or applied opportunities outside of their program or even travel overseas for additional experiences. In such training models, however, students may have more freedom to explore different consulting styles and pursue their own working philosophy. Additionally, the content of the applied work may differ according to the training model. In China, the continuous building of a philosophical mind-set represents an underlying theoretical current for much of the applied work. For example, keeping the balance or harmony (stemming from Taoism) and Zhong Yong (emphasizing on appropriateness, stemming from Confucianism) are applied in consulting practice. Moreover, when comparing the global training models, it is important to understand that differences in supervision may go beyond the required hours. In Asian countries, where the culture is relatively authoritarian, the supervisor is expected to assume an expert role and supervisees are expected to work with or report frequently to the supervisor. This approach is in sharp contrast with the Finnish model, where the relationship was more collaborative and students were expected to be autonomous and supervision is less frequent. Thus, a desire for supervision as a novice professional, for example, could be understood as lacking independence or competence in the Finnish context, whereas it would be expected in an Asian country. In sum, although opportunities for students to pursue research in SEP across the globe are widely available, great discrepancies may exist in options to teach or practice. By highlighting the cultural differences in training experiences, the current presentation hopes to generate meaningful discussion.

Keywords: students’ perspectives, global training models, consultation, supervision

Cultural Characteristic and Related Sport Psychology Services in Chinese Speaking Region

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2. ChongQing University
3. Singapore Sports Council

Abstract: This Symposium aims at exploring the cultural characteristic and subcultural adaptation of sport psychology consultation in Chinese-speaking regions (i.e., Mainland China, Hong Kong & Singapore) from the perspective of frontline practitioners. Contemporary psychological theories and counseling technique are rooted in Western societies. When practitioners applied that knowledge in their own local context such as Chinese society, it is necessary to take into account their own cultural characteristics, such as the typical values (Collectivism VS Individualism) and ways of thinking (Holistic VS Analytic). We will first summarize and discuss

those common cultural characteristics in the Chinese sports psychology consulting. Secondly, we found that during the process of service delivery Hong Kong, Singapore own their subcultures with obvious characteristics, despite the same language context. Subcultural conflict and adaptation raise a new challenge for local sport psychology consultants’ cultural competency. For example, there would be an acculturation process for coaches and athletes from Chinese mainland move to Hong Kong, Singapore. Sport psychology consultants can serve a key role facilitating such process. Based on practical experience, we will explore and share how frontlinesports psychology consultants could recognize, understand, and help our clients to handle those issues.

Keywords: Chinese culture, sport psychology consultation

Cultural Consideration of Consulting with Hong Kong Junior Athletes

Xiaobo Jiang
Hong Kong Sports Institute

Abstract: Although Hong Kong society is a society of the Chinese context, Most of Hon Kong residents manifest themselves in the typical holistic way of thinking of the Chinese people as well as the values of the pursuit of fame. Unlike Mainland China, Hong Kong’s competitive sports system and social values of competitive sports are much different, for example, Hong Kong sport participants are more recreational level. Competitive sports by the degree of social recognition are not as good as other occupations for the sports are not traditional concept of a professional (Timothy H, 2012). So the young athletes will encounter many of the unique features in the growth process:
1. Motivation problems of Hong Kong junior athletes engaged in competitive sports. Some of Hong Kong junior athletes compete in sports are driven external motivation, including the parents’ will, further education and school choice advantages, as well as not lose behind of peer comparison.
2. Hong Kong junior athletes will bear the dual pressures of academic study and sports training. Most of Hong Kong junior athletes are part-time training while attends school, they have to maintain good grades in order to seek better development because of aforementioned the social utilitarian orientation. Junior athletes feel overwhelming about such dual pressure in the development to elite athletes. So many of them give up competitive sports before he become an elite athlete.
3.Hong Kong’s elite sports system are more like financial aid system, the parents or family of junior athletes need to invest before they become an elite athlete. As do so, the parents involve more in sports life of junior athletes. This is a sword with two edges. On one hand, parents will provide financial support and family caring, the other hand; the parents will put more pressure on to athletes. Because of the concept of traditional Chinese culture, the athletes represent the face of and fame the family. Like typical Chinese, Hong Kong Junior athletes lack skill of expression of pressure and negative emotion, they will perceive more pressure.
Only based on better understanding of Hong Kong’s institutional and cultural characteristics, the suitable guidance to junior athletes in sport psychology consulting would be possible. In consulting practice, we guide junior athletes motivation internalization and using more China-pressure coping approach, such as doctrine of Mean and dialectical in the process of coping.

Keywords: Hong Kong junior athletes, consultation, culture

Sub-cultural Consideration in Hong Kong Sport Psychology

HinYue Li
Hong Kong Sports Institute

Abstract: In this presentation, we are going to discuss the common cultural issues existing in Hong Kong elite sport setting. Hong Kong is an open society with local Chinese as dominant ethnic group. Due to historical (i.e., colonial era), political and social reason, different sport system, Hong Kong sport system is quite different from Mainland China. Those differences can be manifested in terms of athletes' motive, career planning, full-time commitment, and psychological profile etc. Most athletes in Hong Kong are local Hong Kong Chinese whereas a few percentages come from Mainland China. While those athletes from Mainland China may experience cultural shock in Hong Kong, local athletes may also experience discomfort towards those incomers. The perceived stereotype of athletes from both sides may lead to miscommunication and misunderstanding. Apart from athletes' level, cultural issues may also influence coaches from Mainland China who teach or 'work with' local athletes. The authoritative coaching style, which is generally employed in Mainland China, may backfire or be less effective. As a business-oriented society, career of elite athletes is not very promising in Hong Kong. Social recognition to elite athletes is very limited and cannot be compared with traditionally valued professions like medicine and law nor occupations in government and international companies. Hong Kong elite athletes would face an ongoing dilemma of choosing between sport development or future

career. Some athletes may quit sport earlier than expected due to such worry. Sport psychologists can deal with these issues by (1) enhancing the mutual understanding between local athletes and their Mainland counterparts, (2) facilitating the communication between local athletes and coaches from Mainland, and (3) providing career and life planning services to senior athletes as an ongoing psycho-education. Self-reflection as a local sport psychologist working with clients (athletes, coaches and administrators) from various sub-cultures may be explored in this presentation.

Keywords: Hong Kong sport psychology, sub-culture

Cultural Characteristics of Singapore Sport Psychology Consultation

JinHong Zhao
Singapore Sports Council

Abstract: "Culture is an integrated pattern of human behaviour that includes thoughts, communications, languages, practices, beliefs, values, customs, courtesies, rituals, manners of interacting and roles, relationships and expected behaviours of racial, ethnic, religious or social group; and the ability to transmit the above to succeeding generations. " Singapore is a multiracial and multicultural country, a cosmopolitan melting pot where east meets west. This uniqueness is reflected well in the way people chose sporting activities. People of varied race and culture chose sports differently, which may root in difference of racial and cultural backgrounds. For example, traditional Chinese (Mandarin) mostly compete in Badminton/ Table Tennis/ Wushu/ basketball, whereas the traditional Malay would prefer to participate in football/ sepaktakraw and Malay martial arts, and Indian would like to play cricket more. It is found in the practice of sport psychology service delivery based on the theory of cognitive-behavioral therapy, that there are big differences in thinking style and cognitive process rooted in the characteristics of the subcultures, which even applies for people from the same race, and/ or of the same language. Only with comprehensive understanding of this context and situation, we could deliver specific and effective service to athletes and coaches in the

pursuit of excellence which is full of adversity coping and environmental adaptation. "Culture competence is defined as a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals and enables that system, agency, or those professionals to work effectively in cross-cultural situations." In the practice of psychology consulting and mental skills training, it is also found some positive results in case of helping athletes deal with interpersonal-conflict problem; coaches' frustration adapting to different culture and athletes' pursuit of sporting excellence through increase the culture competency which encourage coaches and athletes to promote their culture awareness and knowledge on the basis of comprehensive understanding of Singapore's local culture and sports culture.

Keywords: Singapore sport psychology consultation, culture

On Contextual Awareness of Applied Sport Psychological Consultants In Mainland, China

ChongHui Zhang
Chongqing University

Abstract: Adaptation is central to many concepts of mental health. In daily life there are two inextricably connected systems: the person and the environment. Tensions always arise between the two systems because the person pulls in one direction and the environment pulls in another; using Angyal's terminology, two directional trends may be called autonomy and harmony, respectively. Mental health is "the capacity both for autonomous expansion and for harmonious integration (Angyal, 1965:254). The harmonious tendency play dominant role in Chinese world within which the person makes the most of his or her efforts to establish and maintain harmony, this pattern may be labeled 'social orientation', comparing with western pattern named 'individual orientation'.(K. S. Yang, 1981a, 1981b, 1982a, 1986). Many researchers discovered that it was easier for Chinese to be influenced by social context than western subjects e.g., Chiu et al., 1997; Choi, Nisbett. & Norenzayan, 1999; Knowles, Morris, Chiu, & Hong, 2001, especially for people of China. Basing the characteristics, applied sport psychological consultant cannot ignore contextual factors' functions. This research studied contextual awareness of applied sport psychological consultants interacting with clients and environment in mainland. A great deal raw data showed us that they were requested to be competent to not only deal with problems of coaches and athletes directly, but also intervene with complicated social situations to facilitate clients' changes. The result can be explained with a figure, which describing the daily interactions among consultant, coaches athletes and social context. During the interactions, the contextual awareness of applied sport psychological consultant functions and leads to better performance in most situations. So what is the contextual awareness in Mainland? By coding, it is discovered that it includes role awareness in the whole nation system, moral awareness in local culture and indirect intervention awareness by integrating comprehensive factors.

Keywords: contextual awareness, applied sport psychological consultant, harmony

Cultural Competence in Private Practice

Frances Price
Private Practice

Abstract: The significance of cultural issues in psychology in general and sport psychology in particular is well-documented (e.g., Schinke & Hanrahan, 2009; Sue & Sue, 2003). Assumptions often

associated with race, ethnicity, and culture rarely, if ever, capture the client or the practitioner completely, especially with respect to concepts such as levels of acculturation, worldview, individualism/collectivism, communication style, action orientation, cultural value preferences, and racial/cultural identity development (Parham, 2005; Schinke & Hanrahan, 2009; Sue & Sue, 2003). In this presentation, case studies will illustrate how a female clinician of African descent educated from a Eurocentric perspective engages in multicultural counseling/therapy while striving for cultural competence. The presentation will include a discussion of similarities and differences with respect to conceptualizing clinical clients' experiences and building therapeutic alliances with athletes and non-athletes, as well as their experiences with respect to how athletic participation and/or exercise affect quality of life, subjective well-being, and life satisfaction. This presentation will also illustrate how a key component of effective psychotherapy, the development of a working alliance (Andersen, 2000), is certainly enhanced through cultural competency. Challenges that remain with respect to culturally competent service delivery will also be addressed.

Keywords: acculturation, world view, cultural competence, ethnicity

Transnational Career Development, Practices and Experiences

Tatiana Ryba
Aarhus University

Abstract: Transnationalism refers to living everyday life across borders: coming and going, being simultaneously embedded in multiple cultural locations and social networks, and having a fluid mobile identity. As a concept and lived phenomenon, transnationalism is not new. Professional labor migration in sports has been studied by sociologists focusing primarily on the migration of male footballers to European and North American countries from the so-called Global South (Bale, 2004; Darby, 2000, 2007; Poli, 2005, 2006, 2010, Poli&Besson, 2011). In psychological literature, the career transitions of athletes into different countries have been considered (Stambulova, Alfermann, Statler, & Côté, 2009; Stambulova, 2012), but so far the influence of transnational mobility on psychological concepts and practices in research and applied services has only recently been brought into discussion (Ryba, 2011; Ryba, Haapanen, Mosek, & Ng, 2012; Stambulova & Ryba, 2013; Terry, 2009). The goal of this symposium is to excavate further into the concept of transnationalism from theoretical, methodological and experiential perspectives to highlight how the changing globalized cultural landscape presents new, often unforeseen, challenges for athletes and sport psychology professionals in terms of performance and wellbeing. First, transnationalism will be introduced as a theoretical framework in the Nordic study of transnational athletes' career transitions. Second, the trajectories of transnational career development in sport psychology will be explored from the experiential perspective shared by three sport psychology students of different ethnic origins. Third, practical insights into challenges of border-crossings rooted in everyday applied practices will be shared by sport psychology consultants working on the road with Hong Kong athletes. Finally, lessons gleaned from rich experience of working transnationally as an applied practitioner in a wide variety of cultural contexts will be discussed.

Keywords: transnationalism, cultural transitions, career, applied practice

Eating disorder issues

Eating Psychopathology in Athletes:

The Importance of Wider Social Relationships

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2. Loughborough University

Abstract: Grounded in the tenets of the Transdiagnostic Cognitive Behavioural theory for the maintenance of eating disorders and empirically established psychosocial correlates of eating disorders, the aims of the study were two-fold. First, it aimed to determine the association between the quality of significant interpersonal relationships and eating psychopathology amongst a sample of athletes. Second, it examined the mediating role of self-esteem, self-critical perfectionism and depression in such associations. Athletes (n=152) completed self-report instruments pertaining to relationship quality with mothers, fathers, and coaches, self-critical perfectionism, self-esteem, depression, and eating psychopathology. Bivariate correlations and bootstrapping meditational analyses demonstrated significant associations between the quality of the parental relationships and eating psychopathology. Specifically, the father-athlete relationship characterised by lack of autonomy support was indirectly related to eating psychopathology, through increased depressive symptoms. Relationship quality with mothers and coaches was not associated with athletes' eating psychopathology and self-critical perfectionism and self-esteem were not found to be significant mediators. The findings of the present study hold several potential theoretical and practical implications. In terms of the theoretical implications, the findings further reinforce the significance of psychosocial factors in athletes' eating psychopathology, but also the need for continued application of a research framework that moves beyond examining sport-specific risk factors, one that is grounded in and supported by relevant theory. In terms of practical implications, the present findings provide evidence to suggest that the father-athlete relationship plays a greater role than the coach-athlete relationship in athletes' eating psychopathology. Accordingly, parents and the wider sporting environment need to be more aware that the influence of fathers extends beyond introducing the child to sport.

Keywords: relationship, eating disorders, self-esteem

Gender issues

Is Gender Useful in Understanding a Transnational Athletic Career?

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1. Aarhus University
2. LIKES Research Center
3. Halmstad University
4. ACTIVE Institute

Abstract: In this presentation, we map the gendered understandings of athletic career based on a collaborative project investigating transnational athletes' career transitions. Transnational athletes are not immigrants per se, and should be understood as mobile subjects who maintain multiple relations (e.g., organizational,

religious, political) and whose career development is negotiated in a sociocultural space spanning international borders (Ryba, 2012; Ryba & Stambulova, 2013). This paper focuses on the life stories of 15 male and female athletes from Denmark, Sweden and Finland to understand the psychological and political effects of gender on athletic career mobilization. The transformation of careers and lifestyle of athletes due to cultural and economic globalization of sport

complicates and creates tensions between traditional conceptual frameworks in sport psychology. For example, how can we understand transnational athletes' psychosocial development without taking into account the multiplicity of their cultural identities/ identifications, simultaneous embeddedness in various transnational and local networks and practices, and multiple sites of belonging? As gender relations are often transformed through transnational migration (Pratt & Yeoh, 2003), locating athletes' stories within a transnational framework allows us to gain a deeper understanding of the ongoing process of negotiating cultural meanings, making sense of the self through continuous (re)construction of subjectivity and mapping shifts in career trajectories in the flux of gendered meanings. We will use examples from our research to illustrate conceptual arguments and share preliminary findings.

Keywords: gender, transnationalism, athletic career

American Women in Sport Psychology

Carole A Oglesby
Temple University

Abstract: In the past decade, two teams of sport psychology researchers in the USA launched efforts to discover the contributions of women previously unrecognized in sport psychology history narratives (Krane and Barber; Bredemeier et al). The presentations of this Symposium deepen and extend this search internationally.

We know that 'science' arises out of a cultural milieu. In the USA the development of women's sport, leading to the time period Wiggins called the 'second wave of sport psychology – 1965-1985, featured high focus on principles such as 1) the medical and holistic welfare of the athlete; 2) careful experimentation prior to the institution of significant changes in fundamentals of game play; 3) formal training of coaches and other sport professionals; 4) fostering of positive relationships among all participants including opponents. Men's sport frequently did not feature such concerns. These foci and others, which I posit are 'principles of positive sport psychology' were, and are, important to the field and the early women in sport psychology were important voices to bring this character to the field. Appropriate recognition and honoring of female historical figures will assist in assuring today that the fields, and its leadership, are gender-balanced just as must be the opportunities for sport participation. To that end, I will present brief biographical and productivity information from USA women active in sport psychology 1965-1985.

Keywords: positive sport psychology principles, women in sport psychology history, women pioneers biographies

Contributions of Women to the Development of Sport Psychology in Africa - Sharing my Career Story in the Field

Philomena Bola Ikulayo
University of Lagos Nigeria

Abstract: This presentation will explore the various contributions made to the growth, development and advancement of sport psychology in Africa. It will discuss some of the propagation, involvement and problems encountered in an attempt to psychologically prepare athletes for sports competitions. It will also give account of specific challenges faced by pioneers in introducing the discipline to the various sports departments as veritable and reliable ways of improving performance, attitudes and mental capability. Initially it was difficult for many people involved in sports in Africa to

appreciate the positive role of sport psychology to sports performance improvement. In Nigeria, this necessitated the foundation of the Sports Psychology Association of Nigeria (SPAN) in 1985. As the founder and foundation president of SPAN, many grounds had to be brokered in order to convince sports organizations and managers of the real value of sport psychology. This will be fully discussed at the symposium. This paper will provide an opportunity to share my experiences as the first woman sport psychologist in Africa and delve into my career story in the field of Sport and Exercise Psychology. Various counselling and consulting sessions with footballers, basketballers, boxers, swimmers and Olympics athletes will be shared. As the first female African to be a member of the sport psychology world body, my involvement and contributions to the International Society of Sport Psychology will form part of the discussion. The effort I have been making to establish the Africa Society of Sport and Exercise Psychology will expose the audience to the modest attempt I have made to propagate Sport Psychology principles across the world.

Keywords: sport psychology, will power, commitment, mental ability/capability, involvement, positive attitudes

A Journey to Achievement: Asian Perspectives

Jolly Roy
National Sports Institute of Malaysia

Abstract: In this presentation, I describe my experiences of working in two Asian countries and highlight the contribution of other female sport psychologists based in Asia to the development of applied sport psychology. Central to this subject are the different themes of my own career narrative, such as entry into the sport psychology profession, the initial setbacks, and the challenges, frustrations, and pleasures in providing psychological support to athletes. My development as a sport psychologist was initially met with discouragement. The lack of female role models in applied settings significantly impacted my progress in the initial days. The challenges to establish a Sport Psychology unit and host the ISSP managing council meeting in my institute was the hardest part of the job, but later became the cornerstone to build up my career. Furthermore, I encountered discrimination from male colleagues, who, whilst interviewing a new recruit for the sport psychology unit, raised doubts of whether two women could run the unit successfully. This incident sparked my willpower to establish my professional worth, and I sought contact with women in similar situations. The experience of Professor JayshreeAcharya from India, for example, demonstrates how a woman cut across barriers to reach a leading position in the Indian Sport Psychology Association and to be a representative in the managing council of the Asia South Pacific Association of Sport Psychology. The case of MsSanjana, a sport psychologist from Singapore, depicts another aspect to women's experience in the field: how expectations from sport institutions take precedence over family responsibilities. The exposure to various countries has made me more sensitive to culturally appropriate practices, and language barriers have taught me new and functional ways to communicate with individuals from a different background. I draw on examples from my current base in Malaysia to highlight the recent shift I have observed, in which a greater acceptance of women sport psychologists is evident. I conclude by providing examples of how the young professionals reflect the role of sport psychologists to set new directions towards a journey for future achievement and establishment.

Keywords: gender, experiences, challenges, barriers

In a Different Voice: Women's Careers in Sport and Exercise Psychology

Tatiana Ryba¹, Natalia Stambulova²
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2. Halmstad University

Abstract: Invoking Carol Gilligan's feminist classic in the title of this symposium, we seek to refute the silenced place of women in the written history of our field. The invisibility of formal recognition of women's contribution to the development of international sport psychology is especially ironic because female trailblazers "were highly visible during their careers due to their extreme underrepresentation" (Krane & Whaley, 2010, p. 349). Challenging a common sense assumption that research and professional structures are gender neutral, this symposium foregrounds female narratives and experiences in, and of, sport psychology to highlight undamentally gendered underpinnings of such common concepts as career, success, and science. The female career paths in sport psychology academic discipline and profession will be shared by five remarkable women who contextualize their life stories within the sociocultural and historical forces that shaped their careers in North America, Africa, Asia, and Western and Eastern Europe.

Keywords: women in sport psychology history, women pioneers' contribution, gender, female career narratives

Sport Psychology in Europe – Women's Perspective

Dorothee Alfermann¹, Natalia Stambulova²
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2. Halmstad University

Abstract: In comparison with other disciplines of psychology, Sport and Exercise Psychology is a very young field. Sport psychology associations were founded in numerous countries following the first World Congress of Sport Psychology, hosted in Rome in 1965. Despite the fact that even in those years quite a few women were studying psychology and beginning a scientific career, females in sport psychology were extremely underrepresented. One possible reason suggests that sport, much more so than psychology, was considered a traditionally male field, with few opportunities available to women. Making a career in sport psychology was then a double contradiction for women: first, making a career at all contradicted the stereotypical female role, and second, making a career in sport was an atypical field for women to choose. The presentation will be structured as a dialogue between the two presenters, both of whom are female sport psychologists with more than 30 years of experience. Both were born and started their careers during the Cold War period: Dorothee Alfermann in the Federal Republic of Germany and Natalia Stambulova in the Soviet Union. Neither country still exists on the European map, reflecting dramatic political, social and economic changes in Europe over the last two decades. All the changes in the European context has impacted the development of Sport and Exercise Psychology in Europe, including overall organizational development, as well as female careers and their contributions to the European Federation of Sport Psychology (FEPSAC), other international sport psychology organizations (e.g., ISSP, AASP) and international sport psychology events (e.g., Congresses). The dialogue will be structured around the following three themes: (a) the presenters' own careers analyzed from the perspective of gender issues (e.g., female professional role models and mentors), (b) the history of European Sport and Exercise Psychology, the foundation of FEPSAC and the contribution of its first president, EmaGeron (1969-1973), and (c) female sport psychology professionals' role in today's European sport psychology and their contributions to FEPSAC, ISSP, AASP, national sport psychology

associations, the editorial board of Psychology of Sport and Exercise, the European Forum of Applied Sport Psychologists, the European Master's Studies in Sport and Exercise Psychology (EMSSEP), and the recent European Master's (Mundus) Program in Sport and Exercise Psychology (EMPSEP).

Keywords: women in sport psychology history, biographies of eminent women, gender roles

Sport and exercise Psychology Career development and career Transitions in sport

Athletes' Careers in Canada: Transitional Writings from Canadian Sport Psychology

Robert Schinke
Laurentian University

Abstract: Considerable explorations have been undertaken pertaining to athletes' and coaches' career transitions in Canada. The earliest evidence of career transition literature began with the writings of Orlick and colleagues (Orlick, 1986; Sinclair & Orlick, 1993; Werthner & Orlick, 1986), pertaining to elite amateur athlete retirement. From these early writings, it was found that athletes vary in their adaptation away from sport contingent on the reasons for their retirement. When retirement is volitional and for personal reasons, it seems that the athletes adjust more effectively to the transition from active to retired status. Concurrently, Salmela and colleagues (e.g., Salmela, 1994; Schinke, Bloom, & Salmela, 1995) considered the transitional stages of elite coaches from their earliest formation as community level athletes, through elite athletics, and onward to coaching status, upon retirement from athletics. Salmela predicated his view of transition on an earlier talent development model, conceived by Bloom (1985). In Canada, discussions have prevailed, with scholars utilizing a variety of theoretical frameworks, with a breadth of athlete populations. Among this trajectory of scholarship, Côté (1999) considered the talent development of athletes engaged in competitive youth sport, Wheeler, Malone, VanVlack, Nelson, & Steadward (1996) examined athlete retirement from disability sport, Bruner, Munroe-Chandler and Spink (2008) considered the transitional experiences of rookie ice-hockey players at the Major Junior level, and Durand-Bush and Salmela (2002) examined the retrospective transitional experiences of expert performers with Olympic and World Championship success. More recently, Schinke and colleagues have considered the career transitions of Canadian Olympic athletes (Schinke, Battochio, Dubuc, Swords, Appoloni, & Tenenbaum, 2008) and North American and European National Hockey League players during their transition from rookie to veteran status (Schinke, Gauthier, Dubuc, & Crowder, 2007), and also, the acculturation experiences of Canadian Aboriginal (Schinke, Michel, Gauthier, Danielson, Peltier, Enosse, et al., 2006), immigrant amateur (Schinke & McGannon, 2013) and immigrant professional athletes (Battochio, Schinke, McGannon, Tenenbaum, Yukelson, & Crowder, 2013) upon relocation to North America. Within this presentation, a synthesis of Canadian contributions to the understandings of career transition will be provided, culminating in proposed future directions for scholarship and practical application.

Keywords: acculturation, adaptation, athlete, career, transition

Athlete's Careers in New Zealand (Aotearoa): The Impact of the Graham Report and the Carding

System

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Abstract: In 2001 the New Zealand government was presented with the ‘Graham Report’ — a document commissioned by the Ministerial Taskforce for Sport, Leisure and Fitness. What followed was a significant turning point in the development of New Zealand’s elite athletes. The authors of this report had been directed to assess the current state of sport within New Zealand and provide recommendations for the future direction of sport initiatives. One of these initiatives proposed a radical restructure of the processes involved in developing elite athletes. This recommendation ultimately led to the establishment of the New Zealand Academy of Sport (NZAS). Since 2002 the NZAS has been responsible for providing leadership and accountability for elite sport policy across New Zealand. In addition to managing funding, the NZAS is also responsible for administering New Zealand’s first centralised system of athlete development – the Carded Athlete Program. In line with shifting theoretical perspectives, this program aims to provide a holistic approach to athlete career development. In particular the carding program provides talented New Zealand athletes with world-class coaching, training and support services in order to maximise their athletic performance. By targeting athletes and sports with the highest prospect of international success, the system also aims to fulfill the NZAS’s mandate of making New Zealand a premier sporting nation. While the carded athlete system has been in place for more than a decade, the program has yet to gain scholarly attention in terms of athlete experiences, or whether the system actually achieves its vision of offering holistic support for the development of well-rounded athletes. Responding to this gap in research the first author set out to uncover the lived experiences of athletes within this system. Drawing upon interviews conducted with 17 carded athletes from an array of sports, we will present three key findings related to these athletes’ perspective of the carding system and how this model has impacted their career development and transition experiences. We conclude with suggestions for the implementation of a culturally sensitive and career-stage specific athlete development program that prioritizes the well-being of individual athletes above and beyond their performances on the sports field.

Keywords: athlete career, athlete carding, New Zealand Academy of Sport, identity

Dadirri: A Philosophy Guiding Research into Athletic Retirement of Indigenous Australian Sportsmen

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Abstract: Aboriginal and Torres Strait Islanders, the Indigenous peoples of Australia, still endure the legacy of European colonisation, leaving them economically vulnerable and socioculturally marginalised. A small, but significant number of Indigenous athletes have traditionally excelled in Australian Rules football, rugby league and boxing. Yet little is known about their lives beyond the athletic domain. To address this research gap, the study addressed the athletic retirement experiences of thirty Indigenous sportsmen (Stronach, 2012). Special care was required in developing the research design keeping in mind that the author is non-Indigenous and sought to engage Indigenous Australians. First, an Indigenous philosophy known as Dadirri informed the research (Ungunmerr, 1993). Second, qualitative interviews inspired by the transformative paradigm (Mertens, 2007) provided a framework for addressing inequality and injustice in the context of Indigenous Australia. Finally, interpretive

phenomenological analysis was adopted to re-interpret the thoughts and situations of the athletes. This methodological approach complemented Dadirri’s principles of gathering information through deep listening, sensitively building knowledge, and developing understanding by contemplation (Atkinson, 2000). Face-to-face interviews facilitated story-telling and narrative data collection, while Bourdieu’s sociological theories of habitus, capital and field provided a foundation for analysis of the interview responses (Bourdieu, 1981). The study concluded that Indigenous Australian are typically unprepared to cope with drastic change, and uncertain about life beyond sport. This is due to (a) the primacy of their athletic identity, (b) assumptions about their ‘natural’ athletic acumen, (c) the impact of racialization, and (d) their commitment to extended families and communities. Accordingly, these athletes need appropriate sociocultural support (e.g. the services of Indigenous staff) throughout their careers, to prevent premature retirement and/or problematic transitions.

Keywords: athletic retirement, Dadirri, Indigenous Australian sportsmen, phenomenological

Athletes Careers across Cultures: the ISSP Project

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Abstract: This symposium introduces the recent ISSP book project: “Athletes’ Careers across Cultures” (Stambulova & Ryba, 2013). The book editors and several chapter authors will discuss how culture (as a multilevel phenomenon) informs athletes’ career development as well as existing career research and career assistance programs around the world. The first presenter will briefly introduce the idea of “Athletes’ Careers across Cultures” project and then focus on two epistemological perspectives (‘waves’) in existing career research, such as the cross cultural perspective gravitating to the positivist epistemology, and the cultural mindset perspective located within a constructivist epistemological paradigm. She will further share the insights related to the emerging “third wave” based on the cultural praxis paradigm. The second presenter will focus on a Canadian context tracing an evolution and introducing several theoretical frameworks and lines of current career research in Canada. The third presenter is going to discuss New Zealand’s context emphasizing how a change on the society/sport system level, that is, development of the Carded Athlete Program, influenced carded athletes’ career development and transitional experiences. This presenter will also point out that a holistic perspective in managing athletes’ development in the Carded Athlete Program is only declared, and more should be done to incorporate this perspective in New Zealand’s sporting culture. The fourth presenter will show how the holistic/developmental perspective embodied into the developmental model of transitions faced by athletes (Wylleman & Lavallee, 2004) has already informed both career research and career support services for athletes in Belgium (Flanders). The fifth presenter is going to emphasize the lessons learned from the analysis of career research and career assistance in 19 countries represented in “Athletes’ Careers across Cultures” and will proceed with a set of new challenges for career researchers and practitioners, shaped as cultural praxis of athletes’ careers approach.

Keywords: athlete career, cultural diversity, international career research, career assistance programs, transition

The Wind Has Changed: Culture in Athletes’ Career Research

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Abstract: The area of athlete career development and transitions

has traditionally been dominated by a Western perspective, an imbalance which has had a considerable influence on shaping career studies in sport psychology more generally. This presentation is based on our edited book “Athletes’ Careers across Cultures”, in which we employ theoretical tenets of the cultural turn to approach career as a socially and culturally constituted context in which the development of athletes occurs. Briefly outlining how culture has been studied in career transition research, we position our discussion within the metaphor of waves. The cross-cultural wave is representative of the universalist approach to career in the study of similarities and differences in cognitive, emotional and behavioral functions of athletes in different countries. Cross-cultural career studies are typically carried out within the positivist epistemology, using different questionnaires about athletes’ beliefs and attitudes (e.g., Dimoula, Torregrosa, Psychountaki, & González, 2012; Alfermann, Stambulova, & Zemaityte, 2004; Stambulova, Stephan, & Jäphag, 2007). The wave of cultural mindset is located within a constructivist paradigm of cultural psychology. Cultural researchers have challenged the extant career models, which suggest that athletes across cultures undertake similar career pathways and experience comparable career transitions (e.g., Carless, & Douglas, 2009; Douglas, & Carless, 2009; Schinke, Ryba, Danielson, Michel, Peltier, Enosse, et al., 2007). In our discussion, we focus on the emerging ‘third wave’ to explicate how culture functions as discourse in the context of athletes’ careers. Culture as discourse operates through common sense assumptions embedded in social institutions, such as national sport federations and academic institutes, enabling athletes to access certain contextually contained skills and practices whilst simultaneously restricting, even denying, the development of others. We therefore argue for the need to open sport psychological knowledge to culturally diverse intellectual traditions, perspectives and concerns, which will allow researchers and practitioners to better understand local problems within the dynamics of cultural diversity in athlete career development and assistance.

Keywords: cross-cultural career research, cultural career research, cultural praxis, culture, epistemological paradigms

Athletes’ Careers in Belgium from a Holistic/Developmental Perspective

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Abstract: Career research and assistance in Belgium (Flanders) was built upon two lines of research (interpersonal relationships and the combination of elite sport and study) and the developmental model of transitions faced by athletes (Reints, 2012; Wylleman, De Knop, & Reints, 2011; Wylleman & Lavallee, 2004). This developmental model uses a holistic/developmental view of athletes’ careers and their social environments and is found to present career support service providers and sport psychologists with a better overview and understanding of the (multilevel) transitional demands on athletes and the resources available to them. From 2007 onwards, the developmental model was used to initiate and develop a service providing career support to Flemish talented athletes (from age12 and up), elite as well as retired elite athletes. After three years of development and optimization of its content and methods of service provision, this career support service has now been fully integrated in the department of elite sport of the Flemish sport administration. This presentation will highlight the developmental model as well as the way in which it was translated into career support service covering different stages and transitions (e.g., transition into higher education, into a professional athletic career) occurring during the athletic career, as well as career-related challenges at different levels of development (e.g., academic, vocational). Finally, reference will be made to the way in which career support services – as viewed from a holistic/developmental perspective – have also been proposed to the European Parliament and the European Commission in view of the

development of a European sport policy regarding ‘dual careers’ in elite sport.

Keywords: developmental, holistic, career support service, mental support provision

Towards Cultural Praxis of Athletes’ Careers

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Abstract: In editing the recent ISSP book, Athletes’ Careers across Cultures, we were able to analyze the evolution and current status of career research and assistance in 19 countries. One lesson from this analysis is that career researchers/practitioners should be more proactive in anticipating and matching changes in both the modern sporting context and international sporting culture (e.g., increased globalization, commercialization, professionalization, transnationalism, and cultural exchange). Based on this analysis and the collective wisdom of the book’s contributors, we suggest a new paradigm termed cultural praxis of athletes’ careers (Stambulova & Ryba, 2013), which we set as a challenge for career researchers and practitioners. The quintessence of this approach is to consider career theories, research and assistance as permeated by culture and united into cultural praxis. More specifically, the cultural praxis of athletes’ careers implies: (a) a merge of the holistic lifespan (Wylleman & Lavallee, 2004) and holistic ecological (Henriksen, 2010) perspectives in career research and assistance, (b) reflexive situated-ness of career projects in relevant socio-cultural and historical contexts (e.g., Ryba, 2009; Ryba, Schinke & Tenenbaum, 2010; Stambulova & Alfermann, 2009), (c) an idiosyncratic approach in career research and assistance with specific attention to diversity in career patterns/trajectories, including marginalized athletic populations, such as female, gay, and ethnic minority athletes (e.g., Ryba & Schinke, 2009; Stambulova, 2010), (d) an increased attention to transnationalism in contemporary sporting culture and to trans-disciplinary career research, helping to grasp athletes’ multifaceted lived experiences in sport and beyond (e.g., Azócar, Torregrosa, Pallarés, & Pérez, 2012; Ryba, 2011; Ryba, Haapanen, Mosek, & Ng, 2012; Schinke, Gauthier, Dubuc, & Crowder, 2007), (e) multicultural and transnational consulting, including international networks of existing Career Assistance Programs (e.g., Schinke & Hanrahan, 2009; Schinke, McGannon, Parham, & Lane, 2012; Stambulova, Alfermann, Statler, & Côté, 2009), and (f) participatory action research facilitating close collaboration between researchers, practitioners, and athlete-participants (Ryba, 2009; Schinke, Peltier, Ryba, M. J. Wabano, & M.Wabano, 2010). In brief, the approach we have coined as cultural praxis of athletes’ careers challenges the culture-blind career theories, research and practice in sport psychology and stimulates sport psychologists to deal with issues of marginalization, representation and social justice through theory, research and applied work.

Keywords: athlete career, cultural praxis, holistic perspective, transnationalism

Athletes’ Careers through the Lens of Different Research Methodologies

Natalia Stambulova
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Abstract: During the last decade in more than ten review papers (e.g., Alfermann & Stambulova, 2007; Gordon, Lavallee, & Grove, 2005; Hackfort & Huang, 2005; Petitpas, Brewer, & Van Raalte, 2009; Stambulova, Alfermann, Statler, & Côté, 2009; Taylor & Ogilvie,

2001; Wylleman, Alfermann, & Lavallee, 2004), one meta-review (Stambulova, 2012), and the book “Athletes’ Careers Across Cultures” (Stambulova & Ryba, 2013) methodological issues related to the career topic in sport psychology were outlined and discussed. The aim of this symposium is to not only demonstrate paradigmatic and methodological diversity in contemporary career research around the world, but also to discuss complementarity between different ways of acquiring knowledge about athletes’ careers. The first presenter will focus on lessons learned from analyzing career research in 19 countries based on the book “Athletes’ Careers Across Cultures” and further emphasize that better future for the career topic is relevant, not only for an increase in methodological diversity but also for an increase in methodological and cultural congruence of career projects. The second presenter will demonstrate advantages and limitations of a longitudinal quantitative (positivist) approach in studying the transition from junior to senior sports in a Swedish context. The third presenter will acknowledge the mixed-method (positivist/post-positivist) approach in exploring dual career experiences of junior elite German athletes and their premature athletic dropouts after graduation from elite sport schools. The fourth presenter will shift the discussion to a qualitative (constructivist) approach and, using an Indigenous philosophy known as Dadirri, guide an investigation of athletic retirement experiences of Indigenous Australian athletes. The fifth presenter will provide insights in how existential-narrative (constructivist) approach opens new possibilities in exploration of meanings that Finnish athletes attach to their career experiences during different career stages and during athletic retirement.

Keywords: athlete, career, scientific paradigms, research methodology

Career Research in Flux: To a Better Future Based on Lessons Learned from the Past and the Present

Natalia Stambulova
Halmstad University

Abstract: During the last decade several attempts were undertaken to overview and structure the career development and transition topic in sport psychology. For example, several conceptual and methodological shifts were traced in a meta-review of the topic (Stambulova, 2012), and major scientific (cultural) traditions in career research and assistance (North American, Australian, Western European and Eastern European) were identified in the relevant ISSP Position Stand paper (Stambulova, Alfermann, Statler, & Côté, 2009). Within the ISSP new project, that is the “Athletes’ Careers Across Cultures” book (Stambulova & Ryba (eds.), 2013), contributors have reviewed the career development contexts, career research and career assistance in 19 countries around the world. The book well illuminated not only complexity and diversity of athletes’ careers in different socio-cultural contexts but also limitations of existing career research (e.g., predominance of the positivist and post-positivist epistemological paradigms, adopting theoretical frameworks from dominant discourses without a critical analysis of their fit to the relevant culture/context, lack of longitudinal and intervention studies, and others). This presentation will focus on lessons learned from analyzing the international research presented in the book, proceeding from limitations of the past and current research to the future challenges relevant to more diverse but better contextualized and positioned research projects. A need to use various research methodologies producing complementary knowledge to reflect complexity and diversity of athletes’ careers around the world will be emphasized. Another emphasis will be on the message that better future for the topic is relevant not only to an increase in methodological diversity but also to an increase in methodological and cultural congruence of career projects as it is articulated, for example, in the new

paradigm termed cultural praxis of athletes’ careers (Stambulova & Ryba, 2013). According to the cultural praxis of athletes’ careers approach, a career relevant project should be well positioned: (a) in sociocultural context(s) involved, (b) within a scientific discipline (e.g., sport psychology) or in the inter/trans-disciplinary space to match the research problem, (c) in terms of theoretical and methodological approaches used in the research program, (d) in regardsto existing applied discourses in sport psychology and beyond. Besides, the research group members are expected to reflect upon their cultural, professional, athletic and living backgrounds as factors permeating and influencing the research planning, actual process and interpretation of results.

Keywords: career research, limitations, future challenges, projects’ positioning

Swedish Athletes’ Transition from Junior to Senior Sports: A Quantitative Longitudinal Study

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Abstract: The aim of the study was to explore the process of the transition from junior to senior sports in Swedish athletes. Previous studies showed that the junior-to-senior transition (a) is initiated by a set of demands relevant to athletic and non-athletic development (b) lasts for about two years, (c) is known for a high dropout rate and often described by athletes as the most difficult within-career transition (e.g., Bruner et al., 2008; Stambulova, 2009; Vanden Auweele et al., 2004). This quantitative longitudinal study included five measurements that were conducted every six months, and altogether covered two-and-a-half-years with two measurements of the transition variables and one measurement of related personal variables each year. The following package of four instruments was used: the Transition Monitoring Survey (Stambulova, Franck, & Weibull, 2012), the Athletic Identity Measurement Scale (Brewer, Van Raalte, & Linder, 1993), the Task and Ego Orientation in Sport Questionnaire (Duda, 1989) and the Physical Self-Perception Profile – Revised (Lindwall, Hagger, & Asci, 2007). In the first measurement 101 club-based Swedish athletes (74 males and 27 females) of 15 -20 years old took part. The dynamics of participants were characterized by an increasing dropout rate from each measurement to the next, and as a result only 37 participants were left to the time of the final (fifth) measurement. Overall dynamics of transitional variables throughout the five measurements were characterized by an increase in motivation and perceived quality of adjustment on the senior athletic level from the first to the third measurement, followed by a decrease in these variables across the last two measurements. Decrease in the athletes’ perceived degree of adjustment was especially relevant to their adjustment to senior competitions and to combining sport and studies. Perceived importance of sport (especially of competitions) decreased progressively from the first to the fifth measurement. The other transitional variables (e.g., perceived demands, resources, coping strategies, stress level, need in support) were characterized by various types of dynamics. Meanwhile athletes’ athletic identity and overall satisfaction with their sport and life were rather high and stable across all five measurements. The next step in the data treatment will be based on the Multilevel Modeling and the Latent Growth Curve Analysis to identify successful and less successful transitional pathways, with relevant dynamics and patterns of the transitional and personal variables.

Keywords: junior-to-senior transition, longitude, quantitative, Swedish athletes

Leave or Stay? Mixed-Method Study of Young Elite German Athletes Who

Leave the Scene Prematurely

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Abstract: In the ISSP Position Stand, Stambulova, Alfermann, Statler, and Côté (2009) “emphasize importance of a holistic view of an athlete - that is as a person who is doing sport but also other things in life. It is recommended that athletes’ significant others support athletes’ both athletic and non-athletic interests and identities” (p. 409). German sport schools are particularly devoted toward such a holistic view of athletes and are focused on helping athletes combine school and athletic career. But at the end of high school many of these students face serious obstacles to continue a dual career in sport and education and perceive high pressures to make a decision for sport and against education or vice versa. From quantitative measures and from interviews with former athletes of elite sport schools in the middle of Germany (which have a history of successfully “breeding” elite athletes), we will present data on the conflict between sport and education for those athletes who “solved” this conflict by terminating their athletic career. The quantitative data with 125 male and female athletes of grades 10 and 11 shows that about 44% of females and less than 10% of males dropped out of their sport career after grade 10. Prospective data one year before dropout shows that the later dropouts have lower motivational and volitional qualities than those youngsters who continued their career in sport. Also, the dropouts show lower self-confidence and feel more external pressure than the still active athletes. Eight interviews were conducted with six female and two male former athletes after they had finished their career. Even though these athletes now primarily devoted their time and efforts to continue their education, they nevertheless regretted highly their dropout from sport. The (detrimental) role of performance slumps (e. g., due to illness or injuries) and of a lack of confidence in their performance became evident in the interviews. Also, the athletes were complaining about a loss of social support, particularly by their coaches, in the decision process of dropping out. The results are confirmed by former studies, and practical considerations on how to improve support systems for young athletes are discussed.

Keywords: dual career, German athletes, holistic perspective, mixed-method

Searching for Meanings in Finnish Athletes’ Career Experiences: An Existential-Narrative Approach

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Abstract: In this research, we explore the ways in which Finnish endurance athletes construct and negotiate meanings in athletic career and retirement. Career studies in occupational psychology suggest that existential concerns can play a vital role in people’s career choices and transitions (Mcmorland & Lips-Wiersma 2006); yet an existential framework has rarely been utilized in athletic career research. Existential psychology places the questions of meaning, choice, responsibility, authenticity, finitude and loneliness at the center of human existence. It has the potential to provide insights into how athletes bring meaning to critical situations in sports, such as injuries, overtraining, burnout, aging and retirement. Moreover, it acknowledges that spirituality can be a major source of meaning in some athletes’ lives (Nesti 2011).For this study, life story interviews were conducted with 10 male elite runners and/or orienteers to understand how their narrations about career, key events in sport and life and perceptions of successes and failures are permuted with their personal values and cultural worldviews. Exploring personal narratives is informative, because they also reveal how cultural

master narratives (dominant sociocultural forms of interpretation) influence the ways in which people render events meaningful. From a narrative perspective, it has been acknowledged that the performance narrative dominates competitive sports (Carless & Douglas 2009). This narrative, emphasizing single-minded dedication from the athlete, is potentially problematic in boundary situations such as injuries and retirement. Our analysis revealed that most athletes narrated performance-oriented stories from their youth, but some re-evaluated meaning in sport when facing boundary situations such as injury or physical decline. The ways in which athletes constructed narratives about sport participation and the experience of aging significantly impacted the quality of their transition out of top level and how they related to sport after that. We suggest that the existential-narrative approach has high potential for consultation with athletes in career crises and transitions, where the consultant can help the athlete explore alternative narratives to find new meaning in these possibly challenging situations.

Keywords: culture, existential-narrative approach, Finnish endurance athletes, meaning

Cohesion A Cross-Cultural Validation of Scale for Effective Communication in Team Sports

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Abstract: Effective communication is the key to team coordination and cohesiveness in team sports. Based on the social exchange theory, Sullivan and colleagues (Sullivan &Feltz, 2003; Sullivan & Short, 2011) have conceptualized effective communication in team sports as a four-multidimensional model and developed a sport-specific measurement (Scale for Effective Communication in Team Sports; SECTS and SECTS-2). The four dimensions were Acceptance (acceptance of each other), Distinctiveness (distinctiveness from other social units), Positive Conflict (constructive intra-team conflict), and Negative Conflict (destructive intra-team conflict). For examining the validity of Sullivan and colleagues’ effective communication model in Chinese culture, we have conducted two studies. In the first study (our previous work), we revised SECTS-2 into a Chinese version (C-SECTS) and tested it on 210 youth athletes from Taiwan by means of item analysis and confirmatory factor analysis. Results showed a good fit of the measurement model (Chi square=182.67, df =84, p<.05, CFI=.96, NNFI=.95, PNFI=.75, RMSEA=.075), good reliability, convergent validity, as well as discriminate validity (λ=.63-.91; R square=.40 -.82; pc=.81-.89; pv=.51-.66). In the second study (the present study), we examined the criterion validity of C-SECTS using team cohesion as a criterion. Participants were 193 Taiwanese youth athletes (150 male, 43 female; mean age=11.48, SD=1.07) from 13 elementary school varsity teams of five different sports (basketball, volleyball, dodgeball, soccer, and swimming). C-SECTS and a Chinese version of Group Environment Questionnaire (Wu & Cheng, 2003), adapted from Widmeyer, Brawley, and Carron’s (1985) GEQ, were administered. Results showed that all subscales of C-SECTS and GEQ had adequate internal consistency (C-SECTS: Cronbach’s alpha= .77-.84; GEQ: Cronbach’s alpha= .75-.83). Pearson product-moment correlation analyses found that all three positive dimensions of C-SECTS (i.e., Acceptance, Distinctiveness, and Positive Conflict) were positively correlated with all dimensions of team cohesion (i.e., ATG-T, ATG-S, GI-T, and GI-S), while the negative dimension of C-SECTS (i.e., Negative Conflict) was negatively correlated with ATG-S.

In general, the findings of our two studies provided preliminary support for the validity of the effective communication model in Chinese culture. It is worth noting that in Sullivan and Short's work (2011), Negative Conflict was positively correlated with Acceptance and Distinctiveness. In our work, however, Negative Conflict was not correlated with the other subscales. As Negative conflict was destructive in nature, it would be more reasonable that negative conflict behaviors have negative or no correlation with the other communication dimensions. The findings of our second study are in line with this notion.

Keywords: team communication, team cohesion, social exchange theory, cross-cultural validation

Team Functioning II: Cognitive Aspects

Roland Seiler
University of Bern

Abstract: Optimal team functioning in sport is considered to depend on both emotional and cognitive processes. Two symposia are submitted to deal with either of the two. This symposium tries to shed light on a variety of cognitive processes that contribute to efficient teams in sport.

The overall assumption is that teams are information processing organisations that consist of a number of team members. Team action therefore may be considered as a two level process. This symposium aims at proposing an overall framework of team functioning and at presenting some empirical data gained through different empirical approaches.

An integrative theoretical framework is presented, based on the model of von Cranach, Ochsenein and Valach (1986) and includes the concept of shared mental models as representations of the different elements of the team action (Seiler). Individuals perceive information about their teammates and integrate this information to make a judgment on, for example, group-efficacy. Results from a laboratory experiment based on the Information Integration Theory will be presented (Steiner). The individual team member has a defined task to accomplish according to his or her role and position. The situation, however, changes rapidly, and decisions have to be made by each player, taking into account the subjectively estimated risk (Macquet & Kragba). The assessment of cognitions in a team sport situation based on the course-of-action framework reveals that shared understanding is a crucial element that contributes to efficient team functioning (Bourbousson).

Keywords: team cognition, decision-making, information integration, team functioning

Information Integration Theory and the Construction of Individually Perceived Group Efficacy

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Abstract: According to Bandura (1997) efficacy beliefs are a primary determinant of motivation. Still, very little is known about the processes through which people integrate situational factors to form efficacy beliefs (Myers & Feltz, 2007). The aim of this study was to gain insight into the cognitive construction of subjective groupefficacy beliefs. Only with a sound understanding of those processes is there a sufficient base to derive psychological interventions aimed at group efficacy beliefs. According to cognitive theories (e.g., Miller, Galanter, & Pribram, 1973) individual group efficacy beliefs can be seen as the result of a

comparison between the demands of a group task and the resources of the performing group. At the center of this comparison are internally represented structures of the group task and plans to perform it. The empirical plausibility of this notion was tested using functional measurement theory (Anderson, 1981).

Twenty-three students (M = 23.30 years; SD = 3.39; 35 % females) of the university of Berne repeatedly judged the efficacy of groups in different group tasks. The groups consisted of the subjects and another one to two fictive group members. The latter were manipulated by their value (low, medium, high) in task-relevant abilities. Data obtained from multiple full factorial designs were structured with individuals as second level units and analyzed using mixed linear models. The task-relevant abilities of group members, specified as fixed factors, all had highly significant effects on subjects' group-efficacy judgments. The effect sizes of the ability factors showed to be dependent on the respective abilities' importance in a given task. In additive tasks (Steiner, 1972) group resources were integrated in a linear fashion whereas significant interaction between factors was obtained in interdependent tasks. The results also showed that people take into account other group members' efficacy beliefs when forming their own groupefficacy beliefs.

The results support the notion that personal group efficacy beliefs are obtained by comparing the demands of a task with the performing groups' resources. Psychological factors such as other team members' efficacy beliefs are thereby being considered task relevant resources and affect subjective groupefficacy beliefs. This latter finding underlines the adequacy of multidimensional measures. While the validity of collective efficacy measures is usually estimated by how well they predict performances, the results of this study allow for a somewhat internal validity criterion.

It is concluded that Information Integration Theory holds potential to further help understand people's cognitive functioning in sport relevant situations.

Keywords: group efficacy, information integration, cognition

Team Cognition in Sports Teams: What can Temporal Description Reveal about Team Processes?

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Abstract: In sport, to obtain insight into the description of the "expert team" as more than a mere "team of experts" (Eccles & Tenenbaum, 2004), team functioning has been for a long time investigated using concepts from group dynamics. However, recent years in sports science have seen a growing number of alternative studies investigating team functioning in focusing on team cognition. The main assumptions guiding these preliminary works have been that the description of the cognitive contents used by teammates to function during their activity of coordination differs from the beliefs that players build about their team functioning. Within this line of research, the course-of-action framework has actually been the most fruitful empirical perspective (e.g., Bourbousson, Poizat, Saury, & Sève, 2010, 2011, 2012; Poizat, Bourbousson, Saury, & Sève, 2009, 2012; Sève, Nordez, Poizat, & Saury, 2011). The course-of-action framework includes a methodology that makes use of video recordings in natural settings and interview techniques of stimulated recall. It thus permits activity to be studied on the basis of the reconstruction of the natural and sports-specific conditions of athletic activity. It provides a means for accessing the dynamics of the cognitive contents constructed by actors in a given situation. Thus, by reconstructing how individual cognitions are articulated over time, empirical studies pointed out phenomena related to the sharedness of cognitive contents during real-time team coordination.

In recent years, case studies in team sports like basketball, double table tennis, rowing or cycling have been conducted. Together, the results obtained from these exploratory studies have given rise to

some assumptions that may be synthesized in four points: (1) shared understanding within the team cannot be reduced to the recovering of individual task-related understandings, (2) shared understanding emerges as "local sharing of understanding", i.e. local cognitive coordinations chained together, (3) shared understanding is labile and team activity is constructed on a relative fragility of sharedness that evolve during real-time activity, and (4) shared understanding reveals its properties in the study of its temporal evolution.

As a main theoretical implication, empirical investigations suggest that team cognition should be considered as a process rather than an input. This guideline helps to highlight debates on the forms of sharedness that are needed in teams. Practical implications highlight a certain cognitive limitation of the coordinating player that should be considered to ground team coordination on local sharing of understanding rather than require an exhaustive and demanding view of cognitive sharedness.

Keywords: team functioning, team cognition, shared understanding, team dynamics, team coordination

Risk-management and Decision-making in Elite Team Sports

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Abstract: In recent years, there has been renewed interest in team functioning in sports. Researchers recently focused on the cognitive activity of team members as they coordinate to achieve performance outcomes in team sports. In basketball, coordination among players is ruled by the playbook. The playbook defines plays or meaningful patterns of coordination in typical game situations. Plays are trained to be used in competition. Players are required to realize these planned plays to be predicted by teammates and achieve positive outcomes. Due to the uncertainty of the game, players have to adapt these planned plays. The present study aimed to identify what makes the players continue the planned play or change it.

Seven female elite basketball players from the same team participated in the study. A varsity match was video-recorded and post-performance interviews were conducted separately. Watching the video, each participant was invited to describe her activity in relation to the events observed. The interview data was used to identify what sense the player made of a situation and what decision she made.

Results showed that sense-making involved two steps: assessment of the current situation, and anticipation of possible situation developments to manage risk. Assessment of the current situation was based on the comparison between the current situation and typical situations pertaining to the playbook. Two types of anticipation were identified. Firstly, anticipation of possible current situation developments allowed for investigation of risky actions and gauging if risk was manageable in order to make the play work. Secondly, anticipation of a different situation development to that expected according to the play led the player to change the play and avoid risk-taking in order to achieve a positive outcome. Results also showed that players assessed risk to decide to continue or change the play. As they considered the situation was not risky or risk could be manageable, they continued with the play. If they judged the risk was difficult to manage or wanted to avoid risk-taking, they changed the play.

Results suggest that to make sense of a situation, players recognised situations in relation to the playbook and anticipated situation developments in reference to mental simulation and option generation. The decision to continue or change the play was based on risk-taking and risk-managing. The decision to continue the play suggests rigor and allows action predictability for teammates. The decision to change the play suggests resilience and allowed flexibility

in team functioning.

Keywords: team functioning, sense-making, rigor-resilience, risk-management, decision-making

Efficient Team Actions – Outline of a Theory of Teams in Sport

Roland Seiler
University of Bern

Abstract: So far, social psychology in sport has primarily focused on team cohesion, and many studies and meta-analyses have tried to demonstrate a relation between cohesiveness of a team and its performance. How a team really co-operates and how the individual actions are integrated towards a team action is a question that has received relatively little attention in research. This may, at least in part, be due to a lack of a theoretical framework for collective actions, a dearth that has only recently begun to challenge sport psychologists. In this presentation, a framework for a comprehensive theory of teams in sport is outlined and its potential to integrate the following presentations is put up for discussion.

Based on a model developed by von Cranach, Ochsenein and Valach (1986), teams are information processing organisms, and team actions need to be investigated on two levels: the individual team member and the group as an entity. Elements to be considered are the task, the social structure, the information processing structure and the execution structure. Obviously, different tasks require different social structures, communication and co-ordination.

From a cognitive point of view, internal representations (or mental models) guide the behaviour mainly in situations requiring quick reactions and adaptations where deliberate or contingency planning are difficult. In sport teams, the collective representation contains the elements of the team situation (team task and team members) and of the team processes (communication and co-operation). Different meta-perspectives may be distinguished and bear a potential to explain the actions of efficient teams.

Keywords: team action, internal representation, team mental model, theoretical framework

A Few Chinese Ingredients in the Recipe for Team Coordination and Team Cohesion in Sports

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Abstract: The importance of team coordination and cohesion for team success has been emphasized in sport psychology literature. The goal of this symposium is to present a series of empirical works regarding the development of a new concept drawing from Chinese culture, and to examine the validity of the concepts of effective communication and justice perceptions in Chinese culture. In the first presentation, mo-chi, a Chinese-language phrase used by athletes and coaches from a Chinese culture to describe high levels of team coordination and cohesion will be introduced. A conceptual model of mo-chi developed based on the results of literature review and interviews with coaches and athletes will also be proposed. In the second presentation, the logic and concepts of how to measure mo-chi will be discussed and preliminary evidence of the validity of measurement will be presented. The third presentation is focused on effective communication, a key element in developing team coordination and cohesion. The presenter will describe two studies examining Sullivan and colleagues' effective communication model (Sullivan & Feltz, 2003; Sullivan & Short, 2011) in Chinese culture and discuss the findings which differ from Sullivan and colleagues'

work. Finally, the fourth presenter will report on a study examining the influence of coaches' leadership behaviors on team cohesion and whether athletes' justice perception of their coaches is an explanation of the influence. We hope that these presentations will stimulate discussions on the theoretical, methodological, and practical implications on cross-cultural and/or culture-specific group dynamics studies in sports.

Keywords: mo-chi, effective communication, justice perceptions

‘Mo-chi’: Understanding Team Coordination and Cohesiveness the Chinese Way

Chu-Min Liao, Wei-Jiun Shen
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Abstract: Mo-chi is a Chinese-language phrase frequently used by athletes and coaches from a Chinese culture to describe a certain psychological factor making a team work effectively. Mo-chi literally refers to the implicit contract held by two or more individuals. This implicit contract seems to be composed of various common thoughts, feelings, and/or behaviors among team members and is believed to be a deciding factor for team success. To conceptualize mo-chi and to understand its nature, we have conducted an in-depth literature review and two sessions of interviews.

We first reviewed the existing concepts and models proposed in the sport psychology and organizational psychology literature relating to team coordination and cohesiveness, and developed a conceptual model of mo-chi for sport teams. We then used this conceptual model as a working model in two qualitative studies.

In the first study (our previous work), nine elite coaches (5 males, 4 females aged 35 to 58 with 9 to 32 years' coaching experience) from "Taiwanese national or international teams" (rhythmic gymnast, basketball, baseball, volleyball, table-tennis, and badminton) were interviewed. Inductive analysis discovered three core components of mo-chi, which were "the accurate shared task knowledge", "the accurate evaluation of each other's ability", and "the accurate emotional awareness of each other", among team members. Coaches also emphasized the importance of trusting the coach in developing mo-chi.

In the second study (the present study), mo-chi was further explored from athletes' perspective. Nine elite intercollegiate athletes from Taiwan (3 males, 6 females aged 20 to 24 with 6 to 13 years' experience in basketball, volleyball, softball, or tennis) were interviewed. They were asked to describe what mo-chi was, the importance of mo-chi, the feelings of having mo-chi with fellow teammates, and why they thought a team had a high or low level of mo-chi. Interviews were taped, transferred into qualitative data, and analyzed following the standard protocol of content analysis. The results of content analysis again revealed the three core components of mo-chi shared by team members found in the first study. It is interesting, however, that athletes did not emphasize the role of trusting teammates in developing mo-chi.

In general, the findings from both coaches and athletes support our proposed conceptual model of mo-chi. Mo-chi is a dynamic process in which group members coordinate implicitly based on three shared cognitive components: accurate task knowledge, evaluation of each other's ability, and emotional awareness of each other among team members.

Keywords: team coordination, cohesiveness, shared knowledge

Mo-chi Scale for Sport Teams: The Development of Measurement Concepts and Preliminary Analyses

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Abstract: In Chinese society, especially for athletic teams, mo-chi (implicit contract) is considered as a significant deciding factor for effective team operation and successful performance. In our previous work, we have conceptualized mo-chi as "a dynamic process in which group members coordinate implicitly based on three shared cognitive components: accurate task knowledge, evaluation of each other's ability, and emotional awareness of each other among team members". In this study, we attempted to develop a measurement for assessing athletes' perceptions of mo-chi in sport teams according to the three shared cognitive components.

In order to validly reflect the interdependent nature of the three shared cognitive components of mo-chi, we followed the framework of the tripartite model of efficacy presented by Lent and Lopez (2002) and the work of Jackson and Beauchamp (2010). In their work, interpersonal efficacy beliefs were measured from four different directions: self-efficacy, other-efficacy, relation-inferred self-efficacy, and estimations of the other person's self-efficacy. We developed items in each of the three shared cognitive components based on these four directions. There were two direct perceptions (self-perception and other-perception) and two meta-perceptions (relation-inferred self-perception and estimations of teammate's self-perception). A total of 56 items were developed based on our previous qualitative work with elite coaches and athletes.

One hundred and ninety-seven elite collegiate athletes (124 males, 73 females; mean age = 19.79 years old, SD=1.28) from a variety of highly interactive sport teams (i.e., basketball, baseball/softball, tennis, handball, rugby, table-tennis, soccer, and volleyball) filled in the scale. A series of four exploratory factor analyses were conducted to examine the factor structure of each of the four perceptions. Three factors were extracted and in accordance with the construct of the three shared components for both self-perception (factor loadings ranged from .58 to .99, total R2=73.29%) and other-perception (factor loadings ranged from .56 to .95, total R2=74.71%). For relation-inferred self-perception, two factors (task-ability and emotion) were extracted (factor loadings ranged from .61 to .92, total R2=69.90%). For estimations of teammate's self-perception, two factors (ability-emotion and task) were extracted (factor loadings ranged from .59 to .90, R2=69.90%).

In general, our data provided preliminary evidence for the construct validity of the Mo-chi Scale for Sport Teams. More tests are certainly warranted on its psychometric properties in measuring mo-chi for future research.

Keywords: psychological measurement, team cognition, shared knowledge

Coaches’ Leadership Behavior and Team Cohesion: Athletes’ Justice Perceptions as Mediators

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Abstract: In organizational psychology, the importance of team members' justice perceptions of their leaders has been well documented. Team members having a higher level of justice perception of their leaders tend to have a higher level of team cohesion. In sport psychology, previous research has indicated that coaches' leadership behavior is one of the most influential antecedents of team cohesion. Athletes' justice perception of their coaches may be one of the plausible explanations of the influence of coaches' leadership behaviors on team cohesion.

In our previous work, we have drawn from and extended the models of justice perception proposed in the organizational psychology literature (Colquitt, 2001; Niehoff & Moorman, 1993) to conceptualize

the athlete's justice perception, especially in Chinese culture. By a series of qualitative and quantitative studies, we have identified five components of athletes' justice perceptions: distributive justice, procedural justice, interpersonal justice, informational justice, and voice. We also found that athletes' justice perceptions positively correlated with athletes' perceived competence, commitments, and the length of time being with the coach. In this study, we examined the mediating effect of justice perceptions on the relationship between coaches' leadership behavior and team cohesion.

One hundred and twelve collegiate athletes (69 males and 43 females, mean age 21.44) from six sport teams were recruited in this study. Athletes' perceptions of coaches' leadership behavior, justice perceptions, and team cohesion were assessed using Chinese versions of Leadership Scale for Sports (Wang, 2005), Justice Perception Scale in Sport (our previous work), and Group Environment Questionnaire (Wu, 2002), respectively. The mediating effects of justice perceptions were analyzed through a series of hierarchical regressions following the suggestion of Baron and Kenny (1986).

Results revealed several full mediation effects. In sum, informational justice was the most significant mediator. It mediated the relationship between all types of leadership behaviors and social or task cohesion. Procedure justice mediated the relationship between coaches' training behavior and social cohesion, as well as the relationship between management behavior and task cohesion. Informational justice mediated the relationship between coaches' training behavior and both social and task cohesion, as well as the relationship between rewarding behavior and social cohesion. Finally, distributive justice and voice mediated the relationship between coaches' rewarding behavior and social cohesion.

This study advanced the knowledge of the role of justice perception in group dynamics in sport and has practical implications for coaches to pay more attention to athletes' feelings of fairness.

Keywords: team cohesion, coaching behavior, justice perception

Team Functioning I: Emotional Aspects

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- 2. KU Leuven

Abstract: Optimal team functioning in sport is considered to depend on both emotional and cognitive processes. Two symposia are submitted to deal with either of the two. This symposium focuses on a broad array of concepts within team sports that are connected to the emotional experience of team athletes.

There is considerable knowledge from research in individual sports about the impact of different emotional experiences on athletic performance, as well as the emotional responses that competitive events provoke. However, from a team sport perspective, the study of emotions is rather scarce. This symposium will deal with different concepts that are related to the emotional and motivational experience of team athletes, as well as the impact that emotional expressions have on teammates and subsequent performance.

The symposium starts with a study that deals with the impact of team cohesion on the appraisal of the competition and the experience of subsequent emotional reactions (Wolf & Kleinert). Thereafter, two contributions will follow that focus on the impact of the leader: The presentation of Van Beirendonck, Boen, Fransen, Vanbeselaere and De Cuyper will focus on the impact of different dimensions of leadership on social loafing in professional cycling teams. Following that, a study will be presented that focuses on the impact of confident leadership behaviour on the team confidence of other players on the team and subsequently on team performance. This team confidence contagion was examined by an experimental design in basketball teams (Fransen, Vanbeselaere, De Cuyper & Boen). With this presentation, the focus shifts from aspects influencing the emotional

experience in team athletes toward the impact that emotional expressions can have on others. The last two presentations will focus on that latter aspect: Rust and Seiler present an experimental study on the occurrence of emotional contagion in dyads in a basketball task. Drawing upon the same background of emotional contagion but approaching it with an observational design, the last presentation finally explores the impact of touching behaviour as a form of emotional expression on subsequent performance in female elite handball teams (Moesch, Kenttä & Mattsson).

Keywords: team sports, emotions, cohesion, leadership, contagion

Leadership

Social Loafing in Professional Cycling Teams: Does the Team Leader Make a Difference?

Charlotte Van Beirendonck, Filip Boen, Katrien Fransen, Norbert Vanbeselaere, Bert De Cuyper
KU Leuven

Abstract: Professional road cyclists experience conflicting motivations. On the one hand, they are members of well-organized teams and they have to work together for the realization of the team goals (e.g., winning a single day classic race or a multi-stage tour). On the other hand, the professional riders have to defend their individual ranking with the International Cycling Union (ICU) to promote their personal economical value. Given this conflict of interests, social loafing (Latané, 1986) is likely to emerge in professional cycling. Social loafing means that a cyclist would not exert maximum effort for the team, but would reduce his efforts to save energy for the end of the race and for an optimal individual result. Based on research on transformational leadership (Dvir et al, 2002; Bass et al., 2003)we expect that the leadership style and behaviours of the team captain will influence the motivation of his team members to exert maximum effort to reach the team goal.We expect that captains who act as leaders with charisma, inspirational motivation and individualized consideration, (Kotlyar & Karakowsky, 2007), will reduce social loafing.

Top level professional cycling teams were visited during their winter training camps. The riders were asked to complete anonymously questionnaires assessing team identification, social loafing, and ratings of the behaviours and qualities of their team captain from the last season. These instruments were developed and validated (Fransen et al., submitted). The Multifactor Leadership Questionnaire (Bass & Avolio, 1989) was used to measure the dimensions of transformational leadership.

Data collection is forthcoming. Analyses will be conducted during the next months to clarify the relative influence of the different leadership dimensions and the impact of leadership styles versus situation specific behaviors of the captains as predictors of social loafing.

Keywords: professional cycling, leadership, social loafing

When Our Leader is Convinced, So Am I! An Experiment on Team Confidence Contagion in Basketball

Katrien Fransen, Norbert Vanbeselaere, Bert De Cuyper, Filip Boen
KU Leuven

Abstract: An individual athlete's confidence in team success (i.e., team confidence) is crucial for an optimal team performance by affecting variables such as goal setting, effort, and persistence (Greenlees et al., 1999; Bray, 2004). Since athlete leaders are

important regulators of their team's confidence, communicating their desire to win enhances their teammates' confidence and increases their perceived leadership qualities (Fransen et al., 2012; Fransen et al., Submitted).

The present study extends previous studies by using an experimental design to examine team confidence contagion within sport teams. We hypothesize that the leader of a team, compared to other players within the team, has a larger positive and negative impact on the team confidence of his teammates. Furthermore, we expect that team identification will mediate this relationship: the stronger the players identify with their team, the more they will adopt the behaviours of their leader and thus the more they will take over the team confidence standards displayed by their leader. Finally, we hypothesize that an increased level of team confidence has a positive effect on the individual as well as on the team performance.

The sample will consist of 100 participants who, in teams of four players, will participate in a basketball shooting contest. A confederate, introduced as the leader of the team, is added to each of these teams. This leader clearly expresses high team confidence in one round of the shooting contest (e.g., encouragement, positive communication, and body language). In the other round, he clearly expresses low team confidence (e.g., frustrated reactions and discouraging body language). Following each round, participants completed a questionnaire assessing their own team confidence and the perceived team confidence of their teammates, including the leader. Data collection will be finished by March 2013, after which the data will be further analyzed.

Preliminary results (sample of 52 players) revealed that our confederate was indeed perceived as the leader of the team. In addition, the manipulation of high versus low team confidence was also successful. The preliminary results confirmed our hypothesis that the players' team confidence was significantly more affected by their perception of the leader's team confidence than by the perceived team confidence of the other players, both in a positive and in a negative direction.

Athlete leaders have the potential to create a positive team confidence contagion throughout the team. This strengthened team confidence can affect the team performance positively.

Keywords: athlete leaders, team confidence, team performance, confident leadership

Mental training and preparation for performance enhancement

Recent Developments in Stress and Resilience Research in Competitive Sport

David Fletcher
Loughborough University

Abstract: The aim of this symposium is to review recent developments in stress and resilience research in competitive sport. The symposium is divided into four oral presentations. The first presentation outlines a recent programme of research that has assessed and examined the organizational stressors that sport performers encounter. The content involves presenting a taxonomic classification of organizational stressors in sport performers, reviewing the psychometric issues in organizational stressor research and discussing the implications for the field of sport psychology, and outlining the development and validation of the Organizational Stressor Indicator for Sport Performers (OSI-SP). The second presentation seeks to raise awareness of the importance of psychological resilience in competitive sport and reports findings from recent research in this area. The content involves reviewing the variety of definitions, concepts, and theories of resilience, critiquing

the three studies that have specifically investigated psychological resilience and sport performance, and reviewing psychometric issues in resilience research and discussing the implications for sport psychology. The third presentation discusses the effectiveness of stress management interventions conducted with sport performers. The content involves reporting the findings of a systematic review of the stress management intervention research in sport from the past 30 years with a view to identifying the most effective interventions for optimizing sport performers' competitive stress. The fourth presentation examines the concept of team resilience in general psychology and outlines the findings from recent research in elite sport. The content involves reviewing relevant research from community and organizational psychology, proposing a definition of team resilience and identifying the resilience characteristics of elite sport teams, and offering a number of practical implications and future research directions that capture the contextual and temporal nature of team resilience. The symposium concludes by opening the floor for an interactive discussion between the presenters and the audience about the topic of stress and resilience in competitive sport.

Keywords: organizational stressors, psychological resilience, stress management, team resilience

Recent Developments in Organizational Stressor Research in Competitive Sport

Rachel Arnold, David Fletcher
Loughborough University

Abstract: Organizational stressors are prevalent within competitive sport participation and can elicit a number of undesirable consequences for sport performers who encounter them. It is, therefore, imperative that psychologists have evidence-based research to inform their understanding of organizational stressors, so that, ultimately, they can help to address these demands. The purpose of this presentation is to outline a recent programme of research that has assessed and examined the organizational stressors that sport performers encounter. The first presented study is a meta-interpretation of the research that has identified the organizational stressors encountered by sport performers. The findings of this synthesis are presented as a taxonomic classification with four categories (viz. leadership and personnel, cultural and team, logistical and environmental, performance and personal). The taxonomy illustrates the large number and wide range of organizational stressors that sport performers encounter and provides the most accurate, comprehensive, parsimonious, and applicable classification of organizational stressors to date.

Despite a large number of organizational stressors being identified, sport psychology researchers have yet to develop a measure to assess these demands. In contrast, scholars working in other sub-disciplines of psychology have designed measures of organizational-related stressors in non-sport contexts. Therefore, the second presented paper reviews the psychometric issues in organizational stressor research (viz. conceptual and theoretical, item development, measurement and scoring, analytical and statistical), and discusses the implications for sport psychologists seeking to measure this phenomenon. Based on the first two papers, the third presented paper outlines the development and validation of the Organizational Stressor Indicator for Sport Performers (OSI-SP). This paper consists of four related studies, which firstly assess the content validity and applicability of an item pool using an expert panel; secondly analyse the resultant items with exploratory factor analyses; thirdly examine a proposed factor structure using confirmatory factor analyses; and fourthly, further assess the factor structure and provide evidence for the concurrent validity of the indicator and its invariance across groups. From these studies, the 23-item, five-factor indicator is proposed as a valid and reliable measure of a comprehensive range of organizational stressors that sport performers encounter

The recent developments in organizational stressor research in sport psychology have important implications for theory and practice. Theoretically, the research has examined and advanced understanding of organizational stressors and various components of the stress process. Practically, the research has implications for stress management interventions, and can inform sport organizations' planning to reduce and address organizational stressors.

Keywords: taxonomic classification, psychometric issues, organizational stressor indicator for sport performers (OSI-SP)

Recent Developments in Psychological Resilience Research in Competitive Sport

Mustafa Sarkar, David Fletcher
Loughborough University

Abstract: The topic of psychological resilience has received surprisingly little attention in relation to sport preparation and performance. This presentation seeks to raise awareness of the importance of this construct and to report the findings from recent research in this area. The presentation is divided into three sections. The first reviews and critiques the variety of definitions, concepts, and theories of resilience. It is hoped that synthesizing what is known in this area will help elucidate the nature of this complex phenomenon and guide future research development in sport psychology. The second section reviews and critiques the three studies that have specifically investigated psychological resilience in sport performers over the past few years particularly focusing on the most recent study examining resilience in Olympic champions. Specifically, this study sought to explore and explain the relationship between psychological resilience and optimal sport performance. Twelve Olympic gold medalists (eight men and four women) from a range of sports were interviewed regarding their experiences of withstanding pressure during their sporting careers. A grounded theory approach was employed throughout the data collection and analysis, and interview transcripts were analysed using open, axial, and selective coding. Results indicate that numerous psychological factors (relating to a positive personality, motivation, confidence, focus, and perceived social support) protect the world's best athletes from the potential negative effect of stressors by influencing their challenge appraisal and meta-cognitions. These processes promote facilitative responses that precede optimal sport performance. The emergent theory provides sport psychologists, coaches, and national sport organizations with an understanding of the role of resilience in athletes' lives and the attainment of optimal sport performance. In all of the three sport resilience studies, it is interesting to note that the authors highlighted the need for a measure of psychological resilience for athletic performers to advance sport psychologists' understanding of this area. The third section will, therefore, review psychometric issues in resilience research and discuss the implications for sport psychology. Drawing on the wider general psychology literature, this section will discuss the assessment of resilience across three pivotal components: adversity, positive adaptation, and protective factors. It is hoped that the psychometric lessons gleaned from general psychology will provide the platform for generating a reliable and valid measure of psychological resilience in sport performers. The presentation concludes with a discussion of the important issues for advancing understanding of psychological resilience in relation to sport preparation and performance.

Keywords: definitions, concepts, theories, Olympic champions, psychometric issues

Recent Developments in Stress Management Research in Competitive Sport

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Loughborough University

Abstract: The purpose of this presentation is to discuss the effectiveness of stress management interventions conducted with sport performers. Within the sport psychology literature, it is well acknowledged that psychosocial interventions are important for understanding the most effective approaches for managing sport performer's competitive stress experience. Over the past 30 years, a variety of theoretically informed stress management techniques have been delivered in an attempt to optimize different components of athlete's transactional stress. However, from an applied perspective, it is difficult to ascertain which interventions are the most effective for modifying particular transactional processes (e.g., stressors, appraisals, emotions, and coping resources) of stress. By conducting a systematic review of the current evidence base, it was possible to identify which techniques are the most effective for sport performers of particular competitive standards. From reviewing 64 distinct stress management interventions that were conducted between 1980 and 2010, the findings revealed that multimodal interventions (n = 44) were the most effective in optimizing sport performers' competitive stress. In particular, these interventions were most effective in reducing competitive state anxiety. Stress management was also generally effective for collegiate-level populations. However, future research needs to address the lack of elite participants (n = 4, 6%) in intervention research. A key finding was the limited number of follow-up assessments (n = 6, 9%) that are conducted to validate enduring behaviour change over time. In addition, the systematic review identified a need for future researchers to employ strong research intervention designs, which should incorporate the randomization of participants to groups and the controls required to infer causality. In summary, the systematic review demonstrated that multimodal stress management interventions are the most effective technique for modifying sport performer's experience of competitive stress processes. From a methodological perspective, future stress management interventions should report the moderating factors (e.g., competitive level, stress component examined, type of treatment used) that may influence the relationships between intervention and effects. This will benefit practitioners who require the greatest evidence base when working with particular sport organizations, personnel and athletes of various competitive standards. As well as managing the competitive stress that athletes experience, future research should also examine the effectiveness of stress management interventions that aim to modify performers' experiences of organizational stress. Such research may include primary-level interventions which attempt to eliminate or reduce the frequency of organizational stressors encountered by sport performers.

Keywords: systematic review, stress experience, sport performance

Recent Developments in Team Resilience Research in Competitive Sport

Paul Morgan, David Fletcher, Mustafa Sarkar
Loughborough University

Abstract: Resilience has been recognized as an important psychological phenomenon for understanding how individuals positively adapt to stressors in sport. However, the focus to date has specifically been on individual resilience and, therefore, questions remain about the nature of team resilience in elite sport. The purpose of this presentation is to examine the concept of team resilience in general psychology and to outline the findings from recent research in elite sport. The presentation is organized into three sections. The first section consists of a review of team resilience research in community psychology and organizational behaviour. Key psychosocial factors and processes are described to illustrate how groups may have the capacity to adapt positively to challenging situations through

facilitative collective interactions. In the second section, the findings of the first study of team resilience in elite sport are presented. The purpose of this study was to develop a definition of team resilience and to identify the resilient characteristics of elite sport teams. Adopting a qualitative design, focus groups consisting of a total of 31 participants (M =26, SD =5.2) were conducted with five elite teams from a range of sports. An interpretive thematic analysis using inductive and deductive reasoning was employed to analyze the data. Team resilience was defined as a dynamic, psychosocial process which protects a group of individuals from the potential negative effect of the stressors they collectively encounter. It comprises of processes whereby team members use their individual and combined resources to positively adapt when experiencing adversity. This definition suggests that team resilience is an important capacity since it enables groups to withstand stressors by the utilizing and optimizing of psychosocial factors at two different levels (i.e., individual and team). Findings revealed four main resilient characteristics of elite sport teams: group structure, mastery approaches, social capital, and collective efficacy. Based on the definition and characteristics of team resilience, the third section offers a number of practical implications and presents future research directions that capture the contextual and temporal nature of team resilience. It is hoped that this presentation will provide greater conceptual clarity of resilience at a team level and provide sport psychologists with a framework to enhance team resilience in elite sport.

Keywords: elite sport, group structure, mastery approaches, social capital, collective efficacy

Broadening Horizons on Flow in Sport

Tony Morris
Victoria University

Abstract: Globally millions of people participate in sport for the enjoyment and satisfaction of playing. Doing something they like and feeling that they are mastering skills are key factors that motivate people to train and compete. The efforts of athletes can lead to the experience of total absorption, when they feel as if they are part of the activity. This produces an autotelic experience, that is, a self-motivating level of enjoyment. Csikszentmihalyi (1975) called this experience flow. The experience of flow, especially when a high level of skill matches a demanding challenge, is one of the most positive experiences in any aspect of life. Psychologists have observed that it is particularly applicable to sport. Thus, research on flow in sport has developed rapidly over the last 30 years. The focus, however, has been on measuring flow and relating flow to performance. In order to fully understand flow and to increase the richness of the links between flow and other important psychological variables, it is important for researchers to examine the relationships between flow and a variety of psychological variables that are critical in the sport context. In this symposium, we consider five directions of research in flow that show promise for broadening the horizons of our understanding of flow. Mosek et al. address the question of whether flow can be experienced at a team level, as well as having an individual phenomenology. Their aim is to conceptualize and operationalize team flow. Psychountaki et al. examine the relationships between flow and a key team variable, cohesion, as well as a major influence on sports performance, namely state anxiety, in volleyball teams. Then, Koehn et al. consider the role of sources of confidence and trait sport confidence in relation to flow in athletes from various sports. Stavrou et al. report a study in multiple sports of the relationship between flow and intrinsic motivation, a concept closely related to autotelic experience, predicted to be enhanced by flow experiences and to facilitate efforts to experience flow in the future. Finally, Morris et al. consider the role of imagery as a technique to enhance flow, in particular examining the influence of imagery type and imagery ability in a model of imagery on flow experience in athletes from a variety of sports. All these research directions show promise for enhancing the richness of our understanding of the ephemeral, yet sought-after, experience of flow

in sport.

Keywords: flow, intrinsic motivation, confidence, imagery, anxiety

Development of a Measure of Team Flow State in Sport

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Victoria University

Abstract: Although much has been learned about the terms “team” (e.g. Carron, et al., 2005) and “flow” (e.g., Csikszentmihalyi, 1990) in the context of sport, their combination, creating the term “team flow”, has been mostly neglected. “Team Flow” is a state of optimal experience involving a team's total absorption in a task and a state of consciousness that optimizes performance (Cosma, 1999). It involves perception of other members of the group simultaneously experiencing flow, such that the experience is perceived on the team level (Quinn, 2005). When a team enters flow, it is expected that the athletes will be more in tune with each other, leading to a positive experience, contributing to successful achievement of team goals (Cosma, 1999). Although the contributions of team flow have been acknowledged, its defining qualities have not been specified. Measurement of team flow has been based on instruments developed to assess individual flow (e.g., FSS-2, DFS-2), which ignore significant characteristics, such as team communication and team support. Using in-depth interviews with coaches, athletes, and sport psychologists from team sports, we aimed to capture and conceptualize the experience of team flow. Participants recalled and described recent experiences of team flow. Content analysis of the data generated by this process yielded themes representing characteristics of team flow and statements that were developed into items for the "Team Flow State Inventory" (TFSI). Five sport flow experts reviewed the TFSI for face and content validity. The TFSI was lodged online in order to assess its psychometric characteristics, establish its reliability and validity, and differentiate it from questionnaires measuring similar constructs (Collective Efficacy Questionnaire, Flow State Scale-2, and Sport Group Cohesion Questionnaire). The TFSI includes items representing themes that are similar to the FSS-2, e.g., autotelic experience, challenge-skill balance, as well as original items of team flow, such as team support, and team communication. Practical interest in team flow is based on the assumption that teams will perform best when they achieve team flow. Once validated, the TFSI will provide a tool for coaches, sport psychologists, and sport psychology researchers working with teams in diverse sport fields. The TFSI can be used to assess the extent to which the team is functioning at its optimal level in terms of peak experience leading to peak performance, and to specify the dimensions that can be strengthened in order to reach these goals.

Keywords: flow, team flow, cohesion, collective efficacy, questionnaire

Sport Confidence and Flow in Sport: A Canonical Correlation and Mediation Analysis

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3. Victoria University of Technology

Abstract: The purpose of this study was to examine the relationship between sources of sport confidence, level of sport confidence, and affect, operationalized as flow. Confidence in sport is one of the key variables leading to athletes' performance and experience in competition. Previous research was based on Vealey's (1986) sport specific confidence model. Following a revision and extension

of theoretical contentions, Vealey (2001) proposed the integrated model of sport confidence. The theoretical framework should provide a better understanding of the role of confidence in sport, as it conceptualises sources of sport confidence as antecedents of confidence levels, which, in turn, impact on athletes' cognitions, behaviours, and performance. The main aim of this study was to examine whether sport confidence is a mediator between sources of confidence and optimal experience in competition. The sample comprised 183 athletes between 12 and 32 years of age (M = 19.23; SD = 3.20) from 32 different sports. Athletes (females = 52; males = 130) had been competing in their sport for an average of 7.22 years (SD = 4.01). Participants completed sources of confidence (SSCQ, Vealey, Hyashi, Garner-Holman, & Giacobbi, 1998), trait sport confidence (TSCI, Vealey, 1986), and dispositional flow (DFS-2; Jackson &Eklund, 2002) measures. Barron and Kenny (1986) proposed that the following conditions should be met to provide support for mediation. First, variations in the independent variable (IV) significantly account for changes in the mediating variable. Second, variations in the mediator significantly account for changes in the dependent variable (DV). Third, a formerly significant relationship between IV and DV is no longer significant. Canonical correlation analysis revealed a confidence- and an achievement-dimension underlying flow. Hierarchical regression analysis showed a significant relationship in step 1 between sources of sport confidence and flow. In step 2, adding sport confidence to the equation, DeltaR2 was significant at p< .001, explaining an additional 17% of the variance in flow, whereas sources of sport confidence was no longer a significant predictor of flow. Athletes' interpretations of their achievements could be facilitative or debilitative in the context of optimal experiences. Results for the first and second canonical variate provided support for the proposition that sport confidence has a positive mediating effect on the source domain of achievement. The hierarchical results met all conditions that represent a full mediation model, although the findings indicated the potential for multiple mediators.

Keywords: flow, confidence, sources of confidence, trait sport confidence, achievement

Imagery Type, Imagery Ability and Flow: Testing the Applied Model of Mental Imagery Use in Sport

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3. University of Athens

Abstract: The purpose of this study was to examine the effect of imagery type and imagery ability on flow. The applied model of mental imagery in sport consists of four factors, including the sport situation, imagery type, imagery ability, and outcomes related to imagery use (Martin, Moritz, & Hall, 1999). Paivio's (1985) analytic imagery framework is situated at the heart of the applied model, where Paivio proposed that, based on the sport situation (e.g., training, competition), athletes' use of imagery types interact with imagery ability, which, in turn, has an impact on athletes' performance, strategies, and cognitions. Williams and Cumming (2011) presented a parallel version of the SIQ that assesses athletes' imagery ability, named the Sport Imagery Ability Questionnaire (SIAQ). We aimed to assess the relationship between imagery type and imagery ability as predictor variables of flow in competition, and the interaction between imagery type and ability as a predictor of flow. The sample consisted of 165 athletes (Nfemales = 55; Nmales = 111) between 17 and 30 years of age (M = 19.25; SD = 1.90). On average, participants had been involved in sports for 10.01 years (SD = 3.88) and in competitions for 7.63 years (SD = 3.74). All participants completed the SIQ, SIAQ, and the DFS-2 (Dispositional Flow Scale-2; Jackson & Eklund, 2002). Multiple regression analyses showed significant predictions of SIQ factors for CS (b= .444, p< .001), CG (b= .407,

p< .001), MG-A (b= .318, p< .001), MG-M (b= .473, p< .001), and SIAQ factors skill (b= .226, p< .01), goals (b= .288, p< .001), affect (b= .281, p< .001), mastery (b= .174, p< .05). Using hierarchical regressions with the moderating variable entered in Step 2 of the analysis, the findings showed no significant moderating effects. In addition, controlling for SIQ and SIAQ factors in Step 2, only CS and skill variables showed significant links to flow. In line with previous research investigating moderating effects of imagery type and imagery ability (Gregg, Nederhof, & Hall, 2005; Nordin & Cumming, 2008), in this study we could not identify evidence for imagery ability being a potential moderator. The results provide partial support for the applied model of mental imagery, indicating direct links between imagery type and imagery ability, and flow. Practitioners using imagery interventions should use imagery types and ability variables to increase flow in competition.

Keywords: flow, imagery, Sport Imagery Ability Questionnaire, imagery use, dispositional flow

Imagery in Sport: New Research and New Researchers

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Abstract: The mission of ISSP is to support the development of sport psychology around the world. Organizing this Congress every four years is a major strategy by which ISSP has achieved that mission since 1965. A critical aspect of global development of sport psychology is the nurturing of new researchers, who represent the future of sport psychology, especially those from regions where the field is currently under development. The aim of this symposium is to provide a rich learning experience for a number of new researchers who have been conducting original research in the important area of imagery in sport. Kuan et al. present the groundbreaking research, developed to examine the effect of music during imagery on level of arousal and subsequent performance. Budnik-Przybylska et al. report on their research to develop a Polish language version of the Sport Imagery Ability Measure (SIAM), which will open up opportunities for Polish researchers to examine imagery ability in research and applied work. Roy et al. describe their study of imagery for exercise in relation to research that is applying imagery to develop harmonious passion in people with type 2 diabetes mellitus. Azizuddin Khan et al. discuss the way in which interviews illuminated quantitative measures of performance and self-efficacy in a field study of imagery and expert modellingdelivered by the new modality of portable devices (iPod Touch) in netball shooting and in a single-case design study of imagery and self-modelling delivered by the iPod Touch with futsal players over a whole season of league competition. Fazel et al. explore a new approach to the delivery of imagery training based on the structure of the script. They compare the routine or traditional approach to imagery training with an imagery script (routine) that includes content related to the process of performing the task, in this case basketball free-throw shooting, and aspects of the competition environment in which the task must be performed best, with an approach in which imagery training starts with just the simple components of task performance and contextual and environmental elements are added step by step, until the full imagery routine is attained. These five studies by new researchers from around the world reflect new directions in research that will broaden the boundaries of sport psychology knowledge and aid practitioners in the more effective delivery of imagery interventions.

Keywords: imagery, music, imagery ability, passion, portable devices, progressive imagery

The Superior Effect of Unfamiliar Relaxing over Arousing Music during

Imagery Training for Fine Motor and Power Skill Tasks

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Abstract: There is increasing evidence suggesting that the “right” music, can lead to enhanced sporting performance. Although there is also evidence that music can affect imagery, no research was identified that has examined whether relaxing or arousing music have different effects on imagery. The aim of this research was to examine the effect of unfamiliar relaxing or arousing music, in facilitating imagery training of fine motor and power skill tasks. Unfamiliar classical music was used to minimise associations. The music was pre-screened by musicians, sport psychologists, and 12 elite athletes. In the first study, using a pre-test, intervention, post-test design, 45 novice sport-science students were matched into three groups: unfamiliar relaxing music during imagery (URMI), unfamiliar arousing music during imagery (UAMI), and no music during imagery (NMI) of dart throwing performance. In the second study, 26 elite shooters and 25 elite weightlifters were matched or mismatched into two conditions: URMI and UAMI. They performed simulated competitions of 10m air pistol shooting, and Clean and Jerk weightlifting respectively, before and after 12-sessions of imagery training over 4 weeks. In dart throwing performance, one-way ANOVA revealed that there was a significant difference between conditions on performance gain scores, $F(2,44) = 5.027$, $p = .010$, $\eta^2 = .21$. Post hoc Tukey tests showed a significantly larger gain score for URM versus UAM ($p = .046$) and URM versus NM ($p = .012$), with no significant difference between UAM and NM ($p = .85$). For shooters and weightlifters, independent t-tests showed a significantly larger gain score for URM than UAM for simulated competition performance of shooters, $t(19) = 13.22$, $p < .05$, Cohen’s $d = .87$.The imagery interventions showed increases in performance when relaxing music was used with imagery for fine motor skill tasks in both studies and for a power skill task in the second study. Contrary to findings when music is played before or during actual tasks, relaxing music facilitated imagery, leading to enhanced performance. If this finding is replicated for the use of music with imagery across other strength and power tasks usually enhanced by music prior to/during actual performance, it has important implications for the use of particular types of music with imagery, and throws light on the question of whether relaxation is beneficial for imagery.

Keywords: imagery, relaxing music, arousing music, Galvanic Skin Response, Heart rate

Portable Devices for Delivering Imagery in Sport: Qualitative Study

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Abstract: Imagery training programs are widely used by athletes (e.g., Jones & Stuth, 1997). Video modelling is an effective way to generate correct images to improve performance (Ste Marie et al., 2011). Portable devices have been reported anecdotally to be useful for delivery of imagery with video modelling, but no research has been identified on athletes’ personal experience of using these devices. Two qualitative studies were designed to examine the effect of employing portable devices to deliver imagery training on individuals’ personal experience. Study 1 investigated the effectiveness of portable devices (iPod Touch) in delivering imagery based on video modelling (expert model) among 30 female

netball players. Participants practised imagery of netball shooting for seven days then were interviewed. Participants reported that their performance improved and their confidence for shooting increased. They considered the iPod to be a useful device to practice imagery at any time and place, but imagery training routines varied among participants and were influenced by their personal life and free time activities. Study 1 indicated that the iPod can be a useful tool to deliver imagery training with video modelling. The second study investigated the effect on personal experience of using portable devices (iPod Touch) for delivery of imagery training based on self-modelling video among highly competitive futsal players throughout a competition season. Fivemale futsal players with more than 5 years competition experience ($M=5.8$) participated in a single-case ABAB study for 4 months (16 games). Participants, who were provided with the iPod, employed the imagery training at least once a day during the intervention phases (B1, B2).The portable device was withdrawn during the baseline phases (A1, A2). Interview sessions were conducted after the final intervention phase (B2). Interviews indicated that all participants felt their self-efficacy increased when employing the portable device and their performance improved, being affected by selected futsal skills illustrated in the self-modelling video followed by imagery. In summary, the methods of using an audio imagery instruction combined with an expert model (study 1) or self-modelling video (Study 2) were both found to be suitable for delivery of imagery training. Given that participants reported having different preferences for the timing and location of imagery sessions, individual differences in skills, training schedules, motivation, imagery, and sports experiences seem to be important factors for sport psychology researchers and practitioners to consider when developing an imagery training program using portable devices, such as the iPod.

Keywords: imagery, modeling, portable devices, performance, self-efficacy, adherence

The Effect of Two Different Imagery Training Methods on Imagery Ability, Performance, and Self-Efficacy

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Abstract: Imagery is a valuable psychological skills training technique employed by many athletes. Effective imagery scripts should be detailed, vivid, and accurate, should refer to all sensory modalities, and include emotional experience. Including all components may create overload for athletes using the imagery script. This study examined whether progressive imagery (layering from a simple scene to more complex images) is more effective than routine imagery or no imagery in improving imagery ability, performance, and self-efficacy. Thirty-three club-level basketball players, aged 18-37 years ($M=25.36$, $SD=6.29$) were assigned to a progressive imagery, routine imagery, or no imagery condition. Participants in imagery conditions imagined themselves on the basketball court successfully performing 10 free-throw shots three times a week for four weeks. In the routine imagery condition, participants included all senses and emotions in detailed, vivid, and accurate imagery sessions. The progressive imagery condition started with imagery of very simple scenes, focusing on shooting and built-up complexity of the scenes by including more performance environment information in successive sessions. Control condition participants undertook the free-throw (FT) shot test three times a week to control for the practice effect of performing FT. Imagery ability, performance, and self-efficacy were measured before the imagery training, in the third week, and after the intervention phase, using the Sport Imagery Ability Measure (SIAM; Watt et al., 2004), the FT shot test, and the Free Throw Self-Efficacy Scale (FTSE) respectively. Analysis revealed a significant difference in performance gain scores between conditions, $F(2, 32) = 4.80$,

$p=.015$. Post-hoc analyses using Tukey’s HSD showed that routine imagery training resulted in higher gain scores than progressive imagery ($p=.02$) and no imagery training ($p=.03$).

Keywords: imagery, progressive imagery, routine imagery, imagery ability, self-efficacy,adherence

Developing the Measurement of Participation Motivation in Sport and Physical Activity

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Abstract: Motivation provides the energy or drive for behavior and determines the direction of action. Thus, motivation is at the heart of involvement in sport and physical activity (PA) more generally, determining what PA people do (direction), if any, how much time and effort they expend on their chosen sport or exercise (energy), and how long they persist in the face of barriers. Although a number of measures of motives for participation have been developed, they have limitations. For example, the Participation Motivation Questionnaire (PMQ; Gill et al., 1983) was not theoretically based, so prediction is not readily derived from it, the Motivation for Physical Activity Measure (MPAM; Frederick & Ryan, 1993) was based on Self-determination Theory (SDT; Deci& Ryan, 1985), so only measured three aspects of motivation, and the Exercise Motivation Questionnaire (Markland et al., 1993) focused on exercise only. The Physical Activity and Leisure Motivation Scale (PALMS; Morris & Rogers, 2004) was developed empirically through extensive interviews and is based on intrinsic-extrinsic motivation theory, with links to SDT. Initial exploration of PALMS suggests that this 40-item measure has promise for the measurement of motives for PA. To further examine the utility of the PALMS, it must be examined for robustness in different languages and cultures and tested against theoretical predictions associated with established concepts. In this symposium, papers advance these aspects of research on PALMS. Machida et al.report on a study that examined links between participation motives, using a Japanese translation of the PALMS, self-efficacy, and PA participation in a diverse Japanese sample. Molanorouzi et al. describe their study of the reliability and validity of the PALMS in a large, diverse sample in Malaysia. Roy Chowdhury and Morris explain use of discriminant function analysis to examine whether different types of PA are associated with distinct motives for participation in their study with an Australian sample. Wang et al. examine the reliability and validity of a Chinese language version of the PALMS and report how it describes their Chinese sample. Morris et al. then report on a new profiling approach designed to standardize and simplify presentation and interpretation of PALMS data. This symposium provides evidence that the PALMS has great potential for use in helping identify motives for sport and PA participation and advise people on activities they will enjoy, thus, sustaining participation in the long term.

Keywords: motivation, intrinsic motivation, extrinsic motivation, self-efficacy, discriminant function analysis, motivational profiling

Examining Participation Motivation in Sport and Exercise using Discriminant Function Analyses

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Abstract: Understanding the motives people have for engaging in physical activity is critical to promoting and increasing participation

among the general population for the overall well-being of society. This knowledge can then be used in applied settings to match individuals to a specific form of physical activity based on their primary motives for participation, thereby encouraging participation, optimizing satisfaction, and increasing the likelihood of adherence. The present study used the Physical Activity and Leisure Motivation Scale (PALMS) to examine the reasons people nominate for engaging in physical activity. Discriminant Function Analyses (DFA) was carried out on a community sample of 202 volunteer participants, 120 males and 82 females, aged 18 to 71 years, recruited from various organizations, clubs, and leisure centres. The participants represented different forms of physical activity, namely tennis, Australian football (AFL), gym-based exercise, taekwondo, and yoga. Results indicate that tennis participants rated competition/ego higher than the rest of the sample, whereas the AFL participants rated affiliation as their primary motive, higher than rest of the sample. Similarly, gym participants rated appearance, whereas taekwondo and yoga participants rated mastery as their primary motive for participation. The DFA for gender found Wilks’ Lambda to be significant, for all the functions, $\delta=.80$, $\chi^2=41.46$, $p<.001$, partial $\eta^2=.07$, where Jackknifed classification showed that 64.4 % of original grouped cases were correctly classified. The DFA for age found Wilks’ Lambda to be significant for all the functions, $\delta=.22$, $\chi^2=274.45$, $p<.001$, partial $\eta^2=.40$, where Jackknifed classification showed that 88.3 % of original grouped cases were correctly classified. Finally, the results of the DFAs for type of physical activity found Wilks’ Lambda to be significant for all the functions, $\delta=.00$, $\chi^2=1783.50$, $p<.001$, partial $\eta^2=.96$, which indicates that the model including the eight factors was able to significantly discriminate among the five types of physical activity. The discriminant functions revealed a significant association between the predictors and types of PA, accounting for 97.81% of between group variability. Jackknifed classification showed that all the participants (100%) were correctly classified. The motives that discriminated each activity were consistent with the primary motives reported here. Yoga was discriminated from taekwondo by the presence of much lower competition/ego motivation in yoga. It is evident from the present study that the primary participation motives that individuals nominate characterize different forms of physical activities. Scope for future research and implications for practice are discussed.

Keywords: motivation, types of physical activity, discriminant function analysis, variance accounted for

Profiling Motives for Participation in Physical Activity: Profiles for Three Samples

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Abstract: Promoting participation in physical activity (PA) is critical for the physical and general health of people all around the world. A great deal of research has demonstrated that a large proportion of the world’s population is not active. Governments and private organizations have developed a range of programs to support PA. Nevertheless, many people who are encouraged to enter a program drop out within the first six months. Promoting long-term PA is clearly the major challenge. In addressing this challenge, an important factor to consider is motivation for PA. In order to promote long-term participation, it is important to know what motivates people to participate in and maintain involvement inPA. A number of measures of participation motivation have been developed. A recently developed measure is the Physical Activity and Leisure Motivation Scale (PALMS). This scale is based on qualitative research that asked people what they aimed to achieve from PA. Thematic analysis indicated a set of motives that are consistent with theories of intrinsic

and extrinsic motivation. Validation studies have been conducted in several countries and a 15-country project is currently in progress examining the reliability and validity of the PALMS in various languages. Following further corroboration of the psychometric validity of the PALMS, this measure can be used to examine the efficacy of PA interventions designed to enhance specific motives for physical activity. It can also be employed to match the motives of target populations with those of long-term PA adherents to advise people about the kinds of PA that they are likely to find satisfies their motives for participation. Research has demonstrated that different patterns of motives are typical of different kinds of PA. To facilitate the envisaged research and applied uses of the PALMS, it would be helpful to have a standard way of presenting PALMS profiles. In this paper we propose a visual profiling approach in which we represent in the form of a vertical bar graph the eight motives for PA participation that have been consistently derived from PALMS research, second-order factor analysis of those motives, and intrinsic-extrinsic motivation theory. We describe the kinds of profiles that would be expected on the basis of theory and research on participation motives and we represent data from three samples using the profiling technique. The profiles derived provide support for the profiling approach.

Keywords: motivation, profiling, bar graphs, intrinsic-extrinsic motivation

Polish Model of Psychological Preparation for Performance Enhancement in Elite Sport

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Abstract: In the last two decades in Poland, there has been a very dynamic development of applied sports psychology. In 1995, in Jadwisin, on the initiative of the National Institute of Sport in Warsaw, the National Office of Physical Culture, Sports and Tourism and the Polish Olympic Committee organized a conference for Olympic training coaches. The mentor of the conference was Prof. Keith Henschen, assisted by Prof. Arthur Poczwadowski. For three days, more than 50 Polish trainers were being trained in psychological techniques at a workshop conducted by the best 7 Polish applied sport psychologists at that time. The conference helped to create a platform of cooperation between coaches and sports psychologists, and opened the doors for psychologists to work with the national Olympic staff. In 2002, the Sport Psychology Section of the Polish Psychological Association (founded in 1907 and with almost 5,000 members) was founded. This section currently associates with nearly 50 sports psychologists. They were preparing themselves for the Sport Psychologist Certification. The results of this work are 20 psychologists with a Sport Psychologist Certificate in First Class, and nine psychologists with Sport Psychologist Master Class - Supervisor. In 2005, the president of the Polish Olympic Committee founded the Olympic Team's Sport Psychologists Medical Commission. It is the largest organization of sports psychologists in Poland, bringing together more than 60 members. Once a month, they meet in the Center of the Polish Olympic Committee in Warsaw for educational lectures and workshops. Also invited to the meeting of sport psychologists are people from other countries such as R. Gordin, D. Gould, G. Korbeynikov, E. Konter, A. Papaioannou, M. Aoyagi and A. Poczwadowski. For the past three years, 30 of the team sports psychologists have carried out a project funded by the European Social Fund (for 1.5 million euros) and the Polish Ministry of Science and Higher Education "Strong & Mental Toughness Polish Olympic Team London 2012", called shortly "SIOKO". In 2012, the National Centre for Research & Applied Sport Psychology was founded by the Rector of the University of Physical

Education and Sport in Gdansk, as a result of the SIOKO project. This center, equipped with the latest modern research equipment such as EEG neurofeedback, mindball, multimodal biofeedback Nexus, GSR, HRV, the Vienna Test System and all questionnaires, scales, and inventories have the official Polish Psychological adaptation and distribution of the Polish Psychological Association belonging to EFPA. The presentations show the psychological activity of the above organizations, projects & programmes.

Keywords: performance enhancement, mental preparation, research, diagnosis and monitoring

SIOKO- Polish- European Union Project of Psychological Preparation for Performance Enhancement of the Polish Olympic Team London 2012

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Abstract: There is no significant difference in motor and technical preparation of Olympic athletes; hence the success or failure is determined by their mental preparation. Frequently, these fractions of seconds or centimeters are a matter of better mental toughness. During the competition, the athlete is exposed to many negative startup phobias, such as hypermobilisation or hypomobilisation (startup apathy). According to the principle that the key to achieving the maximum result is an optimal combination of mind and body functions, mental training helps with mastering the ability of coping with the startup stress. In the years 2010 - 2012 sport psychologists of Gdansk University of Physical Education & Sport and the Polish Olympic Committee developed and implemented the project "Strong & Mental Toughness Polish Olympic Team London 2012", also known as "SIOKO". For the past three years, 30 of the team sports psychologists have carried out a project funded by the European Social Fund (for 1.5 million euros) and the Polish Ministry of Science and Higher Education named "Strong & Mental Toughness Polish Olympic Team London 2012", called shortly "SIOKO". They conducted more than 20,300 hours of psychological training in 22 Olympic sports associations for 508 athletes, 67 coaches and 48 doctors and physical therapists as well as 80 academic teachers. The project was completed successfully and was settled positively in the European Union.

In carrying out these tasks, SIOKO benefited from considerable assistance from the Polish Ministry of Sport, the Polish Olympic Committee and the Polish Psychological Association, with whom it was connected by partnership agreements. Survey results showed high evaluation of activities and competences with a rating of 9 points in a standard scale of ten. This presentation aims to provide theoretical assumptions and results of the project of the National Psychological Preparation Project of Olympic Team "SIOKO".

Keywords: mental preparation, performance enhancement, Olympic team

Diagnosis, Monitoring and Psychological Training of the Polish Olympic Team in Greco-Roman Style Wrestling & Boxing in Polish – European Union Project “SIOKO”

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Abstract: The lecture will include a presentation of a video depicting the mental preparation program carried out by the national women's boxing team and Greco-Roman style wrestling team in preparation for the Olympic Games in London. The film presents the practical ways of measuring, monitoring and training of selected psychological and psychomotoric variables such as reaction time, visual-motor coordination, speed and precision of perception, divisibility of attention, focus, stress resistance, self-confidence, etc. The video film shows how new neurotechnology (neurofeedback and biofeedback) is used in training in professional and elite sport. A special part of this film will show how the bronze medalist of the Olympic Game London 2012 in Greco-Roman style wrestling motivated himself before the fight. All psychological practice was coordinated and financed by the Polish - European Union Project "SIOKO".

Keywords: mental training, biofeedback, psychological diagnosis & monitoring, motivation

Action Control and the Level of Action Performance in Tennis

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Abstract: The main issue of this thesis is designation of the role of psychological factors, according to the theory of action control by J. Kuhl, related to the level of sport activity performance in tennis. The research applied The Action Control Scale by J. Kuhl which enables designation of differences in the sphere of disposition to the action-state orientation. It consists of three scales: action-state orientation after failure (AOP), action-state orientation during planning and decision making (AOF) and action-state orientation during activity performance (AOD). In order to assess the level of sport activity performance, it was necessary to observe a player in actual sport competition during a tennis match. For the purpose of the research, an observation sheet was prepared, which was completed for every player during a match. The observation included the register of every action played during a tennis match as well as the record of the player's errors and the number of frustration triggered behaviours. 61 tennis players participated in the survey. The surveyed players were top players from the Polish Tennis Association rankings list. During the analysis of the survey's results, it has been established that the players with a high action orientation in all of the action control rates committed fewer errors during sport competition. This means that the players with a high action orientation level cope much better in difficult situations, e.g. in sport competition, and they disclose fewer disorders in the performance of some of the sporting activities than the group characterized by high state orientation.

Keywords: action control, action state orientation, decision making

Personality Determinants of Achievements in Sport

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Abstract: The most appropriate way in leading an effective cooperation of a psychologist with a player is to learn his or her individual traits. As Mr. Lipowski rightly notices (2006), without an efficient diagnosis-planning system, the achievement of the highest results is no longer possible. Only a training plan based on traits that were identified during the psychological studies can lead to sports

championships. Thus, the optimal psychological preparation must be preceded by a detailed analysis of the structure of the player's personality. The literature review shows and proves that a lot of attention has been paid to the study of athletes' personality; however the reports of the tests are ambiguous and require further verification. First of all, both in Poland and in the world, there are very few researches conducted among elite athletes. Indeed, it is extremely difficult to get access to the elite athletes and get them to participate in time-consuming researches. That is why the studies, on which sport psychology is still based on, either acquire a very small sample of competitors or require some updates. In the presented study, I will attempt to answer the questions of which personality dimensions practicing professional sport to have a connection with sports successes, and most strongly will differentiate between highly-skilled and lower-skilled athletes. The target athletes are Olympians and Olympic hopefuls (at least senior Polish Masters), so the best players in Poland and abroad and lower qualified athletes. In the studies, I analyze some personality capacities such as neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. In my work, I assume that there are some peculiarities in the particular personality components of higher and lower qualified athletes. I suppose that players with a higher level of sports achievements are characterized by a lower level of neuroticism, higher level of extraversion and conscientiousness than athletes representing a lower level of sports achievements.

Keywords: personality, achievements in sport, psychological preparation

Sociometric Diagnosis of a Sports Team as an Indispensable Tool for Every Coach of Team Games

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Abstract: In contemporary sport, knowledge in sports psychology seems to be vital for the achievement of good results when we are to cope with an individual (athlete) and with a whole team (team sports games). Particularly, in the latter situation, an adequate sociometric diagnosis, which ought not to be our only focus, should be the basic tool for "sociometric" evaluation of individual players as well as a whole team. In the present paper, a precisely developed research tool called "SUS" Scale was used, that is, the Scale of Sociometric Attitudes invented by Edward Wlaził (1985, 1990, 1999, 2003) and Bukowska, Supiński (2003). For this purpose, a group of football players from MKS Kluczbork football club was investigated. The research material comprised of results collected from 20 players aged 19-34 years old. On the basis of research, a sociometric position of football players and interpersonal atmosphere within the team followed by sociometric positions of first team players were determined. An appropriate ability to interpret obtained results enables a coach to realize not only which player is most likable or not and to what extent, but also who is considered the best and worst-skilled football player. Coaches gain knowledge of which player should be the team captain and who is not fit to work in this area. Finally, the knowledge gained from the study may be confirmed by the coach with his own observations, which might enable him to determine the optimal composition of a football team to complete tactical and technical tasks and achieve team goals in current league matches.

Keywords: diagnosis, sociometry, sports group

Flow Experience in Volleyball: Relationships with Team Cohesion

and Competitive State Anxiety

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Abstract: Flow experience refers to “a state of consciousness where one becomes totally absorbed in what [he/she] is doing, to the exclusion of all other thoughts and emotions” (Jackson & Csikszentmihalyi, 1999, p. 5). In team sports, the question is whether the flow experience is affected by individual and/or group parameters. Team cohesion, an important group variable, pertains to “a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Carron, Brawley, & Widmeyer, 1998, p. 213). Anxiety disrupts or prevents flow experience in individual sports; however, investigation of this relationship has been limited in team sports. The purpose of the present study was to examine the relationships among flow experience, team cohesion, and competitive state anxiety. Hypotheses were: (a) flow would be positively related to team cohesion, and (b) flow would be negatively related to competitive state anxiety. Greek championship volleyball players (N=190; 89 men, 101 women) signed informed consent forms and participated in the study. The athletes' mean age was 25.90 years (SD=6.78); mean experience was approximately 15 years (M = 15.28, SD = 6.20). The athletes completed: (1) the Group Environment Questionnaire (Carron, Widmeyer, & Brawley, 1985) in a training session the week prior to the examined competition, (2) the Competitive State Anxiety Inventory-II (Martens, Burton, Vealey, Bump, & Smith, 1990) one hour before the competition, and (3) the Flow State Scale-2 (Jackson & Eklund, 2002) immediately after the competition. Results indicated negative correlations for somatic and cognitive anxiety with flow experience, whereas positive correlations appeared between self-confidence and flow experience. Regarding team cohesion and flow experience, there were positive correlations between Group Integration-Social and most of the FSS-2 subscales. Hierarchical regression analyses indicated that somatic anxiety ($\beta = .228, p<.01$), self-confidence ($\beta = -.232, p<.01$) and Group Integration-Social ($\beta = .214, p<.01$) were significant predictors of total flow experience ($F_{10,176} = 4.310$). Results also indicated that individual psychological characteristics (anxiety, self-confidence), as well as group variables such as social cohesion, affect the experience of flow in team sport athletes. It was noted that social cohesion more than task cohesion is related to flow subscales. The results are discussed based on flow theory, cohesion, and multidimensional anxiety theory.

Keywords: flow, team cohesion, anxiety, volleyball

Examining the Relationship between Flow Experience and Intrinsic Motivation

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Abstract: Athletes in flow state characterize their experience as a balance between task challenges and personal skills, complete absorption in and concentration on the task at hand, and a high level of enjoyment (Jackson, 1992). Csikszentmihalyi (1988) reported that flow refers to intrinsically rewarding and motivated experience, and used the term autotelic experience to describe intrinsic motivation. Additionally, Deci and Ryan (1985) stated that “when people are intrinsically motivated, they experience interest and enjoyment, in some instances they experience flow” (p. 34). The purpose of the present study was to examine the relationship between flow experience and intrinsic motivation, hypothesizing a positive

correlation between flow and intrinsic motivation. Athletes (N=246; 60.2% men, 39.8% women) with a mean age of 19.69 years (SD = 4.13) completed three measures after a competition match, including the Intrinsic Motivation Inventory (IMI; McAuley, Duncan, & Tammen, 1989), Flow State Scale (FSS; Jackson & Marsh, 1996), and two 11-point Likert-type scales measuring the level of the challenge of the game and athletes' skills. Results indicated significant correlations between athletes' intrinsic motivation and flow experience. Perceived competence (rmean = .44) and interest-enjoyment (rmean = .37) indicated the highest positive correlations with flow characteristics, followed by the effort-importance factor, whereas the tension-pressure factor provided null correlations with flow experience. Additionally, medium to high positive correlations emerged between challenges of the game and effort-importance, and between skills of the athlete and perceived competence. Examining the orthogonal model of flow on the basis of athletes' perceptions of challenges and skills, significant differences were found among the four flow quadrants (Hotelling's Trace = .381, $F = 7.549, p< .001 \eta^2p = .113$). Athletes in the four flow quadrants showed significant differences in motivation subscales. Those in the flow quadrant indicated highest mean values in the interest-enjoyment, perceived competence, and effort-importance subscales, whereas athletes in the apathy quadrant revealed the lowest means. The main findings of the study indicated that flow experience is closely linked to intrinsic motivation, which was supported by the positive correlations between FSS subscales and athletes' perceived competence and interest/enjoyment, supporting theoretical contentions (Csikszentmihalyi, 1988; Deci & Ryan, 1985). Additionally, the differences between the four flow quadrants (athletes in the flow quadrant indicated the highest intrinsic motivation) provided further support for the theoretical connection between flow experience and intrinsic motivation.

Keywords: flow, intrinsic motivation, perceived competence, orthogonal model of flow, flow quadrants

Sports Mental Coaching: A New Name for Psychological Skills Training in Korea

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- 3. Sungkyunkwan University
- 4. Jeonju University
- 5. Yong In University

Abstract: Since its inception, the field of sport psychology has continuously evolved to help athletes in various stages achieve their peak performances. This practicality toward one's peak performance became the hallmark of the discipline. However, many psychological skills training (PST) programs in the past have been implemented without specific standards or outcomes, leaving the effectiveness of PST unknown. The Korean Sport Psychology Research Center (KSPRC) recognizes this current issue in PST and has developed a scientifically based evaluation system using a heart rate monitor, high speed camera, and brain wave detector. In 2012, the KSPRC received a grant from the Korean government to train 'sports mental coaches' and produced 120 mental coaches in 16 different sports. The purpose of the current symposium is to present an overarching theoretical model, curriculum, and three success stories (archery, golf, and ping pong). Practical implications as well as future consulting directions using scientific approaches will be discussed.

Keywords: mental coaching, consulting effectiveness, technology

Sports Mental Coaching: An Overview

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Abstract: This presentation describes the sports mental coaching program implemented in 2012. Sports mental coaching can be defined as a scientifically-based mental training protocol, and is proposed in order to differentiate its identity with current traditional sport psychology consulting practices. A sports mental coaching model (Chung, 2012) will be presented. This model contains both psychological methods and skills. Furthermore, the specific aim for the mental coaching was to create a routine to maximize athletes' focus during the game. A total course work was 36 hours including 6 hours of experiential learning with various biofeedback and brain wave technologies. This approach in sport psychology consulting provides an opportunity for the evidence-based sport psychology service that is measurable and therefore testable.

Keywords: mental coaching, consulting effectiveness, training

Sports Mental Coaching with the Korean National Archery Team

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Abstract: The Korean national archery team has been achieving remarkable success for many years. During the 2012 London Olympic Games for example, the Korean team collected three out of four gold medals. This presentation covers my own involvement as a mental coach with the national archery team during the 2004 Athens Olympic Games as well as the 2009 World Championship Games. Specifically, mental coaching practices using heart rate monitors (e.g., X-COACH), EEG and brain wave biofeedback equipment (e.g., Q-jump, Neuro Harmony), and imagery machines (e.g., I-GLASSESS) will be presented in detail. In the near future, it is expected that there will be more integration of sports mental coaching and advanced technology. Additionally, sports mental coaching tips and recommendations in order to effectively deliver coaching services will be shared.

Keywords: archery, mental coaching, consulting

Sports Mental Coaching with a Junior Golfer

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Abstract: This case study describes 24-weeks long of individual mental coaching with a 15-year-old female elite golfer. During the mental training, psychological skills such as self-talk, imagery, relaxation, goal setting, and emotion control were taught and utilized. In addition, Competitive State Anxiety Inventory-2 (CSAI-2, Martens, 1990) and Test of Performance Strategies (TOPS) were measured throughout the season. Ultimately, the final goal was to develop a pre shot routine to maintain her peak performance during the play. To establish exact routine, duration and sequence were video recorded and analyzed. As a result, the player maintained her pre-shot routine during the competition and improved her performance significantly. The effectiveness of mental coaching is discussed based on the performance outcome.

Keywords: mental coaching, golf, single subject

Sports Mental Coaching of Three Ping Pong Players during the 2012

London Paralympics

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- 2. Sogang University

Abstract: The purpose of the current study is to present consulting experiences with three second degree spinal cord injured ping pong players. The context was during the preparation period for the 2012 London Paralympics; a total of eight sessions were delivered. More specifically, self-talk, imagery, cognitive reconstructing, and routine were taught and practiced. Also, TOPS (Test of Performance Strategies) was utilized in order to measure the effectiveness of mental coaching. Pre and post design revealed that there were positive changes in self-talk, emotional control, and goal setting. Additionally, the actual results at the Paralympic Games and the effectiveness of mental coaching will be discussed.

Keywords: mental coaching, ping pong, Paralympics

Models of Intervention in Mexican Sport Psychology

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Abstract: Sport psychology is increasingly recognized and valued in Mexico. Therefore, application has been developed in quantity and quality over the last years. In this symposium, the authors present their participation and intervention models within populations of different characteristics and requirements in Mexican sport. Self-efficacy and sport commitment in football players, increased cooperatives skills in young athletes by employing games, and a model of a mental training program within young race car drivers are analyzed. **Keywords:** self-Efficacy, mental Training, cooperation, sport commitment, Mexican sports psychology

Factorial Validity of the Sport Imagery Ability Measure among Polish Athletes

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Abstract: The aim of the present study was to examine the reliability and validity of the Sport Imagery Ability Measure (SIAM; Watt et al., 2004) for use among Polish athletes. Data were obtained from 326 Polish athletes (n=169 male, n=156 female), aged between 12 and 57 years (M= 22.08, SD= 8.18). Athletes included in the sample were classified at a range of levels from local (n=58),

through district (n=31), to state (n=86), and national levels (n=105). The sample was recruited from various sports disciplines including football, sailing, basketball, track and field, volleyball, and swimming. A smaller sample for a 3-week interval test-retest reliability analysis consisted of 32 students, recruited from the academy of physical education and from Gdansk University. Test-retest reliability analyses indicated that the SIAM maintained good stability over a 3-week period. Time stability indices lie between 0.59 for emotions and 0.76 for the visual sense modality. Total SIAM score was also very stable (r=0.81). Descriptive statistics for the main sample showed that for sensory modalities, participants reported highest imagery ability for the visual sense (M=303.59 SD=64.95) and lowest imagery ability for the gustatory modality (M=142.40 SD=91.88). The Polish athletes reported speed as the highest ability dimension (M=307.40 SD=65.09). Results of confirmatory factor analysis (CFA) suggested that the a priori stated 3-factor structure of the SIAM had an acceptable fit to the Polish data (CFI=0.98, RMSEA= 0.07) and this model explained 47.2% of the total variance, approaching the 50% level which is suggested as an excellent value. Comparing imagery ability between males and females, there were no significant differences in 11 subscales and the only difference was observed on the auditory subscale (p<.05) with females reporting higher imagery ability. Analysis comparing younger and older participants (under 20 and over 20 years old) showed that these two age groups differed significantly (p<.05) on four dimensions, namely auditory, tactile, control, and ease, in which younger athletes reported higher imagery ability, but all effect sizes were small. Comparing professional and novice athletes, there were statistically significant differences or tendencies on most subscales except olfactory, gustatory, and tactile with elite athletes reporting higher imagery ability in each case, as in English, Finnish, Thai, and Israeli language versions of the SIAM. All results supported the construct validity of the SIAM for use with Polish athletes.

Keywords: imagery, imagery ability, reliability, validity, expertise differences

Measuring Associations between Types of Imagery Use and Passion in People with Diabetes

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Abstract: The aim of this study was to explore associations between physical activity imagery use and types of passion in people with Type 2 diabetes mellitus (T2DM), as a precursor to the development of imagery scripts to enhance passion for physical activity. Modified from the Sport Imagery Questionnaire (SIQ; Hall et al., 1998), the Physical Activity Imagery Questionnaire assesses use of cognitive and motivational imagery functions. There are two types of passion, harmonious and obsessive passion. Harmonious passion represents a motivational force that enables individuals to participate in an activity willingly with no contingencies attached, whereas obsessive passion is a motivational force that urges individuals towards the activity with certain contingencies attached. It has been predicted that the development of harmonious passion has a positive impact on participation in physical activity. Imagery is a widely applied technique for developing psychological variables in sport and physical activity contexts. Thus, imagery could be used to enhance harmonious passion. Examining the associations between cognitive and motivational imagery use and harmonious and obsessive passion should provide an indication of the most effective ways to use imagery to enhance passion for physical activity.

People with T2DM (N=127) aged between 29 and 70 years (Mage = 50.84; SD = 12.24) volunteered to participate in the study. They

completed the Physical Activity Imagery Questionnaire (PAIQ) and the Passion Scale (PS) on the same occasion. In psychometric validation, the PAIQ was modified to 15 items from the original 30-item Sports Imagery Questionnaire and wording of items was changed to reflect physical activity. The PAIQ measures two functions, namely cognitive and motivational imagery use. The Passion Scale measures two main types of passion, namely obsessive passion (OP) and harmonious passion (HP). Pearson's product-moment correlation coefficient (r) revealed a significant positive relationship between cognitive imagery use and harmonious passion, r = .448, p < 0.01, and between motivational imagery use and harmonious passion, r = .440, p < 0.01, but no significant correlations of imagery use with obsessive passion. Identification of significant positive correlation between imagery use and types of passion suggests that there may be potential for using cognitive and motivational imagery to develop harmonious passion for physical activity adherence in managing diabetes.

Keywords: imagery, cognitive imagery use, motivational imagery use, harmonious passion, obsessive passion

A Preliminary Examination of the Relationship Between Physical Activity Motivation and Self-Efficacy Among Physical Activity Participants in Japan

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Abstract: Obesity is a growing global concern and the World Health Organization has called type 2 diabetes mellitus a global epidemic. Researchers have shown benefits of being physically active in these and many other areas of health and illness (e.g., cardiovascular disease, hypertension, some forms of cancer, and physical disabilities). Thus, improving physical activity participation is one of the most important goals for physical activity researchers and practitioners. Past studies have consistently suggested that self-efficacy plays an important role in experiences of physical activity participants (e.g., Hagger et al., 2002; Sallis et al., 1992). The purpose of the present study was to examine the relationship between physical activity motivation, self-efficacy, and the amount of physical activity participation among physical activity participants in Japan. One hundred and seventeen (female: n = 54, male: n = 63) physical activity participants (Age range: 18-71 years old, M = 29.09, SD = 9.67) completed a Japanese translation of the Physical Activity and Leisure Motivation Scale (PALMS; Morris & Rogers, 2004) which assesses eight types of physical activity motivation (i.e., mastery, physical condition, affiliation, appearance, others' expectations, psychological condition, enjoyment, and competition/ego) and the Exercise Self-Efficacy Scale (Marcus et al., 1992) which assesses self-efficacy to overcome barriers for physical activities. Based on a structural equation modeling framework, we tested a path model predicting that the eight types of motivation are related to self-efficacy, which in turn is related to the amount of physical activity participation (i.e., minutes of physical activity per week). The results showed that a high level of physical activity motivation for enjoyment was related to a high level of self-efficacy. Also, self-efficacy was positively related to the amount of physical activity participation, though its mediating roles in the relationship between types of physical activity motivation and the amount of physical activity participation were not significant. Even after controlling for the effects of age and sex, we found similar relationships between physical activity motivation, self-efficacy, and the amount of physical activity participation. The findings from the present study suggest that physical activity motivation that aims toward enjoying the activity itself may be more effective than other types of physical activity motivation, in terms of increasing self-efficacy and adherence to physical activity. Stronger relationships

might emerge with a larger sample. The study is suggestive of the construct validity of PALMS and offers various implications to applied practice in fitness and exercise fields.

Keywords: motivation, self-efficacy, enjoyment, structural equation modeling

Measuring Motivation for Physical Activity in Malaysia: The Physical Activity and Leisure Motivation Scale

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Abstract: Motivation is a critical factor that drives people forward and promotes and maintains leisure time physical activity. The Physical Activity and Leisure Motivation Scale (PALMS) is a new instrument created to measure physical activity (PA) motivation based on Self-Determination Theory (SDT). The PALMS was developed on the basis of interviews that identified seven themes corresponding to motives for PA. This led to the development of a 73-item measure, the Recreational Exercise Motivation Measure (REMM), which was validated with recreational exercise and sport samples, producing eight factors that represented motives for PA participation. The REMM motives were consistent with intrinsic-extrinsic motivation theory. Three factors were derived from a second-order factor analysis, namely intrinsic motivation (mastery, enjoyment), extrinsic body-mind motives (psychological condition, physical condition, appearance), and extrinsic social motives (competition/ego, affiliation, others' expectations). The PALMS is a 40-item short form of the REMM that was developed because the REMM is too long for use in practice. The PALMS includes the strongest five items on each motive sub-scale. The purpose of the present research was to examine the reliability and validity of the PALMS in Malaysia. Five hundred and two volunteer participants, aged between 17 and 67 (M = 31.55, SD = 11.87), from over 30 different sport, fitness, and recreational facilities, completed the PALMS questionnaire consisting of 40 items rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha coefficient (α=0.79) indicated good internal consistency for the overall measure. Internal consistency for each sub-scale of the PALMS was sound, namely mastery (α=0.78), enjoyment (α=0.79), psychological condition (α=0.81), physical condition (α=0.82), appearance (α=0.81), others' expectations (α=0.82), affiliation (α=0.80), and competition/ego (α=0.78). Spearman's rho (rs = 0.86, p<.001) indicated strong criterion validity with the Recreational Exercise Motivation Measure (REMM), the 73-item questionnaire from which the PALMS was developed. Also, test-retest reliability for the questionnaire sub-scales was between 0.78 and 0.94 over a 4-week period. Results of Confirmatory Factor Analysis (CFA) reflected a sound fit (Chi-square ratio=2.82, CFI=0.91, NFI=0.90, RMSEA=0.06). These results provide support for the reliability and validity of the PALMS as a measure that is suitable for assessing motivation for PA in adolescents and adults. There is potential to use the PALMS in sport and physical activity to measure motives, monitor changes in motives, and advise on PA that suits people's participation motives, especially in relation to health promotion.

Keywords: motivation, intrinsic-extrinsic motivation theory, reliability, validity confirmatory factor analysis

Psychometric Validation of the Physical Activity and Leisure Motivation Scale (PALMS) in a

Chinese Sample

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Abstract: Increasing participation in physical activity is important in the Chinese population as more people live in big cities performing sedentary jobs, using mechanized transport, and eating more energy-dense "fast foods". To understand the reasons why Chinese people do sport and exercise, it is important to measure motives for participation in physical activity. Thus, we aimed to examine the reliability and validity of a Chinese language version of the Physical Activity and Leisure Motivation Scale (PALMS; Morris & Rogers, 2004) among 422 Chinese participants (male=222, female=200) aged between 10 and 54 years (M=25.35: SD=15.11). Internal consistency reliability (α) was 0.90. Seven sub-scales had acceptable αvalues above .7, but the others' expectations sub-scale α was 0.56. To modify the PALMS, we deleted items 18, 34, 6, 29, 37. Re-analysis showed minimal change to items measuring mastery, psychological condition, appearance, affiliation, enjoyment, and psychological condition. Thus, we kept these dimensions as original. However, items for competition/ego and others' expectations generated two new dimensions tentatively named financial rewards, including items 1 and 7, and others' expectations including items 21, 26, 27, 35. The total reliability and sub-scale reliability of the preliminary revised scale achieved a higher value. Test-retest reliability (n=50) over four weeks was greater than .7. Confirmatory Factor Analysis (CFA) showed a good fit of the data to the 8-factor model (Chi-square ratio=.18, GFI=.91, NFI=.86, RMR=0.050 RMSEA=0.035). The motives of mastery, enjoyment, psychological condition, physical condition, affiliation, and appearance corresponded well with the original PALMS, and a financial reward was a clear factor. Others' expectations were not considered to be readily interpretable. Patterns of participation motives for sport and physical activity in this Chinese sample indicated that skill enhancement was a strong motive for competitive athletes, although they did also report high levels of enjoyment from their participation. This is consistent with previous participation motivation research. In the general physical activity population, enjoyment was the primary motive for participation, which is also consistent with the key role of intrinsic motivation in physical activity proposed by self-determination theory and supported by research. Many younger people appeared to be passive, waiting to be encouraged to participate in physical activity by others in their social environment. Importantly, those motives associated with intrinsic motivation (enjoyment, mastery) were negatively affected when young people were instructed to participate in physical activity, leading to a reduction in voluntary participation.

Keywords: motivation, confirmatory factor analysis, skill enhancement, enjoyment

Mood and emotion in sport

Emotions and Decision-making in Sports: Theoretical Conceptualization and Experimental Evidence

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Abstract: We review current evidence on the linkage between emotion and decision-making in sports, and the appraisal, emotions,

and cognitions linkage under temporal and societal pressure. The conceptual framework proposes that perceptions and actions are stored and retrieved from the same representation structure, and thus stimuli are either negatively or positively appraised and evoke emotions, which in turn activate cognitive processes linked to decision-making. The emotion-cognition congruence concept relies on the notion that neural network in long-term memory is activated when events occur, and influences the capacity of the cognitive system to make the decision for response execution. The quality of this process is considered by us as the underlying mechanism of functioning in or out of the individual or team zone of optimal functioning. We also claim that basic regulations stabilize the action system under conditions which vary in perceived pressure. Using mental routines stabilize the emotional level required to perform the task. Process regulations are used for capturing environmental cues to direct attention selectively, and make the response-selection and decision-making for action execution. The interface between the two coping regulations influences the quality of both the decision-making and consequent performance. This concept is applied to individual and team processes alike.

Keywords: IZOF, IAPZ, mental routines

Quiet Eye Training Promotes Challenge Appraisals and Aids Performance under Elevated Anxiety

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Abstract: Quiet eye training, a decision training intervention developed by Vickers and colleagues (see Vickers, 2007 for a review), has been shown to facilitate anxiety-resistant performance in novice learners (Vine & Wilson, 2010, 2011). However, the potential mechanisms underpinning this beneficial effect are not fully known. The present study examined the effects of a quiet eye training intervention on golf putting performance (mean performance error), gaze control (quiet eye duration), and one possible psychological mechanism; cognitive appraisal (evaluation of perceived demands and resources). Thirty novice participants were randomly assigned to a quiet eye or technical trained group and completed 420 baseline, training, retention, and pressure putts. Gaze was measured using an ASL Mobile Eye Tracker. Cognitive anxiety and appraisal were assessed via the mental readiness form-3 (Krane, 1994) and cognitive appraisal ratio (Tomaka, Blascovich, Kelsey, & Leitten, 1993), respectively. Although both groups experienced greater cognitive anxiety ($p < .001$), the quiet eye trained group performed more accurately ($p < .001$), displayed more effective gaze control ($p < .001$), and appraised the pressure test more favourably than the technical trained group ($p < .05$). The more positive appraisal arose from the quiet eye trained group reporting a greater perception of coping resources than the technical trained group ($p < .05$). Mediation analyses revealed that cognitive appraisal mediated the relationship between training group and mean radial error during the pressure test. Thus, quiet eye training protects against performance failure under increased anxiety by amplifying perceived coping resources, permitting performers to appraise demanding competitive situations more adaptively, as a challenge rather than a threat.

Keywords: cognitive appraisal, challenge, threat, perceived resources, quiet eye

A Narrative Account of Decision-making and Interpersonal Emotion Regulation Using a Social-functional Approach to Emotions

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Abstract: Social psychology researchers have proposed a social-functional approach to emotions whereby emotions coordinate people's behaviour to meet the shared challenges in their environment (Keltner, Haidt, & Shiota, 2006). Despite the social nature of sport, a social-functional approach to emotions has yet to be studied in this context. The purpose of the present study was to explore how the social functions of emotions might inform two ice hockey captains' decisions to regulate teammates' emotions. A narrative analysis revealed how the athletes' decisions if, when or how to regulate their teammates' emotions might be situated within a social-functional approach to emotions. Although the emotions evoked, the strategies used, and the social environment was constantly changing, the narratives illustrated the underlying social functions of emotions within each social context (Keltner & Haidt, 1999). Specifically, at the individual level, participants described how emotions informed them of important circumstances in their environment that required attention and helped prepared them for such challenges. At a dyadic level, emotions helped participants gauge the emotional states and intentions of their teammates contributing toward an assessment of the extent to which they were prepared to face their challenges. At a group level, emotions helped participants lead their teammates in meeting shared goals. Finally, at a cultural level, emotions helped participants maintain culture-related identities. Findings illustrated the social functions naturally served by emotions.

Keywords: mood, self-regulation, psychological skills, performance, ice hockey

Aspects of Choking: Current Debates

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Abstract: Choking under pressure (i.e., choking) in sport is, "a critical deterioration in skill execution leading to substandard performance that is caused by an elevation in anxiety levels under perceived pressure at a time when successful outcome is normally attainable by the athlete" (Mesagno & Mullane-Grant, 2010, p. 343). For nearly 30 years, researchers have undertaken choking research, which has resulted in proposed definitions of choking, an expansion of our understanding of choking through choking models, and general (and theoretically driven) interventions to alleviate choking. Although previous choking research has extended the literature, there is still debate that exists about choking concepts. That is, contentious issues, such as lack of a universally agreed upon operational choking definition, differences between under-performance and choking, and whether choking occurs across all skill levels, have been raised within the choking literature. Moving toward resolving these debates are important because it will improve the quality of future research and provide researchers a solid foundation in which to base choking research. Thus, the purpose of this presentation will be to discuss the existing debates that have arisen within the choking literature. Future research directions that would help resolve these debates will be discussed with the focus on implications for researchers investigating choking in experimental and ecologically-valid studies.

Keywords: sub-standard performance, under-performance, choking controversy, novice vs. experts

Emotional Contagion in Team Sports and its Impact on Individual Performance: An Experimental Study

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Abstract: In sport psychology, research about emotional contagion in sport teams has been scarce (Reicherts & Horn, 2008). Emotional contagion is a process leading to a specific emotional state in an individual caused by the perception of another individual's emotional expression (Hatfield, Cacioppo & Rapson, 1994). Apitzsch (2009) described emotional contagion as one reason for collapsing sport teams. The present study examined the occurrence of emotional contagion in dyads during a basketball task and the impact of a socially induced emotional state on performance. An experiment with between-subjects design was conducted. Participants (N=81, ♀=38, M=21.33 years, SD=1.45) were randomly assigned to one of two experimental conditions by joining a confederate to compose a same gender, ad hoc team. The team was instructed to perform a basketball task as quickly as possible. The between-factor of the experimental design was the confederate's emotional expression (positive or negative valence). The within-factor was participants' emotional state, measured pre- and post-experimentally using PANAS (Krohne, Egloff, Kohlmann & Tausch, 1996). The basketball task was video-taped and the number of frames participants needed to complete the task was used to determine the individual performance. The confederate's emotional expression was appraised in a significantly different manner across both experimental conditions by participants and video raters (MC). Mixed between-within subjects ANOVAs were conducted to examine the impact of the two conditions on participants' scores on the PANAS subscales across two time periods (pre- and post-experimental). No significant interaction effects but substantial main effects for time were found on both PANAS subscales. Both groups showed an increase in positive and a reduction in negative PANAS scores across these two time periods. Nevertheless, video raters assessment of the emotional states expressed by participants was significantly different between the positive (M=3.23, SD=0.45) and negative condition (M=2.39, SD=0.53; $t=7.64$, $p < .001$, eta squared=.43). An independent-samples t-test indicated no difference in performance between conditions. Furthermore, no significant correlation between the extent of positive or negative emotional contagion and the number of frames was observed. The basketball task led to an improvement of the emotional state of participants, independently of the condition. Even though participants PANAS scores indicated a tendency to emotional contagion, it was not statistically significant. This could be explained by the low task duration of approximately three minutes. Moreover, the performance of participants was unaffected by the experimental condition or the extent of positive or negative emotional contagion.

Keywords: emotional contagion, team sports, performance

Emotions and Decision Making in Sports

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Abstract: Echoing a special issue about to be published in the International Journal of Sport and Exercise Psychology, this symposium aims to introduce the efforts made by researchers to combine the topics of emotions and decision making in sports. In order to improve our understanding of how emotions influence sport performance, we wish to examine in detail how the cognitive processes at stake are influenced by emotions, and in particular those associated with decision making. For example, phenomenon such as the quiet eye and the hot hand are here explored respectively with challenge and threat appraisals and self-efficacy. In addition, the studies presented here show a diversity of methodologies used to investigate the relationship between emotions and decision making, through experiments, questionnaires analyses and interviews; as

well, they show a diversity in the populations examined: athletes, team captains, and referees. Finally, we discuss our vision for the future of the field: at the theoretical level--how it can benefit from integrating theories coming from mainstream psychology, and at the methodological level--how new techniques from the neurosciences can inform research on emotions and decision making in sports.

Keywords: emotions, cognition, choking under pressure, mood

The Elusive Reality of Efficacy-performance Cycles in Basketball Shooting: An Analysis of Players' Performance under Invariant Conditions

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2. Wingate Institute
3. The Hebrew University of Jerusalem
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Abstract: The current work questions the putative tendency for success to be self-promoting in a non-competitive practice setting. Gilovich, Vallone, and Tversky's (1985) classic controlled shooting experiment in basketball is replicated and extended to include players' efficacy judgments before taking the shots, according to the conditions outlined by Bandura (1997). Fifty-eight basketball players participated in three experimental sessions. The results show that players' competency expectations reflected a consistent belief in the existence of past performance-performance cycles. However, even when asked directly about their subjective perceptions of success, the players' sense of efficacy did not predict hits or misses. It was also demonstrated that even under invariant conditions, where such correlations should be even higher according to Bandura's line of reasoning, the outcomes of successive shots were statistically independent, for both expert players and for novices. These findings provide additional support for Gilovich et al's seminal results, and are rather challenging to Bandura's theory of self-efficacy.

Keywords: hot hand, sequential dependence, self-efficacy, decision-making, sport

Norwegian Top-class Football Referees and Their Decision-making: Exploring the Level of Anxiety and External Sources of Stress

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Abstract: The purpose of this study was to examine the level of anxiety experienced by Norwegian top-class football referees while officiating, and to predict the level of anxiety according to refereeing level and perceived refereeing competence. Also investigated were referees' perceptions of how crowd noise and disturbance from players and/or coaches, failure (i.e., mistakes) in refereeing, and aggressive behaviour by players and/or coaches influence their decision-making when officiating. A total of 83 (response rate: 84.7%) referees (73 men and 10 women) aged 20–46 years (mean =33.2 years) completed our questionnaire using SurveyXact, a web-based program for conducting electronic questionnaires. The mean level of anxiety for all referees in the sample was 28 (SD = 5.4), as assessed using the State-Trait Anxiety Inventory, Form Y. A regression analysis showed that referees attending the premier league in Norway typically scored higher on anxiety compared with referees working at the second-best level. Furthermore, the referees who perceived

their competence as being weaker or average (compared with their colleagues) scored significantly higher on anxiety than did the other referees (the “best” or “very best” groups). The majority of referees reported that noise and disturbance, failure in refereeing, and aggressive behaviour did not affect their decision-making (frequency of disagreement, 80–95%).

Keywords: anxiety, decision-making, football referees, perceived competence, social pressure

Decision Reinvestment: Overview of Current Research

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Abstract: Decision reinvestment represents the tendency to consciously control one’s thoughts when making decisions, associated to the propensity to ruminate past poor decisions. It has been found to play an important role on sport performance, due to its influence on choking under pressure. Recent work based on decision reinvestment is reviewed here. First, we present the way decision reinvestment is associated with stress and coping appraisals. Second, we detail its influence on a cognitive task involving visual scanning speed. Finally, we discuss the influence of decision reinvestment on the option-generation process of athletes during low-pressure and high-pressure conditions.

Keywords: reinvestment, choking under pressure

Stress in Sports: Student-Athletes Perspective

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National Taiwan Sport University

Abstract: Student-athletes play different roles on campus. As developing young adults, students, and sporting heroes, they face more challenges than ordinary athletes or their peers both in academics, life, training and competition. To holistically examine every aspect of a student-athlete’ life stress, this symposium comprises five papers that address this issue. The first presenter, Frank Jing-Horng Lu, will introduce definitions, concepts and theoretical models of stress in athletic settings. The second presenter, Eva Ya-Wen Hsu, will introduce a sport-specific life stress scale termed College Student-Athletes’ Life Stress Scale (CSALSS) and report how it is made, and how to apply it in athletic settings. The third presenter, Erica T.W. Wang, will present how coaches’ social support moderates the relationship between training stress and burnout by adopting Cutrona and Russell (1990) social support and stress matching hypothesis. The fourth presenter, Cynthia M.C. Yang, will present the relationship between athletes’ achievement motivation and self-imposed pressure. The fifth presenter, Yi-Hsiang Chiu, adopts Bogler, DeLongis, Kessler, & Schilling’s (1989) social stress theory as a framework to explore student-athletes’ experiences of interpersonal stress encountered in sport settings. We hope this symposium brings knowledge, thoughts and implications for those who are concerned with student-athletes, athletic stress, and psychological well-being of youth athletes.

Keywords: competitive sports, athletic stress, youth development, psychological well-being

Some Major Interests in Sport Stress Research

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Abstract: Stress is a big issue in general psychology as well as sport psychology. Stress influences our health, performance, psychological growth and development, and all aspects of life. In sport psychology, early research adopts either McGrath’s (1968) four-stage stress model or Lazarus and Folkman’s (1984) cognitive transactional model to study stress. To facilitate research development, Martens, Vealey, and Burton (1990) suggest that sport psychologists need to examine stress as a precipitator, an intervening variable, a mediator; and as a response variable, so as to ask the right question. Similarly, Jones and Hardy (1990) suggest that stress response, performance, and stress management are deemed as a triangular relationship, and the underlying issue is the factor that influence stress in sport. In this section I will introduce three major interests in studying stress in sport, including (a) the source of stress (e.g., performance stress, organizational stress, life stress, etc.), (b) the influence of stress on performance (e.g., cognition, group functioning, job satisfaction, long term effects, mediator, moderator, etc.), and (c) coping and stress management (e.g., arousal control and planning, emotion regulation, imagery, self-talk, concentration, etc). Overall, this presentation hopes to share some critical reviews I have done in sport psychology.

Keywords: emotions in sport, athletic performance, sport psychology, youth athletes

Measuring College Student-Athletes’ Life Stress: Concepts, Theories and Measurements

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Abstract: Past literature has developed diverse perspectives on life stress and developed measurements accordingly. However, there is a lack of sport-specific tools with appropriate validity and reliability to assess student-athletes’ life stress. Given that life stress is confirmed to have a potentially negative impact on student-athletes’ affects and behaviors (Etzel, 2009), Lu and his colleagues (Lu, Hsu, Chan, Cheen, & Kao, 2012) adopted three series of studies to develop a sport-specific life stress scale termed College Student-Athletes’ Life Stress Scale (CSALSS). In this section, we will present how past research measures general life stress, college students’ life stress, and sport-specific life stress. In addition to substantial literature review, we will introduce how CSALSS was developed, including generation of the items, item discrimination test, factorial validity, construct validity, and reliability. Also, we will present how to apply CSALSS in practice and research.

Keywords: scale development, sport psychology, competitive sport, psychometrics

Coaches’ Social Support Moderates Athletes’ Life Stress and Burnout: Examining the Social Support-Stress Matching Hypothesis

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Abstract: Adopting Cutrona and Russell’s (1990) social support and stress matching hypothesis, the purpose of this study was to examine whether coaches’ training social support moderated the relationship between training stress and burnout. We recruited 101 male student-athletes (Mage = 20.17 years, SD = 1.73) and administered the following measures: College Student-Athletes Life Stress Scale (CSALSS, Lu, Hsu, Chan, Cheen, & Kao, 2012), Social Support Survey (SSS, Rees, Hardy, Evans, 2007), and Athlete Burnout

Questionnaire (Raedeke & Smith, 2001). Hierarchical regression analyses indicated that in high stress training conditions, athletes who received high coaches’ training social support reported less burnout than those who received low coaches’ training social support. Relatively, in low stress training conditions, athletes who received high or low coaches’ training social support had no differences on burnout. Results support Cutrona and Russell’s (1990) social support and stress matching hypothesis. Also this study provided CSALSS, a newly developed sport-specific life stress scale, with predictive validity. Implications and future research directions are discussed in terms of student-athletes’ training contexts and psychological well-being.

Keywords: competition stress, interpersonal relationship, psychological well-being, coach-athlete relationship

A Qualitative Exploration of Ego Involvement and Self-Imposed Pressure

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Abstract: Competitive athletes tend to be highly egotistic, being self-involved to pursue their victories and successes (Krane, Greenleaf, & Snow, 1997). However, such high ego-involvement pushes athletes to pay high prices (e.g., injuries, unhealthy eating, overtraining, etc.) for their glories. We are interested in the association of such ego-involvement and self-imposed pressure. The purpose of this study was to explore the relation between athletes’ ego-involvement and self-imposed pressure through a qualitative approach. We interviewed nine youth athletes (4 men and 5 women) who competed at the national and/or international level(s) with outstanding athletic achievements in various sports. Open coding and axial coding (Strauss & Corbin, 1990) revealed personal, organizational, and environmental factors that influence athletes’ ego-involvement. Also, we found when endorsed high ego-involvement, athletes experienced several unique self-imposed pressures such as (a) training/competing under extreme conditions (training while injured, using pain-killers to continue training, competing during menstrual cycle/physical discomforts, training under harsh weather, and competing during parental death), (b) training long hours (very few rest days, training during weekends and holidays, early and late-night training), and (c) using extreme measures to gain an advantage (including illegal tactics, cheating, doping, using diuretics/laxatives or self-induced vomiting to gain ideal weight). We suggest that sports professionals, parents, administrators, and coaches should not only focus on athletes’ winning and success but also be concerned for their global development and well-being.

Keywords: competitive sports, achievement motivation, eating disorder, youth development

Student-Athletes’ Interpersonal Stress: A Ground Theory Perspective

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National Taiwan Sport University

Abstract: Defining stress as “an external stimulus that causes a person to feel tensed or aroused,” we adopted Bogler, DeLongis, Kessler, & Schilling’s (1989) social stress theory as the framework to explore student-athletes’ experiences of interpersonal stress encountered in sport settings. We recruited eight student-athletes (males=3, females=8) ranging from 17 to 24 years old who participated in semi-structured in-depth interviews. They were asked about their experiences regarding social stress during training and

competition. Interview transcripts and field observation notes were all integrated for reduction analysis. The grounded theory method was used to analyze data and found student-athletes experienced eight major types of social stress: (1) social denial, (2) social expectation, (3) social comparison, (4) discrimination, (5) prejudice, (6) social norms, (7) isolation, and (8) conflicts. Also, we found that student-athletes’ social stress comes from coaches, family members, peers, organizational officials, opponents, and audiences. Moreover, the consequences of social stressors can be categorized into the following five types: (1) lower self-esteem and performance, (2) rejection, (3) negative emotions, (4) psychological avoidance, and (5) maladaptive coping. We suggest sports professionals, administrators and sport psychologists should work together to identify, prevent and intervene on student-athletes’ social stress so to protect student-athletes’ psychological well-being.

Keywords: competitive sports, social psychology, interpersonal relationship, group dynamics

Aspects of Choking: Current Debates, Pressure Concepts, Antecedents, and Possible Prevention

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2. The University of Queensland, Australia
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Abstract: Skill failure in important situations (i.e., choking under pressure or choking) often means tragic and tearful, sad and disappointing low points in athletes’ sporting careers. Considering that elite athletes usually exhibit outstanding potential and top levels of performance, choking episodes are generally rather unexpected, but exactly for this reason, strikingly intriguing from a scientific perspective. The aim of this symposium is to provide a comprehensive overview about recent developments within the research on choking under pressure. It will address current debates about the nature of choking (i.e., operational definition, choking vs. underperformance, and skill level), discuss quantitative and qualitative differences between different public pressure situations, explore perceived importance as an antecedent of choking on team-tasks, and describe a partly conscious pre-performance routine as a possible intervention that may prevent choking in tennis players.

Keywords: sub-standard performance, under-performance, predictors, interventions

Aspects of Choking: Pressure Concepts

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Abstract: In experiments investigating choking under pressure in sport, pressure has usually been manipulated by the presence (high-pressure, HP) and absence (low-pressure, LP) of motivational (e.g., monetary incentives) and self-presentational situational factors (e.g., audiences). Because research primarily manipulated motivational factors, the created HP situations were relatively private in comparison to sport competitions. Hence, the aim of the present study was to investigate differences between private (only motivational),

public (only self-presentational) and mixed (both) HP situations. Comparisons of state anxiety scores were used as indicators for quantitative differences in pressure. Comparisons of the HP situations' ability of activating personality traits (self-focus and self-presentation traits) were used as indicators for qualitative differences in pressure. It was hypothesized that private and mixed HP conditions quantitatively and qualitatively differ from public HP situations that induce higher levels of anxiety and activate self-presentation rather than self-focus traits.

After completing personality questionnaires, 120 handball players performed a throwing accuracy task in a LP and one of the three HP conditions (n = 40). Directly prior to performing in each condition, they filled in a state anxiety questionnaire. Results indicated quantitative differences in pressure because the players were (marginally) significantly more anxious in the public HP condition than in the private (p < .001) and mixed ones (p = .071). Findings also indicated qualitative differences because situational demands of the private and mixed HP situations distinctly activated self-focus traits (β = -.33, p = .037; β s = -.31, p = .049) while the public HP situation activated self-presentation traits (β s = .34, ps> .035). Results of this study indicated that pressure is a heterogeneous concept and that caution is needed when creating HP situations for experimental use. Public HP conditions may have the highest ecological validity within the investigated set of experimental HP conditions due to their similarity to competitions. From an applied perspective, this study identified personality traits that go along with successful performance in different public HP situations.

Keywords: state anxiety, self-focus, self-presentation, choking under pressure

Aspects of Choking: Prevention

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Abstract: In sport, choking under pressure has been explained by distraction theory (e.g., Baumeister & Showers, 1986) and reinvestment theory (Master& Maxwell, 2008). Because empirical evidence can be found for both, this study aims to use a partly conscious pre-performance routine before serving in tennis to prevent choking. A partly conscious routine, (1) consumes cognitive capacity, thus prevents a focus on irrelevant thoughts (distraction theory). Furthermore, performing a not automated routine (2) hinders focusing on the execution of the automated tennis serve and a possible distribution of this movement (reinvestment theory). In a pre-post test design with an experimental group (n = 15) and a control group (n = 14), tennis players (Mexperience= 16.7 years; SD = 5.4) performed 35 second serves before and after a standardized anxiety induction (2nd part of the Trier Social Stress Test; Kirschbaum, Pirke, & Hellhammer, 1993). The experimental group practiced the routine, containing breathing and focusing aspects, for four weeks. A dual-task was performed to measure the level of automation. Results show that the execution of the routine takes significantly longer (MD = 0.87 sec) under dual-task conditions (t (14) = 3.43, p = .004, d = .51), thus the routine was partly conscious. Comparing pre- and post-tests, no significant differences in performance under anxiety conditions were found between the groups. However, 73% of the experimental group stated that they would continue using the routine during competitions. Since the study was conducted in a field setting, confounding variables (e.g., weather conditions: pretest – sunny, posttest – rainy) may explain the non-significant results. Nevertheless, because participants appreciated and continued using the present routine, research should continue investigating choking interventions that combine different attention theories as an effective strategy to prevent choking and improve performance under pressure.

Keywords: choking under pressure, tennis, partly conscious routine, cortisol

Aspects of Choking: Antecedents

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Abstract: The amount of perceived pressure, as an antecedent of choking in sport, is highly related to the perceived situational importance. Generally, athletes perceive a competition to be important if it affects personally valued motives, goals, and commitments. Because competitive athletes usually identify strongly with their sporting success, it can be assumed that a sport competition generally constitutes an important task. However, while this easily applies to individual sports or coactive tasks, a direct translation to team sports or collective tasks is not feasible. Instead, as illustrated by Karau and Williams' (1993) Collective Effort Model, the value of a collective task (e.g., a team game) depends on an individual athlete's sense of instrumentality, that is, the perceived contingency between individual performance and individual outcomes. This, in turn, depends on the perceived contingency between (a) individual performance and team performance, (b) team performance and team outcomes, and (c) team outcomes and individual outcomes. The present study aimed to examine these pathways empirically and in a team setting. It was expected that (1) the three team-beliefs would positively predict athletes' overall sense of instrumentality, and (2) their sense of instrumentality would positively predict their perceived situational importance.

To this end, 213 competitive female and male team sport athletes responded to questionnaire-items assessing their instrumentality beliefs (Shepperd & Taylor, 1999) and perceived situational importance (Wolf, Eys, & Kleinert, 2011) approximately 71 minutes prior to going into an in-season game. As results show, the Collective Effort Model's suggested pathways were confirmed empirically in that (1) team-beliefs significantly and positively predicted instrumentality (r^2 = .19, p< .001), and (2) instrumentality significantly and positively predicted situational importance (r^2 = 11, p < .001). Confirmation of these mechanisms allows for further insight into the reasons and conditions that explain why and when athletes perceive a team task as personally relevant and thus are at a higher risk of choking. For example, theory, in line with present results, suggests that athletes who perceive themselves and their performance as indispensable to team success (e.g., captains and otherwise exposed players) or players who identify strongly with their team are also more prone to choke and suffer respective performance decrements.

Keywords: instrumentality, team sports, perceived importance

Interdependence and Identification as Mediators between Team Cohesion and Precompetitive Emotions

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Abstract: The perceived level of team cohesion predicts athletes' precompetitive emotions, i.e., whether they react to an upcoming competition primarily with anxiety or excitement (Eys, Hardy, Carron, & Beauchamp, 2003), and how intense this reaction will be (Prapavessis & Carron, 1996). Congruent with Cognitive Motivational Relational theory (Lazarus, 1999), this relationship can be attributed to perceptions of cohesion predicting precompetitive cognitive appraisal (Wolf, Sadler, Eys, & Kleinert, 2012). Specifically, a higher level of cohesion predicts a higher perceived importance of the upcoming competition (i.e., primary appraisal) and better perceived prospects for coping with competitive demands (i.e., secondary appraisal). Whereas a high secondary appraisal is universally beneficial, a high primary appraisal may be detrimental to performance by causing excessive emotional intensity (Cerin &

Barnett, 2011). Consequently, high cohesion may also be detrimental to performance due to its relationship to primary appraisal. Because cohesion is a somewhat elusive concept (Carron, Shapcott, & Burke, 2007), the present study aimed to explore which specific aspects are responsible for this relationship and, based on previous findings (Wolf et al., 2012), focused particularly on (a) athletes' perceptions of interdependence and (b) their degree of identification.

A mixed gender sample of 213 competitive team sport athletes responded to questionnaire-items assessing their perceptions of team cohesion (KIT-L; Ohlert, 2012), interdependence (Bruner, Hall, & Côté, 2011), identification (Heere & James, 2007), and precompetitive primary appraisal (Wolf, Eys, & Kleinert, 2011) on average 71 minutes prior to an in-season game. By documenting successful mediation on part of these dimensions, results suggest that athletes who perceive themselves to be more involved and socially integrated in their team (cohesion – Individual Attraction to the Group-social) and this team to be more united around its task (cohesion – Group Integration-task) also perceive an upcoming competition as more personally important, because they more strongly feel (a) to be working towards a common end with their teammates (interdependence – Outcome Interdependence) and (b) their team to be an extension of themselves (identification – Interconnection to Self). These findings not only provide further information about the construct of team cohesion and its overlap with similar group concepts, but they also provide valuable insight into how athletes' immediate social environment may influence their appraisal of and (emotional) reaction to a competition. Thus, they provide potential approaches to optimize these processes, e.g., increase athletes' engagement by fostering cohesion via team goal setting, but also avoid excessively intense precompetitive emotions by differentiating athletes' self-concept via team-unrelated activities.

Keywords: precompetitive anxiety, interdependence, identification, cognitive appraisal

How Much Does Touch Mean? An Investigation of Touching Behaviors among Female Elite Handball Players

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Abstract: From a team sport perspective, players' emotional expressions can have a detrimental impact on team performance through a process called emotional contagion (Hatfield et al., 1994). Moll et al. (2010) examined emotional expressions of soccer players during penalty shootouts and found that individual expressions were related to team success. Touch is one way of expressing emotions and considered an important part of emotional communication (Hertenstein et al. 2006), but has so far only received limited attention in sport psychology research (e.g. Kneidinger et al., 2001). The present study aims at expanding the approach of Moll et al. (2010) by investigating if touching behavior as a specific form of emotional expression is related to subsequent performance in women's team handball. Eighteen matches from the highest women handball league in Sweden resulted in a total of 1,239 coded situations that form the basis for the analyses. The coding situation starts when a player executes a shot with the intention to score and ends when she has returned to her defense position. A coding scheme was elaborated based on existing literature and was checked for face validity by an expert panel of four experts. Coding was done by the authors and checked for both inter-observer reliability through the coding results of a research assistant and intra-observer reliability through a re-test. Analyses were done using t-tests, ANOVAs and logistic regressions. Overall, the results reveal that the winning team shows significantly more touching behavior after scoring than the losing team (t = -2.36, df = 613, p< .05). There is a significant decline in the average of touching behaviors after scoring from the beginning to the end of the

match (F = 2.29, df = 5, p< .05). Moreover, teams use significantly less touching behavior after scoring when they are far behind than when scores are close or they are leading (F = 4.00, df = 2, p< .05). The results of the logistic regression show that the amount of touch after scoring significantly predicts success in the coming offence for substituting players (χ^2 = 4.33, df = 1, p < .05). Likewise, there is a trend in the same direction for permanent players after not scoring (χ^2 = 3.65, df = 1, p = .06). To conclude, touch behavior seems to play an important role in team sports and deserves further attention in research.

Keywords: touch, emotional contagion, elite handball

Morality in sport

Sport Values and Ethical Attitudes in Young Hong Kong Golfers

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Abstract: There has been increasing concern about unethical behaviour in sport. The Attitudes to Moral Decision-making in Sport Questionnaire (AMDYSQ) was constructed by Lee, Whitehead, & Ntoumanis (2007) in the UK to assesses acceptance of cheating (AOC), acceptance of gamesmanship (AOG), and keeping winning in proportion (KWIP), and research has shown these attitudes are predicted by moral, competence, and status values, assessed by the Youth Sport Values Questionnaire -2 (YSVQ-2) constructed by Lee, Whitehead, Ntoumanis, & Hatzigeorgiadis (2008). The purposes of this study were (a) to translate and modify the instruments for use in Hong Kong, and (b) to examine relationships between sport values and ethical attitudes in young golfers. Participants were 100 junior golfers aged 11 to 19 years. They completed either the English or Chinese translation of the AMDYSQ and the YSVQ-2. Exploratory factor analyses (EFA) were undertaken to identify the factor structure of the questionnaires in the Hong Kong sample and remove cross-loading items. Significant correlations between the scales of 11-item instruments showed AOC related positively with status values (r = .18) but negatively with moral (r = -.39) and competence (r = -.30) values. AOG also correlated positively with status values (r = .20) but negatively with moral (r = -.40) and competence (r = -.28) values. In contrast KWIP related positively with moral (r = .34) and competence (r = .34) values. Subsequent confirmatory factor analyses (CFA) provided better evaluation of the model fit of the questionnaires, and multi-sample analyses showed invariance across Hong Kong and the UK for the original instruments. For the 9-item AMDYSQ the fit was good with constraints for equality of factor loadings, error variances, and factor variances and correlations (χ^2 = 111.62, df = 69, p < .00, RMSEA = .05, SRMR = .06, CFI = .98, NNFI = .98). For the 13-item YSVQ the multi-sample analysis also included Greece and Kenya provided reasonable support for invariance across these nations. These results show that YSVQ-2 and AMDYSQ are psychometrically sound instruments, suitable for cross-cultural use. Thus they open up a new research field and facilitate wider studies of moral issues. In this study the Hong Kong golfers gave low importance to status values, cheating and gamesmanship, and high importance to moral and competence values and keeping winning in proportion.

Keywords: sport values, moral decision-making, cheating, gamesmanship

Cheating and Gamesmanship in Youth Sport: An Exploration of Differences

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Abstract: All contributors to this symposium have used the Attitudes to Moral Decision-making in Youth Sport Questionnaire (AMDYSQ) which was constructed by Lee, Whitehead, & Ntoumanis (2007) to assess acceptance of cheating (AOC), acceptance of gamesmanship (AOG), and keeping winning in proportion (KWIP). In some studies the cheating and gamesmanship factors have been clearly differentiated but in others they are combined as a single antisocial factor. Whereas other questionnaires exist which include measures of cheating, the AMDYSQ is the only instrument to assess gamesmanship. This paper presents a conceptual and empirical overview of the development, differentiation, and measurement of cheating and gamesmanship attitudes, with particular focus on the nature of gamesmanship and the advantages in differentiating it from cheating and related constructs.

Cheating is difficult to define conceptually and operationally, and there are other categories of dishonourable behaviour in sport such as professional fouls and gamesmanship all of which violate an implicit contract to play fairly. The cheating measure in AMDYSQ was derived from the conceptual position of Reddiford (1998) who argued that rules provide the structure of sport and participants must know what officials will allow. He proposed that cheating has 3 features, notably illegitimate gains by breaking rules, concealing intentions, and successful deception. Empirically the items were derived through five qualitative and quantitative stages, from an expert survey and focus groups of young competitors, through pilot tests, EFA's, CFA's, international cross-validation and recent development of an AMDYSQ-2.

Gamesmanship is a more sophisticated British construct arising from Potter's (1947) humorous book of this name that focused on the 'art of winning without actually cheating'. It covers a range of strategies whereby competitors disturb their opponents psychologically and violate the spirit of the contest but don't break the rules. In AMDYSQ the gamesmanship items are all interpersonal and the cheating items are not. Gamesmanship has a more normal distribution than cheating and may be a more sensitive indicator of unethical behaviour but is not understood by young or inexperienced competitors.

Discussion and Future Directions: AMDYSQ has been used internationally in studies exploring a range of related psychological variables, and its 3 scales have been combined as an index of acceptance of aggression in studies of moral disengagement. The recent development of behavioural measures of cheating and gamesmanship by Lucidi et al (2013) allows for important new studies examining the influence of attitudes on behaviour.

Keywords: cheating, gamesmanship, youth sport

Bracketed Morality Revisited: How do Athletes Behave in Two Contexts?

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Abstract: In their seminal research, Bredemeier and Shields (1986) found divergence in moral reasoning between sport and daily life with a greater percentage of sport versus life reasoning classified as assimilative (i.e., the least mature level of moral reasoning). We extended this work to behaviour and had two purposes. The first purpose was to examine whether prosocial and antisocial behaviour differ between sport and university. The second purpose was to determine whether moral disengagement and ego orientation mediate potential differences in behaviour between these two contexts. University athletes (N = 372) from a variety of team sports completed questionnaires assessing prosocial and antisocial behaviour, moral disengagement, and goal orientation in sport and university. Analyses of variance indicated that athletes reported: more antisocial and less prosocial behaviour toward their opponents while playing sport than

toward their fellow students at university; more prosocial behaviour toward their teammates in sport than toward other students at university; and higher moral disengagement and ego orientation in sport than university. Within-subject regression analyses revealed moral disengagement and ego orientation as partial mediators: Higher moral disengagement and ego orientation in sport partially explained the higher frequency of antisocial behaviour in sport compared to the university context. Our findings extend the work of Bredemeier and Shields (1986) and highlight the importance of distinguishing between teammates and opponents when contrasting morality in sport with that in other contexts.

Keywords: moral reasoning, prosocial and antisocial behaviours, moral disengagement, goal orientation

Cheating and Gamesmanship in Youth Sport: From Attitude to Behavioral Research

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Abstract: The view that sport is an arena for the development of moral behavior has traditionally been widespread, but the evidence for this is equivocal. Public concern about the level of unethical behavior in sport has grown. More recently, this view has spawned research interest in the assessment of young athletes' attitudes towards fair play or cheating in sport.

In 2007, Lee, Whitehead and Ntoumanis developed an instrument to measure ethical attitudes among youth populations. The "Attitudes to Moral Decision-Making in Youth Sport Questionnaire" (AMDYSQ) measures cheating, gamesmanship and keeping winnings in proportion. Cheating relates to covert rule-breaking to obtain an unfair advantage, whereas gamesmanship concerns upsetting opponents psychologically without breaking the rules. The proposed symposium offers international examples of research using AMDYSQ. Diverse antecedents are explored and in some studies cheating and gamesmanship are combined as a single antisocial factor.

The first paper by Whitehead focuses on the development of AMDYSQ in the UK with particular reference to conceptual and operational differentiation between cheating and gamesmanship, and resulting differences in their potential application. The second paper by Chan replicates elements of a UK model which predicted antisocial (cheating and gamesmanship) and prosocial attitudes from moral, competence, and status values partly mediated by task and ego orientations. In young Hong Kong golfers, cheating and gamesmanship correlated with moral and status values as predicted and the factor structure of AMDYSQ was consistent across the UK and Hong Kong, showing its suitability for international use. The third paper by Ichimura used university basketballers to explore the mediating role of achievement goal orientations in the prediction of prosocial and antisocial attitudes (cheating and gamesmanship) from moral, competence, and status and values and also records the level of acceptance of cheating and gamesmanship at this more elite level. The fourth paper by Costa examines different antecedents of cheating and gamesmanship by exploring the role of two modes of parental psychological control in influencing these unethical attitudes. The final paper by Lucidi extends the UK model from attitudes to behavior by introducing behavioural measures of cheating and gamesmanship in a study of young Italian tennis players. This demonstrates the possibility of linking an integrated antecedents-attitude model of effects to behavioral outcomes recorded in vivo.

Keywords: cheating, gamesmanship, moral decision-making, youth sport

Cheating and Gamesmanship in

Youth Italian Tennis Players: From Attitude to Behavior

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Abstract: Context: In recent years, psychological researchers have tried to understand cheating in sport by focusing on the active role of the individual, using successfully used social-cognitive theories such as achievement goal theory and self-determination theory. These approaches have mainly focused on attitudes toward cheating. The present study was carried out on cheating behavior. Method: In Study 1, 314 young tennis players (76.6% male) between 12 and 17 years old (mean=14.4 yrs., SD=1.5 yrs.) participating in the LEMONBOWL 2012 answered questions from Italian versions of (a) Youth Sport Values Questionnaire-2, (b) Task and Ego Orientation in Sport Questionnaire, (c) two prosocial subscales of Multidimensional Sportsmanship Orientation Scale, and (d) two antisocial subscales of the Attitudes to Moral Decision-Making in Youth Sport Questionnaire. In Study 2, 45 tennis matches were randomly selected and analyzed by observers who rated on a standardized grid the presence/absence of cheating or gamesmanship behaviors from 90 tennis players from those in study 1. Players were encouraged to self-regulate their match without a referee.Results: In study 1, a structural equation model adequately replicated findings from published past research (Chi-Square (309) =534.447, p<0.001, CFI=.91, TLI=.90, RMSEA=.05, SRMR=.07). In particular, moral values (β= -.55) and ego orientation (β =.29) predicted antisocial attitudes. Considering that status values (.52) predicted ego orientation, the latter mediated the effects of status values on antisocial attitudes. Furthermore, moral values (β=.49) and task orientation (β =.67) predicted athletes' prosocial attitudes. Finally, considering that competence values (.47) predicted task orientation, the latter mediated the effects of competence values on prosocial attitudes. In study 2, we hypothesized that both prosocial and antisocial attitudes reported by young tennis players could predict their cheating and gamesmanship during the subsequent matches. The corresponding model tested the hypothesis that prosocial and antisocial attitudes would directly contribute to athletes' behavioral differences. The fit indices were adequate (Chi-Square(175)=203.018, p=0.07; CFI=0.91; RMSEA=0.042; WRMR=0.74) showing a pattern of effects that confirmed what was found in the first model and indicated a direct and positive contribution of antisocial attitudes toward athletes' actual cheating (β =.12).Conclusion: Results confirmed, in the context of youth tennis, the crucial role of sport values and motivational orientation in explaining athletes' attitudes, which in turn resulted in the ability to predict athletes' actual cheating.

Keywords: cheating, gamesmanship, tennis player, attitude, behavior

Parental Psychological Control and Moral Attitudes in Sport

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Abstract: An interesting aspect of parenting that could have a relevant role in predicting indices of morality in sport is psychological control. Psychologically controlling parents rely on intrusive and manipulative strategies such as guilt induction, disappointment, shaming, isolation, and love withdrawal. Two domain-specific expressions in psychologically controlling parenting have been identified. Dependency-oriented psychological control is characteristic of parents who pressure their sons and daughters to keep them within close physical and emotional relatedness. Achievement-oriented psychological control is characteristic of parents who are

highly demanding and give pressure to excel in performance relevant contexts (e.g. sports). Therefore this study will examine the role of these specific domains of psychological control in prediction attitudes towards moral decision making in sport (i.e. acceptance of cheating, acceptance of gamesmanship).

270 team sport athletes (137 male and 133 female) ranging in age from 17 to 25 (M = 20.93, SD = 1.90) completed the Dependency-Oriented and Achievement-Oriented Psychological Control Scale (DAPCS) and the Attitudes to Moral Decision-making in Youth Sport Questionnaire (AMDYSQ). DAPCS assesses two modalities of self-perception of parental psychological control: dependency-oriented and achievement-oriented. The AMDYSQ assesses the acceptance of cheating, and of gamesmanship.

In females, regression analyses showed that after controlling for age and exercise, the model with the paternal psychological control had a significant increase in R2 [F change (2, 128) = 5.072; p = .008; R2 = .073] with the paternal dependency-oriented psychological control providing an additional unique contribution (β = .307; t = 3.082; p = .003), predicting acceptance of cheating. In males, there was a significant increase in R2 after entering the two domains of maternal psychological control [F change (2, 132) = 4.771; p = .010; R2 = .066] with the achievement-oriented psychological control giving a strong contribution (β = .215; t = 2.281; p = .024) in predicting acceptance of gamesmanship.

Results emphasize the role of the two domains in the development of moral attitudes in sport. The paternal dependency-oriented influence for females and the maternal achievement-oriented influence for males seem most likely to underpin violations of the spirit or the rules of the game. The feeling of pressure that athletes perceive from their parents could, in fact, promote the need to achieve at all costs and facilitate the acceptance of gamesmanship and cheating. This relationship could be better understood within the Self-Determination Theory to evaluate the role of basic psychological needs with young athletes.

Keywords: parental psychological control, moral attitudes, cheating, Gamesmanship, team sport athletes

Do Values and Achievement Orientations of Elite University Basketball Players Predict Their Sporting Attitudes?

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Abstract: This study aimed to find relationships among three classes of psychological variables, i.e. values, achievement orientations, and prosocial or antisocial attitudes, within the sport setting of college basketball players. It was intended to compare the relationships in Japanese basketball players with a British model in which values predicted attitudes and some effects were mediated by achievement orientations in young athletes aged 12-15 years. The participants were 93 male university basketball players aged 18-22 years. They played for the varsity team of Tokyo Seitoku University and practiced 5 or 6 days a week. The data were collected in 2009 and 2012, using Japanese translations of the questionnaires used in the British study (YSVQ, POSQ, MSOS, and AMDYSQ). Factor analyses were conducted for the three psychological domains and correlation coefficients among factor scores were calculated. Using these scores, regression analyses and path analyses were carried out to identify the determinants of prosocial and antisocial attitudes in sport.

As with the British data, the factor analyses showed three values

(moral, competence, and status), two achievement orientations (task and ego), and two prosocial attitudes (commitment to sport and respect for conventions). However, the two antisocial attitudes were not differentiated and the scales for acceptance of cheating and acceptance of gamesmanship were combined. As with the British athletes, competence values predicted respect for sport conventions and task orientation partially mediated this effect. However, status values and ego orientation did not predict antisocial attitudes. There were differences in the age and competitive levels of the Japanese and British participants and some differences in the factor correlations. Further research should repeat the study with young Japanese athletes and select different items from the questionnaires to better represent the underlying conceptual relationships. It should also use a larger sample of elite athletes to fully test the structural equation models in Japan with confirmatory factor analysis. However, mean scores in this study showed that Japanese basketball players give greater priority to competence values (mean score 10.55) than to moral values (mean score 7.68), and to commitment and convention attitudes (mean scores respectively 11.15 and 7.91) rather than cheating and gamesmanship attitudes (mean scores respectively 6.00 and 5.98), which indicates that they generally hold high moral attitudes.

Keywords: sport values, achievement orientation, prosocial attitudes, antisocial attitudes

Motivation in sport

Contribution of the Trans-Contextual Model to Promoting Sport Engagement in Physical Education and Outside of School

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Abstract: Sport engagement in young people is a focal interest of sports promoters and physical educators to promote increased learning of sports skills and possible routes to physical activity. A useful existing network for the promotion of sport engagement is physical education (PE) and one route to doing this is by instilling self-determined motivation in young people through autonomy support. A key question for educators is whether promoting autonomous motivation toward sport participation in a PE context leads to increased autonomous motivation toward sport participation outside of school (e.g., in a leisure-time context). We present a trans-contextual model that proposed the mechanisms by which autonomous motivation for sport participation in PE is transferred sport participation outside of school. The model adopts a multi-theory integrated approach including self-determination and planned behaviour theories and incorporates hypotheses for the effects of students' perceived autonomy support for sport participation from PE teachers leads to autonomous motivation toward sport participation within PE but also autonomous motivation toward sport participation outside of school. Autonomous motivation toward sport participation in a leisure-time context is proposed to be associated with attitudes, perceived control, and intentions toward future sport engagement and actual sport participation. We present a meta-analysis of studies adopting the trans-contextual model in sport and exercise contexts to test and confirm these hypotheses. The effects are tested using a meta-analytically derived path analysis which fit the data well. We also present an empirical study that supports the basic premises and the transfer of autonomous motivation toward sport participation from PE to leisure-time contexts. The key hypotheses were supported in a path analysis examining the network of relationships among the model constructs which fit the data well. The applicability of the model

as a basis for sport education to promote motivational transfer from PE to contexts outside of school is discussed.

Keywords: autonomous motivation, trans-contextual model

The Roles of Coaches, Peers and Parents in Creating Motivational Climates on the Dispositional Flow in Adolescent Athletes

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2. Başkent University

Abstract: The purpose of this study was to investigate the influence of perceptions of coach-, peer- and parent created motivational climates on the dispositional flow state in adolescent athletes. Eighty six female (Mage=14.24, SD=1.38 years) and 134 male (Mage=16.28, SD=1.17 years) athletes from various team sports participated in this study. The Perceived Motivational Climate in Sport Questionnaire (PMCSQ), Peer Motivational Climate in Youth Sport Questionnaire (PMCYSQ), Parent-Initiated Motivational Climate Questionnaire-2 (PIMCQ), and Dispositional Flow Scale-2 (DFS-2) were administered to participants. Hierarchical multiple regression analyses was conducted to determine whether the coach-, peer-, and parent motivational climates were significant predictors of dispositional flow. Mean total score of dispositional flow (dependent variable) was used in the analyses. The ranges for Tolerance (TOL) and Variance Inflation Factor (VIF) in all independent variables were between .25 to .99 and 1.01 to 3.92, respectively, indicating no collinearity. Gender and age were included as covariates. The coach climate scales (mastery and performance climate) were entered as independent variables in the second step of the model, while the peer and parent climate measures were entered in steps 3 and 4, respectively. Results of hierarchical multiple regression analyses, controlling for age and gender, indicated that perceived mastery climate of coach ($\beta=.40$, $t = 5.35$; $p<.001$) and perceived task involving peer motivational climate ($\beta=.28$, $t = 3.54$; $p<.002$) were the only predictors of dispositional flow state in the adolescent athletes. The mother- and father initiated motivational climate did not contribute to prediction of dispositional flow state. In conclusion, the findings revealed that coach-created mastery climates and peer created task climates contributed to flow state experiences in adolescent athletes, and suggest that attention should be on the climate created by coaches and peers.

Keywords: motivational climate, flow, youth athletes

Motivational Predictors of Engagement and Performance in Sport and Exercise

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Abstract: The symposium consists of five talks dealing with motivational predictors of maintenance of physical activity, autonomous motivation toward sport participation, behavior, and performances in the areas of sport and exercise. Two presentations will focus on aspects of promotion of sport and exercise behavior. The first presenter will show that the effects of a group-based intervention program on physical activity were mediated by cognitive variables such as intention strength, action planning, and barrier management and that the stage of behavior change (adoption and maintenance) has to be considered in these analyses. The second talk includes a meta-analysis of studies adopting a trans-

contextual model, which integrates self-determination and planned behavior theories. It is assumed and shown in an additional study that autonomous motivation toward sport participation is transferred from the physical education to a leisure activity context. Two further talks refer to the implicit motive approach in order to predict motivation and affiliation-related behavior in sport. Presenter 3 will show that the effects of basic need satisfaction (competence, social relatedness) on flow experience and exercise addiction are moderated by the achievement and affiliation motive, respectively. In the fourth talk it will be presented that the implicit and explicit affiliation motive predicted verbal contacts with teammates and opponents in competitions differently. The final presentation includes two studies in which performances in table soccer were predicted by a team's overall fit between the demands of playing positions and the players' chronic regulatory focus.

Keywords: motivation, exercise adherence, autonomous motivation, regulatory fit, implicit motive

Cognitive Mediators of Physical Activity Behaviour Change

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Abstract: Health professionals are challenged to develop more effective interventions to help people achieve a physically active lifestyle. One important aspect of realising this goal is to improve our understanding of how psychological variables mediate the effects of intervention programs on physical activity behaviour. The current study investigates how the effects of a group-based intervention program on exercise behaviour were mediated by cognitive variables. Different causal models mapping the short-term (adoption) and long-term (maintenance) intervention effects were tested using path analyses. A total of N=220 in-patients of a rehabilitation clinic were assigned to a usual care or intervention group. Assessment was conducted at baseline; discharge; and at 6 weeks, 6 months, and 12 months post discharge. The potential mediator variables were outcome expectations, self-efficacy, intention strength, goal self-concordance, action planning, and barrier management. The three most important findings from this study were as follows: (1) The observed intervention effects on exercise behaviour were – at least in part – mediated by intention strength, action planning, and barrier management, but not by self-concordance. (2) Self-concordance had the largest total effect on exercise maintenance, but was not directly modified by our intervention, neither in the short-run (Adoption Model) nor on the long-term (Maintenance Model). (3) Intention strength was a significant mediator in both the Adoption and Maintenance Model, whereas action planning was only significant at the adoption, and barrier management only significant at the maintenance stage. This is the first study to track the cognitive mediation processes of intervention effects on exercise behaviour over a long time period (12 months) by differentiating the adoption and maintenance stages of behaviour change. The findings emphasize the importance of deconstructing intervention effects (modifiability vs. predictive power of a mediator) to develop more effective interventions.

Keywords: motivation, exercise adoption and maintenance, action planning

Implicit Motives and Basic Need Satisfaction in Extreme Endurance Sport

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Abstract: According to Self-Determination Theory the satisfaction of three basic psychological needs (competence, social relatedness, and autonomy) leads to well-being and motivation. Current research shows that the effects of need satisfaction are moderated by implicit dispositional motives. Thus, for example, athletes of different sports with a high achievement motive benefited more from competence satisfaction in terms of flow and well-being and suffered more from competence dissatisfaction compared to individuals with a low achievement motive. The present research tested whether this implicit motive-need satisfaction interaction holds true in the domain of extreme endurance sport (multiple triathlon). In Study 1 (N = 29) we addressed a methodological question which remained open in previous research. We tested whether the implicit achievement motive-competence interaction predicts flow, when competence satisfaction is measured generally, sport-specific, and using an implicit rather than an explicit measure, respectively. All variants of need satisfaction measures revealed the expected interaction pattern. Study 2 (N = 92) aimed at predicting flow and additionally a negative facet of endurance sport which is exercise dependence. Again, the relationship between competence satisfaction and flow was moderated by the implicit achievement motive. Interestingly, the interaction to predict exercise dependence was found in the affiliation rather than in the achievement domain. Individuals whose basic need for social relatedness is generally dissatisfied showed more symptoms of exercise dependence than individuals who felt socially related. This relationship is true for individuals with a high but not for individuals with a low affiliation motive. The results are discussed in terms of Deci and Ryan's (2000) assumption that basic need dissatisfaction may lead to compensatory behavior which might find its expression in excessive unhealthy sport behavior.

Keywords: motivation, implicit motives, basic need satisfaction

Effects of Implicit vs. Explicit Affiliation Motives on Verbal Contact in Racquet Sport Competition

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Abstract: The affiliation motive is perceived as a person's need to establish, maintain, or restore friendly and positive relationships with others which includes cooperation and conversation. In team competitions in racquet sports, verbal interaction occurs with teammates within breaks or with opponents mostly when arguing about a referee's decision. In the present study we hypothesized that in-game verbal contact with teammates is linked to the explicit affiliation motive because it is socially desirable. In contrast, verbal interaction with the opponent represents a means of exerting an influence on the opponent or arguing about a referee's decisions, which should be associated with the implicit affiliation motive. Sixty-eight male professional athletes from the German major leagues of tennis, table tennis, and badminton participated in the study. Their mean age was 28.1 years (SD = 6.8). Verbal contact with teammates and opponents were coded from video recordings of competitive single matches using a stopwatch. The implicit motive as a measure of the affect-based need for affiliation was assessed using the Operant Motive Test. The explicit affiliation motive as a self-attributed value was measured using a questionnaire (Personality Research Form). The implicit and explicit motive measures were uncorrelated. A high explicit but not implicit affiliation motive was associated with longer verbal contact times with teammates over the entire match,

eventually due to its social desirability. In contrast, the time spent communicating with the opponent could be predicted by the implicit but not the explicit affiliation motive. Athletes high in the implicit affiliation motive spent significantly less time on verbal contact with their opponents. This means implicitly affiliation-motivated individuals intuitively avoid discussions with opponents during competition to maintain friendly relationships with others. These results are in line with research on the dissociation between implicit and explicit motives.

Keywords: affiliation motive, racquet sport competition

Regulatory Fit as a Predictor of Sport Performance

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Abstract: Regulatory focus theory proposes that goal pursuit can be achieved by either keeping a promotion or a prevention focus. In addition, it has been assumed that people experience regulatory fit when they pursue a goal in a manner that suits their chronic orientation and that this fit has a positive impact on performance. In a series of studies, regulatory fit has been related to sport performance. For example, it has been found that soccer players' scoring performance in a penalty shooting task and golfers' putting performance benefits from regulatory fit. In addition, recent research suggests that regulatory fit has a specific impact also on the level of team performance. In fact, we assumed and found in two studies on table soccer performance that a team's overall fit between the demands of playing positions and players' chronic regulatory orientation ("team-fit") predicts a team's success beyond its skill level. Together, these findings demonstrate a great potential of regulatory focus theory for the understanding and enhancement of sport performance. The assessment of athletes' chronic regulatory orientation could be of importance for the selection of athletes, the adjustment of tactics and strategies, and coaches' framing of instructions. In addition, on the basis of most recent research, processes that possibly underlie regulatory fit effects on sport performance will be discussed.

Keywords: motivation, regulatory fit, sport performance

Flow Experiences in Sports

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Abstract: A central concept within positive psychology (Seligman & Csikszentmihalyi, 2000) is the subjective experience called flow. Flow is a state in which people become completely immersed in an activity and their level of skill matches the challenge at hand (Csikszentmihalyi 1990). Extensive research directed by Csikszentmihalyi (e.g., as reported in Csikszentmihalyi, 1990, 2000; Csikszentmihalyi & Csikszentmihalyi, 1988) has shown that when individuals become engaged in an activity that is challenging, controllable and intrinsically motivating they experience a distinctive psychological state, commonly referred to as flow.

The positive experiences of flow state are just as important to understand as negative experiences of sport that receive substantial research attention. The state of flow is important to study because it may be linked to positive emotions, the development of skills, and lead to personal growth, improved performance, and achieving a meaningful life. Learning more about flow, how to achieve it, and what its effects are may lead to increasing people's levels of positive affect. With the development of sport specific measurement of flow, opportunities opened up for the study on a range of issues related to flow, helping us to understand more clearly what flow is, how it is

generated, and how flow impacts on a range of variables that are important in sports.

Since the study of flow began relatively recently, only a limited amount of research has been completed. Thus the aim of this symposium is to examine the flow experiences in different sport settings or different levels of sport participation, and also to understand factors which may influence the occurrence of flow in different sport environments. In the first contribution, the focus is directed towards the influence of motivational climate that is created by coaches, peers, and parents on the flow experiences of adolescent athletes. The second contribution is concerned with the motivational climate and motivation in physical education classes and its influence on flow experiences of students. In a study on passion, Kelecek and Aşçı are looking for the role of passion in flow experiences in elite athletes. In the last contribution, the relationship between motivational characteristics and dispositional flow are investigated in team sport athletes by using path analysis. In the summarizing discussion, HülyaAşçıwill evaluates the contributions in light of the aims of the symposium.

Keywords: flow, passion, motivation, sport settings

An Examination of the Effects of Perceived Motivational Climate and Motivation on Dispositional Flow State in Physical Education Classes

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2. Başkent University
3. Ege University

Abstract: The purpose of this study was to determine the role of motivational climate and motivation in dispositional flow state in physical education classes. A total of 536 secondary school students (Mage=13.35 SD=0.91), 260 males (Mage=13.39 SD=0.94) and 276 females (Mage=13.31; SD=0.89), voluntarily participated in this study. "Physical Education Situational Motivational Scale", "Learning and Performance Orientation in Physical Education Classes Questionnaire" and "Physical Education Dispositional Flow State-2" were administered to all participants. Hierarchical multiple regression analyses were also used to examine the role of motivational climate and motivation in physical education classes in determining dispositional flow state in those classes. The hierarchical regression analysis indicated that participation motivation is the best and dominant predictor of Autotelic Experience subscale of Dispositional Flow. In addition, the participation motivation predicted the dispositional flow state more than the perceived motivational climate. In conclusion, perceived motivational climate and participation motivation moderately predicted the dispositional flow state in physical education classes. Furthermore, self-determined motives increased participation in physical education classes, directing the individual to perceive more equilibrium between their skill and task requirement and also increase enjoyment.

Keywords: participation motivation, motivational climate, flow, physical education

Does Passion in Sport Have an Influence on the Flow Experiences in Elite Athletes?

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Başkent University

Abstract: The main purpose of this study was to investigate the role of passion in determining flow experiences in elite athletes. The study was also aimed to investigate gender differences in passion and flow state. A total of 390 athletes (Mage= 25.11 ± 4.97), 201 males (Mage= 24.98 ± 4.80) and 189 females (Mage= 25.26 ± 5.16), voluntarily participated in this study. Passion Scale Toward Sport and Dispositional Flow Scale-2 (DFS-2) were administered to all participants. Stepwise Multiple Regression Analysis and Multivariate Analysis of Variance were used to analyze the data. Stepwise Multiple Regression Analysis indicated that harmonious passion is the significant predictor of challenge-skill balance subscale of flow state (R=.20; R2=4%; p< .01). On the other hand, obsessive passion is the significant predictor of loss of self-consciousness (R=.15; R2=2%; p< .01) subscale. In addition, both harmonious and obsessive passion predicted clear goals (R=.27; R2=7%; p< .01), unambiguous feedback (R=.28; R2=8%; p< .01), concentration on the task at hand (R=.24; R2=6%; p< .01), transformation of time (R=.35; R2=12%; p< .01) and autotelic experience (R=.21; R2=4%; p< .01) subscales of flow state. Furthermore, the harmonious passion was positively related with these subscales but the obsessive passion was negatively related with the subscales of flow state, except in transformation of time. Finally, Stepwise Multiple Regression Analysis indicated that both harmonious and obsessive passion predicted total flow experiences (R=.21; R2=4%; p < .01).MANOVA results revealed no significant differences in passion between male and female elite athletes (Hotelling's T2=0.002; F(2,387)=0.40; p> 0.05). However, analysis revealed significant gender differences in flow state between male and female elite athletes (Hotelling's T2=0.248; F(10,302)=7.48; p < 0.01). Follow-up analysis revealed that elite female athletes had higher scores on action-awareness merging (F(1,313)=14.54; p < .01), clear goals (F(1,313)=10.92; p < .01), loss of self-consciousness (F(1,313)=7.05; p< .01) and autotelic experience (F(1,313)=21.05; p < .01). In conclusion, these findings suggest that gender and passion has an influence on flow state.

Keywords: passion, flow, elite athletes

Examining the Relationship Between Motivational Characteristics And Dispositional Flow In Team Sports

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Abstract: The aim of this study was to examine the relationship between motivational characteristics and dispositional flow in team sports. Participants were 185 female (Mage = 21.15, SD = 2.02 years) and 119 male athletes (Mage = 22.06, SD = 2.20 years) from a variety of team sports including basketball, soccer, volleyball, and handball with approximately seven years of sport experiences (M = 8.84, SD = 3.95 years). All participants completed the 2x2 Achievement Goals Questionnaire for Sport, Dispositional Flow Scale-2 and Situational Motivation Scale. Data were reported as means and standard deviations and independent samples t-tests were used to compare the scores for the two genders. The correlation analyses and path analysis were applied for testing relationship between motivational characteristics and dispositional flow. Analysis revealed significant differences in performance approach goals and performance avoidance goals between male and female athletes. It can also be observed through correlational analysis that dispositional flow was significantly related to all motivational variables, except for mastery-avoidance goals and external regulation. The mediating role of dispositional flow level on relationships between achievement goals and situational motivation types were tested. As for the path

analysis results, it was found that the effects of achievement goals on situational motivation types were completely provided by the dispositional flow variable. As a result, dispositional flow has an important role in the relationship between achievement goals and situational motivation types.

Keywords: dispositional flow, achievement goal, situational motivation, team sport

Psychological aspects of youth sport

The Developmental Experiences of Elite Female Youth Soccer Players

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Abstract: Elite female athletes remain an understudied population with respect to talent development processes and the environments that sustain female talent. With the exponential growth of interest within female soccer in recent years, this study investigated the developmental experiences of elite youth female soccer players in the United Kingdom. We adopted an interpretive approach where four players (Mage = 16.75) were initially interviewed to gain a retrospective understanding of their development as football players. Subsequent fieldwork and further interviews were used to gain a current and prospective understanding of their development as players. Data were subjected to an inductive analysis, composite sequence analysis and a collaborative member checking process to co-construct a sequential, developmental understanding of the players' experiences within elite youth football. The findings suggested that the football experience of fathers and / or older brothers played a significant role in the players' development. Football fathers were able to provide advice and guidance specific to the needs of their daughter-player at different age ranges whilst at the same time reinforcing the importance of coach-player relationships. Football brothers acted as either positive or negative models for their sister-players and served as a source of information about key career choices. Friends inside (termed football friends) and outside (termed non-football friends) football played a significant role in helping players to lead the disciplined lifestyle required of an elite youth football player. Finally, findings suggest that self-regulation and adaptive volitional behaviours appear to be key intra-individual factors associated with talent development in female football. These findings are considered in the light of previous talent development literature alongside directions for future research.

Keywords: talent development, athletic career paths, sporting families

A Multiple-Phase Personal-Disclosure Mutual-Sharing Intervention and Group Functioning in Elite Youth Cricket

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Abstract: A substantial body of literature exists to explore the efficacy of various intervention strategies on team functioning variables in applied sport psychology. One team building intervention which has attracted recent research attention, providing a growing

evidence-base in applied sport psychology, is Personal-Disclosure Mutual-Sharing (PDMS). The PDMS approach to team building requires individuals to publicly disclose previously unknown personal stories and information to members of their team. Stemming from counselling settings, personal-disclosure symbolizes conscious verbal presentations of a situation or issue in an attempt to establish resolution through interpersonal interaction. In addition, the present study also sought to assess a more diverse set of group factors (i.e., social identity, social identity content, and collective efficacy) pertinent in a sporting context. Despite being well-researched across various psychological domains (e.g., organizational, health, and political) social identity constructs remain unexplored within sport. In this study we explored the effects of a multiple-phase PDMS intervention upon social identity, social identity content, and collective efficacy in the context of elite youth cricket, while outlining important issues to be considered when delivering team-based interventions in applied practice. In a one group pretest-posttest design, 15 elite academy (youth) cricketers were exposed to two (PDMS) sessions during a pre-season tour of India. Within PDMS1, athletes disclosed relationship-oriented information and within PDMS2, mastery-oriented information. Social identity, social identity content, and collective efficacy were measured at baseline (one-week before the tour), post-PDMS1, mid-point, and post-PDMS2, while social validation was also obtained after each intervention session. Quantitative data revealed significant increases in social identity and friendships identity content at post-PDMS1, and results identity content and collective efficacy at post-PDMS2. Qualitative social validation data further supported the effectiveness of each session along with highlighting the thoughts of feelings of the athletes prior to their speeches. In sum, the data suggest practitioners can develop team outcomes (e.g., a focus on results) through developing specific aspects of teams' identities. Study limitations, practitioner guidelines, and areas for future research are discussed.

Keywords: athletic talent development, group psychotherapy, applied sport psychology, team interventions

Predictors of Early Sport Involvement

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Abstract: The literature in sports talent development contains very few studies about the early phases of talent development, especially the factors contributing to children's early involvement in the regular competitive practice of sports. According to the Differentiating Model of Giftedness and talent (DMGT), physical natural abilities should play a significant role in determining early involvement in structured and competitive sport activities. Is it so? What other factors are seen to impact that early involvement? In this study physical education teachers in 4 primary schools identified 424 children from 53 classrooms in grades 1 or 4 (ages 7 or 10) as either the most or the least physically gifted (approximately the top 15%). They named 2 boys and 2 girls in each category. The parents of 226 of them accepted to be interviewed by phone about their child's involvement in sports. The hour-long interviews covered family characteristics, current sport involvement of all family members, competitively and otherwise, the target child's sport involvement in detail (e.g., type of sport, age at beginning, intensity of practice, etc.) parental past involvement in sports, parental perception of children's interest for sports, and many other questions. From the original 53/47 percentage distribution, significant differences were found between the two groups in terms of (a) regular sport participation within structured organizations (64/36), (b) involvement in competitive training (76/24), and (c) intensity—4+ hours/week—of practice (80/20). Moreover, a similar, but not statistically significant, tendency was observed with regard to (a) precocity of sport involvement, (b) level of competition reached, and (c) personal success within competitive sports. Age and gender played no significant role in differentiating sport involvement. The parents'

perception of their child's interest for sports also played a significant explanatory role with regard to three dependent variables mentioned above. Family income, as well as the mother's (but not the father's) interest for sports and past involvement in sports, played a significant causal role, but only for the first level of involvement that is structured sport participation. In conclusion, early sport involvement, at least in Quebec, appears to be related to indices of natural physical abilities, as well as perceived intrinsic motivation, and family financial resources. These represent three distinct sub-components (aptitudes, motivation, and family environment) within the DMGT model. It confirms the causal complexity of the talent development process.

Keywords: DMGT, physical aptitudes, sport involvement, competitive involvement, pre-teen children, motivation, parental SES

Developing Expertise in Sport: Should Coaches Promote or Discourage Early Specialization?

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University of Ottawa

Abstract: This presentation will focus on recent evidence regarding the role of coaches in the development of sport expertise. In particular, the debate concerning coaches' drive for early specialization in sport will be addressed. There is no doubt that coaches provide invaluable social support throughout the career of athletes (Durand-Bush, Thompson, & Salmela, 2006; van Rossum, 1995). Nurturing athletes' belief and love for sports, and providing opportunities for fun and play during the early years are crucial for sustaining sport participation (Bloom, 1985; Côté & Hay, 2002; Durand-Bush et al., 2006). However, the push to develop talent in sport at an early age in many cultures and sports has given rise to an important discussion. Should coaches promote or discourage early specialization in sport? What are the long-term benefits and costs of doing this? Ericsson (2003) advocated that the initiation of deliberate practice at an early age is key to achieving expertise in sport. Furthermore, Bloom (1985) showed that athletes typically progress through sampling, specialization, and investment stages to develop their talent. However, how early should children specialize and how much deliberate practice should they sustain? Although Ericsson (2003) argued that there is a maximum number of hours of deliberate practice that athletes should perform on a daily basis and that adequate recovery periods are necessary in order to maintain motivation, concentration, and effort, more andmore children are exposed to high training volumes on a fairly year round basis. Studies have shown that the risk of dropout, burnout, and injury among these athletes may consequently be more elevated (Côté, Lidor, & Hackfort, 2009). McCarthy and Jones (2007) also articulated that young athletes do not have the necessary resources and skills to deal with critique, intense emotions, and injuries that early specialization in sport can generate. Unfortunately, competition is often too organized based on athletes' chronological age and not based on their biological maturation and psychosocial development. Other problems are that talent identification and selection can be driven by the interests and objectives of coaches and parents and not that of the children themselves (Nunomura, Okade, & Tsukamoto, 2009). Coaches of athletes in the sampling years should be aware of the benefits and costs of prematurely pushing children to become highly competitive performers. They have a responsibility to advocate for change and be the children's voice within cultures that are moving toward excessive year-round training and hasty specialization.

Keywords: expertise, sport, coaches, early specialization

Psycho-social Factors in South African School Sports

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Abstract: The development of psychological and social skills among South African youth athletes has been neglected largely in favour of physical and technical skills development. It has therefore become important to understand the psycho-social skills of youth athletes in South Africa. As a large body of research has already indicated that the psychological ability of athletes is associated with better performance, it seems necessary to explore the psychological and social skills of these athletes. These include, among others, various psychological factors such as anxiety, confidence, concentration, arousal regulation, goal directedness, achievement motivation, and mental rehearsal various social factors such as team cohesion various aspects of perfectionism such as parental expectations and criticism, organization, concern over mistakes, personal standards and doubt. The symposium will reflect three themes in this regard, namely: The relationship between perfectionism and anxiety among South African youth athletes. Perfectionism and mental skills in South African Youth Sport Team cohesion among South African netball players in secondary schools. A developmental perspective on mental skills development in South African youth sports.

Keywords: perfectionism, mental skills, team cohesion, school

The Relationship between Perfectionism, Anxiety and Orientation among South African Youth Athletes

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Abstract: A sample of 253 athletes (mean age = 15.99, SD = 1.498) in various sports from nine schools in the Mpumalanga Province of South Africa and Lesotho were asked to complete the Multidimensional Perfectionistic Scale, the Sport Competition Anxiety Test, as well as the Task- Ego Orientation in Sport Questionnaire. The relationship between the various aspects of perfectionism was correlated with both anxiety and task and ego orientation. The results indicated that most of the youth athletes had high task orientation, while less than half of the participants had high ego orientation. This could imply that youth athletes in schools tend to be more inclined to develop their own personal skills levels (task orientation) than being interested in competition (ego orientation). Although the participants had a moderate anxiety level, a significant number of athletes had high anxiety levels. Those athletes who had high anxiety levels also had a tendency to have high perfectionistic scores. A significant relationship was found specifically for their personal standards and doubt during performance. The role of parental expectations and parental criticism was significantly associated with both task and ego orientation. Although the athletes indicated that they experience high parental expectation, but not so much parental criticism, both of these factors correlated significantly with the ego and task orientation of the athletes. A logistical regression was done to determine the role of these factors in predicting perfectionism among these athletes.

Keywords: perfectionism, anxiety, task and ego orientation, youth athletes

Team Cohesion, Anxiety and Orientation among South African Netball Players in Secondary Schools

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University of Johannesburg

Abstract: Since 2003, South Africa has experienced a decline in world netball performance, with many players not progressing beyond participation at the secondary school level. It is increasingly becoming apparent that psychosocial skills are as necessary as physical and technical skills in affecting athletic performance and motivation in competitive situations. One such psychosocial factor, group cohesion, has been identified in many studies as having a positive relationship with performance. Factors involved in group cohesion include environmental, team, personal and leadership aspects. There are also four factors that influence cohesion namely, personal factors, team factors, environmental factors and leadership factors. To explore the team cohesion in a cohort of netball players, the psychosocial profiles of 445 netball players from 38 schools across South Africa were quantitatively analyzed using statistical software. The netball players ranged from ages 13 years to 19 years with a mean age of 14.35 years. The participants were asked to complete three questionnaires, namely:

The Group Environment Questionnaire (GEQ): an 18-item, self-report Likert-scale measure, measuring the four dimensions of cohesion. It has been proven to have construct and psychometric validity across heterogeneous sports. Its strength lies in that it views cohesion as a multidimensional construct including the four constructs of individual attraction to group-social, individual attraction to group-task, group integration- social and group integration-task. Therefore cohesion is measured on both the individual and group levels. The Sport Competition Anxiety Test (SCAT) : a 15-item self-report questionnaire where athletes indicate their feelings during competitive situations. This test provides a measure of competition anxiety. The 13-item self-report Task- and Ego Orientation in Sport Questionnaire (TEOSQ): this questionnaire measures task and ego orientation in sport. It gives an indication of the motivation among players and could be used to determine the various motivational profiles among athletes (High-Task High-Ego, High-Task Low-Ego, Low-Task High-Ego, or Low-Task Low Ego). Significant differences in levels of competitive anxiety and social cohesion across different age groups were found with younger athletes having lower levels of anxiety and higher levels of social cohesion. The results of this study have significant implications for the practice of sports psychology interventions for young netball players, as well as the understanding of the development of mental skills for youth in sporting contexts.

Keywords: team cohesion, anxiety, task and ego orientation, netball, secondary schools

Perfectionism and Mental Skills in South African Youth Sports

Leon Van Niekerk
University of Johannesburg

Abstract: A sample of 976 netball players in secondary schools across South Africa were asked to participate in the research. The mean age of the participants was 15.40 years (SD = 1.921). The players represented 53 different schools and were selected to play for the A-teams in their various age categories (under 13, 16 and 19). The players were all tested at a yearly training camp over a period of three years. The participants were asked to complete the Mental Skills Inventory (MSI), the Sport Competition Anxiety Test (SCAT), as well as the Multidimensional Perfectionistic Scale (MPS). The MSI is a 40-question inventory that measures mental skills of players on six sub-scales, namely achievement motivation, goal directedness, arousal regulation, maintaining confidence, concentration and mental rehearsal (imagery). The SCAT is a 15-question test that measures competition anxiety, while the MPS renders an overall perfectionistic score and six sub-scales, namely concern over mistakes, personal standards, parental expectations, parental criticism, doubt and

organization. The results indicated that the athletes have a moderate level of anxiety, although a significant number of athletes had high anxiety levels. Players with high anxiety were also found to have perfectionism tendencies. The players also have moderate levels of mental skills, with confidence, concentration and imagery to be of most concern. There was a significantly positive correlation between the anxiety and perfectionism levels of the athletes, indicating an association between the two constructs. Both anxiety and perfectionism were negatively correlated to all the mental skills, indicating an inverse relationship between these constructs. Various group differences were found.

Keywords: perfectionism, mental skills, youth sports

A Developmental Perspective on Mental Skills Development in South African Youth Sports

Leon Van Niekerk
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Abstract: The mental skills of youth players in South African schools have often been neglected with no purposeful investment in the development of mental skills among the youth. There is also a lack of knowledge and understanding in sport psychological development of young players in general. A sample of 783 players from various schools and academies in two sports, netball (n = 445) and football (n = 338) were recruited to participate in the study. A cross-sectional analysis of the players' mental skills was done in order to determine when (and which) mental skills training should take place. Various researchers have found a positive relationship between mental skills and performance and it is therefore important to explore the sport psychological skills development of the youth. The players were asked to complete the Mental Skills Inventory (MSI) that represent results on sub-scales such as achievement motivation, goal directedness, arousal regulation, confidence, concentration and mental rehearsal. They also completed the Sport Competition Anxiety Test (SCAT) which measures competition anxiety. The results indicated various group differences (for gender and age) as well as a negative relationship between anxiety and mental skills. A cross-sectional analysis indicates that for most of the mental skills, athletes reported a significant increase from the under 13 age group to the under 16 age group. This is understood within the various psychological and sport development theories. However, there is no significant increase in their mental skills from age group 16 to age group 19. This is of concern as most athletes have a moderate skills level by age 19 while a high level of mental skills is required by age 18 in order to perform at best. The results indicated that mental skills training should not be neglected and the training of these skills should be undertaken around the age of 15.

Keywords: developmental perspective, mental skills, development, youth

The Role of the Environment in Talent Development in Sport: From Concepts to Applied Cases

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Abstract: Research on athletic talent has evolved from talent detection to talent development with both perspectives focusing on an individual athlete. This individual focus has been mirrored in the applied work of the sport psychology practitioner in youth competitive sport, focusing primarily on equipping individual athletes with the psychosocial skills that will allow them to negotiate successfully the

transitions that are inherent in a sport career. In contrast, ecological approaches to talent development in sport acknowledge the role of the overall environment in athletes' development. From this perspective, talent development can be described as "the progressive mutual accommodation that takes place between an aspiring athlete and a composite and dynamic sporting and non-sporting environment that supports the development of the personal, psycho-social and sport-specific skills required for the pursuit of an elite athletic career" (Henriksen, 2010). It is our belief that ecological perspectives on talent development hold rich insights for developing sport psychological theories and applied practices that mirror the complexity of talent development in the real world. In terms of research, acknowledging that some sporting environments are more successful than others in nurturing athletes' development stimulates researchers to describe successful athletic talent development environments and explain their success. In terms of applied practices, adopting an ecological perspective will inspire coaches, sporting organizations and sport psychology practitioners to look beyond the individual athlete and focus on developing and maintaining environments that underpin athletic development. In the present symposium, we will present research findings and applied case examples that demonstrate the potential contribution of adopting an ecological approach. Two research papers will look at the role of the environment, one in a less successful golf environment and the other in the career development of elite female footballers. Two applied papers will present case examples of ecologically inspired sport psychology interventions, one in a Danish football academy and the other in an on-tour environment in cricket.

Keywords: athletic talent development, group and interpersonal processes, applied sport psychology, science-practitioner

Looking at Success from its Opposite Pole: The Case of a Less Successful Talent Development Environment in Golf

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Abstract: Unlike the predominantly individual approach inherent in most current research in talent development in sport, the holistic ecological approach considers the role of the overall environment in this development. The athlete is seen as fully embedded in his or her context. This approach advocates case studies of successful and less successful environments that describe the structure of the environment and explain their success (or lack thereof) in helping talented athletes make a successful transition to the elite level in their sport. With inspiration from systems theory, ecological psychology and cultural psychology, the holistic ecological approach describes the athletic talent development environment as a dynamic system that comprises both micro- and macro-levels and sport- and non-sport domains. Two working models form the framework: the athletic talent development environment (ATDE)model is used to map the components and structure of the environment; the environment success factors (ESF) model is used to summarize factors that explain the environment's success. Previous case studies of four ATDEs in different sports and different Scandinavian countries, each with a history of successfully producing top-level senior athletes from among its juniors, have suggested that such environments are unique but also share a number of features that may explain their success. The present study tests this suggestion by applying the holistic ecological approach to the study of a less successful ATDE, namely a golf team in a sport academy in Denmark with limited success in producing senior elite athletes from among its juniors. Adopting a case study design, we collected data from multiple perspectives

(in-depth interviews with administrators, coaches and athletes), in multiple situations (observation of training, competitions and daily life) and the analysis of documents. We found that the less successful environment was characterized by features that are in opposition to those of successful environments, for example, a lack of supportive training groups and role models, little understanding from non-sport environments, no integration of efforts among different parts of the environment, and an incoherent organizational culture. This finding provides support for the idea that the features previously suggested to be representative of successful environments do indeed capture qualities that successful environments possess and less successful ones lack (at least within a fairly similar cultural setting such as Scandinavia). The investigation of less successful ATDEs from a holistic ecological perspective provides the sport psychology practitioner with a strategy to strengthen the environment.

Keywords: holistic ecological psychology, athletic talent development, organizational culture, science-practitioner

Preparing Footballers for the Next Step: An Intervention Program from an Ecological Perspective

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Abstract: The transition from a talented youth level to the professional level is considered to be the most difficult and complex transition in sports. Literature on career transitions highlights that a match between an athlete's resources and the demands of a transition will allow an athlete to enjoy a successful transition whereas a mismatch is likely to result in a crisis transition. Such resources are internal as well as external factors. The purpose of this presentation is to present practitioners and applied researchers with specific details of an ecologically inspired program and intervention in a professional football (soccer) club in Denmark. Based on an ecological agenda, the aims were to reinforce the culture of psychosocial development in the daily practice of a professional football academy, provide skills to succeed at the professional level and create stronger relations between youth and professional departments. The presentation describes six principles as fundamental governing principles to inform an intervention inspired by the holistic ecological perspective. The description of the intervention program and findings are presented in four interconnected steps. The presentation provides insights into the delivery of workshops, the supervision of the coach, on-pitch training, evaluation of the program, and integrating sport psychology as a part of the culture in the club.

First, the findings highlight that the practitioner should acknowledge that the athlete is embedded in an environment. Second, the intervention should be built on a thorough assessment of the environment from a holistic perspective, and in the present study, we assessed the strengths and weaknesses in the club. Third, the practitioner should not only work with the individual athletes but also aim to optimize the entire environment around the athlete or team. Fourth, an intervention should take into consideration that an environment is always situated in a larger cultural setting of, for example, a national culture and a sport-specific culture, and plan accordingly. The present case is embedded in Danish football culture and this should be taken into consideration before the intervention program starts. Fifth and sixth, the intervention should aim to create and maintain a strong and coherent organizational culture and treat the athletes as whole human beings by supporting their development of a holistic package of psychosocial skills that will be of use for the athletes not only in their sport but also in their other life spheres.

Keywords: soccer, athletic talent development environment, career assistance program, psychosocial skills

Talents & Sport: One Integrative Approach

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Abstract: Talent results from the systematic development of competencies (knowledge & skills) in one or more fields of human activity (Gagné, 2009). To achieve this level of mastery in sports, athletes must reveal well-developed anthropometric, physiological, technical, tactical, psychological characteristics (Elferink-Gemser, Visscher, Lemmink, & Mulder, 2004), as well as significant environmental support. Given the diversity and complexity of the factors involved, talent development in sport requires a holistic and dynamic monitoring, typical of interaction approaches which consider the individual, his/her genetic inheritance and the influence of psychosocial variables (Baker & Davids, 2007). The aim of this symposium is to present international perspectives on sports talents and psychosocial variables regarding the developmental process of talents. Four papers will be presented. It will start with Gagné's presentation on determinants of different levels of participation in children's sport according to their parents' perception, in Quebec, Canada. Then, Durand-Bush will present recent international evidence regarding the role of coaches in the development of sport expertise. Serpa's paper will analyze the relationship among several psychological characteristics and the level of performance of young Portuguese elite football players. Finally, Shi will present the programs specially designed for helping the physical development of intellectually gifted students, as well as discuss some issues related to gifted education in general in mainland China.

Keywords: sports talents, psychological characteristics, giftedness, talent development

To Be Retained or To Be Excluded in Elite Young Soccer Teams: A Psychosocial Perspective

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Abstract: Understanding what really differentiates average from outstanding performances and mainly which intrapersonal and social constraints (Gagné, 2009) are associated to the talent developmental process represents a challenging goal. In the sport context it is associated with the selection procedures of young athletes. Nevertheless, the criteria upon which such decisions are made is problematic. A multidimensional continuous evaluation process should be provided and the recognition of interactive and compensatory processes between innate capabilities, environmental conditions and psychological issues must take place. Evidence supports optimal psychological characteristics within the elite level, like adjusted perfectionism, effective coping resources (Gould, Dieffenbach & Moffett, 2002), resilience (Golby & Sheard, 2004), self-regulation (Jonker, Elferink-Gemser, Toering, Lyons & Visscher (2010), or commitment (Scanlan, Russell, Beals, & Scanlan 2003; Scalan, Russell, Magyar & Scalan, 2009). Additionally, the comparison between elite athletes from their sub-elite counterparts (Elferink-Gemser, Visscher, Lemmink, & Mulder, 2007; Holt & Dunn, 2004; Reily, Williams, Nevill & Franks, 2000) seems to sustain the specific requirements to achieve and maintain the highest levels of sport performance. The purpose of this presentation is to examine the relationship among several psychological characteristics and the level of performance using a sample of youth Portuguese elite football players. Seventy two players aged between 13 and 18 (M = 15.93; SD = .16) released from their club and 63 selected players aged between 14

and 18 (M = 15.26; SD = .15) retained in their club were involved in this research. The following constructs were evaluated: commitment, motivation, resilience, coping, parental support and perfectionism. Each of these constructs is composed of sub-constructs. A multivariate analysis of covariance was used with age as a covariate. According to the results, retained players revealed a more adjusted psychological profile, scoring higher on personal competence (resilience), intrinsic motivation to knowledge and to stimulation (motivation)and school subordination (commitment) , and lower on doubts about action, parental criticism (perfectionism), identified regulation, external regulation, a motivation (motivation) and mother rejection (parental support). Current results reinforce previous studies which focus on the psychosocial factors associated with youth elite soccer success.

Keywords: talent, soccer, psychological characteristics

Physical Development of Intellectually Gifted Children in Beijing

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Abstract: The study on and education of intellectually gifted children (supernormal children in Chinese) started in 1978. Since then, thousands of intellectually gifted children or students have been selected and placed in special programs at different levels from kindergarten to university. These gifted students were expected to develop into high level national talent or intellectual capital. Traditionally these intellectually talented individuals have been stereotyped as smart, tall, thin, and weak or even sickly in the public eye. In order to help these intellectually gifted children grow into physically healthy and well adapted social members in the future, a bio-social-intellectual model of giftedness was constructed and a series of educational programs at different levels from kindergarten to high school have been developed based on the model. In the present symposium, the author will present the programs specially designed for helping physical development of intellectually gifted students and discuss some issues related to gifted education in general in mainland China.

Keywords: physical development, intellectually gifted children, giftedness, bio-social-intellectual model, talent development and excellence

Psychological benefits of exercise

Cognitive Functioning during and Following Exercise in Various Populations

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- 2. Italian University Sport and Movement, Rome, Italy
- 3. The Wingate College of Physical Education and Sport Sciences, Israel
- 4. National Taiwan Sport University, Taoyuan, Taiwan

Abstract: Scientific investigation of the relationship between physical activity and cognition began in the 1930s, with findings indicating that older adults who regularly participated in physical activity had faster psychomotor speed relative to their sedentary counterparts. In recent years research has progressed beyond the study of behavioral responses to include the study of neuroelectric

correlates of behavior. One of the studies presented in this symposium elaborates on the effects of physical activity on event-related brain potentials and behavioral responses in older adults. Despite the increased risk of cognitive decline beyond the normal aging process in cardiovascular disease, and solid evidence of the relationship between cardiovascular fitness and cognition, studies exploring this relationship in older adults with cardiovascular disease are scarce. Another study in this symposium looks into the link between cardiovascular fitness and cognition in cardiac patients in the maintenance stage of cardiac rehabilitation.

Also the effect of acute bouts of cardiovascular exercise on cognition has been a subject of increasing interest over the past few years. The literature differentiates between studies that measure cognitive performance during exercise and those that assess cognition following exercise. The picture that has emerged from both groups of studies indicates that the acute exercise–cognition relationship is complex. Two presentations in this symposium examine the effect of acute exercise on cognition. One focused on the perception of effort during exercise specifically, attention allocation during effort expenditure is manipulated through sensation distractors to test changes in effort perception and adherence in mid-age samples. The other acute exercise study addresses cognitive alterations following exercise in school children, with special focus on the moderating role of qualitative exercise characteristics and time constraints. With the increasing attention to academic matters in school and an increasing percentage of children living an inactive lifestyle, a greater understanding of the benefits of acute exercise bouts is both timely and relevant. We believe that the research presented in this symposium contributes to a deeper understanding of lifestyle factors that promote better cognitive health and function across the life span.

Keywords: physical activity, acute effect, chronic effect, behavioral responses, cognitive alterations

Attention Allocation can be Diverted through Sensational Modalities and Affect Effort Perceptions

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Abstract: Experimental evidence suggests deterministic relationship between attention allocation, workload intensity, and effort perceptions. The current report relies on experimental studies conducted in the laboratory, and aimed to test whether altering attention allocation through the use of imagery, music, self-talk, and selected odor stimuli transferred to the olfactory system can affect effort perception. Specifically, we tested the notion that sensations of heaviness, fatigue, pain, and exhaustion, which depend on prolonged and intense workload, can be mediated and altered when attention is forced to be dissociative. It is already evident that increase in physical load results in an attention shifts from a dissociative-flexible mode into an associative-non-flexible mode (D/A shift) toward the working organs. Once the D/A shift occur, effort sensations increase rapidly, and effort termination is unavoidable. In a series of studies attention was manipulated by the use of psychological (self-talk, imagery) and sensory (odors, music, vision) modalities to delay the D/A shift. These in turn had significant effects on perceptual sensations and task adherence. Thus, attention shift uniquely allows appropriate adaption to both the environmental workload and internal sensory signals. Applications of the workload-perceived effort- -attention allocation linkage concept are discussed.

Keywords: workload, attention, effort sensations, environmental adaptation

The Past, Present and Future of

Exercise Psychology

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- 2. West Virginia University
- 3. University of Denver

Abstract: The first scientific inquiries which could be considered to be within the field of Exercise Psychology occurred in the late 1880s (Rejeski & Thompson, 2007). The North American fitness craze of the 1970s and 1980s drove further research within this realm, and these decades essentially served as the developmental time period for Exercise Psychology (Gauvin & Spence, 1995). Fundamentally, individuals who possess Exercise Psychology training work with clients to adopt or maintain an active lifestyle (Rejeski & Brawley, 1988), and thus the need for individuals trained in exercise psychology will only increase as obesity rates continue to climb across the globe (James, Leach, Kalamara, & Shayeghi, 2012). Individuals have traditionally received this training through sport and exercise science academic units. There is some evidence to suggest that graduates of Sport and Exercise Psychology programs struggle to secure applied work in sport settings (e.g., Waite & Pettit, 1993; Williams & Scherzer, 2003). Meanwhile, there have been calls for more and better trained individuals in exercise settings throughout the world, including Canada (Warburton & Bredin, 2009) and South Africa (Draper, Grobler, Kilian, Micklesfield, Lambert, & Noakes, 2006). As health, wellness, and fitness industries grow in other markets (e.g., Asia) the need for professionals in these areas will continue to rise. Work in exercise settings is, and will continue to be a viable outcome for individuals with Sport and Exercise Psychology training. The purpose of this symposium is to discuss the multiple avenues that current and future practitioners can pursue within this discipline. The first presentation will discuss the history of the field as well as the current state of exercise psychology. The specific skills, knowledge, and experiences that are needed to become a successful and effective professional will be reviewed in the second presentation. The third presentation will provide current examples of applied work within this realm and examples of settings, clients, and value-added services. The symposium will end with an exploration of where the field of exercise psychology is headed, highlighting the growing need across the world for Exercise Psychology professionals.

Keywords: exercise psychology, training, applied work

Exercise Psychology: Past and Present

Jamie Shapiro
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Abstract: The field of exercise psychology is concerned with two main objectives: (1) applying psychological principles to the promotion and maintenance of exercise and (2) the psychological consequences of exercise (Lox, Martin Ginis, & Petruzzello, 2010). Exercise psychology has been linked with the field of health psychology; however, health psychology is focused on all health behaviors, not just exercise. Exercise psychology has also been associated with sport psychology, yet exercise psychology goes beyond sport psychology by broadening the settings and populations to those who engage in leisure physical activity, not just competitive and organized sports. Regardless, Sport and Exercise Psychology have been grouped together for decades, dating back to the first meetings of the International Society of Sport Psychology (ISSP) in Rome and Washington, D.C., where several exercise psychology presentations were included (Kenyon & Grogg, 1970). The fitness craze of the 1970s-1980s and the worldwide increase in obesity led to a boom in exercise psychology (Lox et al., 2010) as well as its inclusion in professional organizations, such as the Association for Applied Sport Psychology (AASP), British Association of Sport and

Exercise Sciences (BASES), and Division 47 (Exercise and Sport Psychology) of the American Psychological Association (APA). Today, sport and exercise continue to be grouped together in these organizations and others around the globe. For example, the Australian Psychological Association offers a specialization in Sport and Exercise Psychology, and the European Federation of Sport Psychology (FEPSAC)'s 2011 Congress included both Sport and Exercise Psychology in the title. Recently, there has been debate over whether exercise psychology should continue to be linked with sport psychology, or more broadly, performance psychology. An argument has been made that sport psychology is a sub-discipline of performance psychology, while exercise psychology is a sub-discipline of health psychology (Practice Committee, Division 47, Exercise and Sport Psychology, APA, 2011); and therefore, Sport and Exercise Psychology should not be studied or practiced together. With its rich international history and promising opportunities for the future, exercise psychology warrants continued attention in this field and importance should be placed on training students and practitioners for careers in this domain. The objectives of this presentation are to discuss the: (1) scope of exercise psychology; (2) history of exercise psychology; (3) importance of studying and practicing exercise psychology, and (4) current state of exercise psychology and how it could fit into the broader field of performance psychology as “health performance.”

Keywords: exercise psychology, training, applied work

Training Models in Applied Exercise Psychology

Sam Zizzi
West Virnigia University

Abstract: Much has been written about the appropriate training paths for clinical and educational sport psychology professionals, especially in the last 20 years (Weinberg & Gould, 2010). In North America or Europe, students can seek out graduate training to prepare them for AASP or BASES Certification, respectively. Additionally, in the last 10-15 years, there has been substantial growth in the development of formal credentials across the globe related to the practice of sport psychology (Zizzi, Zaichkowsky, & Perna, 2013). However, the practice of applied exercise psychology has received significantly less attention especially as a potential career path for young professionals. For example, in a review of the 2009 AASP Conference program, Zizzi (2009) found that less than 11% of the 365 conference presentations addressed health or exercise topics. In contrast, the potential client pool for health and exercise consultations – those who are inactive, overweight, obese, or the companies that employ these individuals – is substantially larger than the client pool for sport performance consultations. This presentation will outline the core training needed to become competent to work in applied exercise psychology, or effectively, to work as a “health performance consultant.” First, the presentation will suggest a blended coursework approach including graduate level training across exercise science, public health, counseling, and performance/sport psychology. Next, examples will be provided regarding how common psychological skills learned for use in sport settings can be transferred into exercise settings. A description of the needs of typical clientele will be provided to allow attendees to understand the contextual variables that impact consultations. Finally, a set of additional training (knowledge and skills) beyond what is typically covered in sport psychology programs will be defined. The descriptions of additional training modules will include the following: 1) health behavior change theories; 2) terminology related to exercise physiology, chronic disease, and the medications related to these conditions; 3) modifications to intake and assessment approaches; 4) impact of exercise on depression, anxiety, and stress (including models of psychoneuroimmunology), and 5) ethical issues when working in medical settings alongside doctors, dieticians, and exercise physiologists. Finally, the

presentation will integrate perspectives on training from around the globe to showcase how sport psychology professionals are trained in different countries to work with non-sport populations.

Keywords: exercise psychology, training, applied work

Exercise Psychology in Practice

Sean Fitzpatrick
John F. Kennedy University

Abstract: The promotion of physical activity has been a focus for decades (e.g., Greeaves, Sheppard, Abraham, Hardeman, Roden, Evans, & Schwarz, 2011; Hillsdon, Thorogood, Anstiss, & Morris, 1995; Martin & Dubbert, 1982) as research has continually shown that increased physical activity has myriad benefits (Warburton, Whitney Nicol, & Bredin, 2006). The promotion of physical activity has grown in many settings as the various stakeholders of individual health have come to value exercise, including insurance companies, workplaces, communities, and primary health care providers. During this presentation, three examples of applied exercise psychology from each of the authors' experiences will be highlighted to help showcase real life consultations within this realm. Each example will focus not only on the work done, but also on the way in which the work was presented to the stakeholders to best showcase the added value that exercise psychology-trained individuals bring. The three examples come from various settings. One will highlight the inclusion of health behavior counseling within an existing weight management program which is funded by a health insurance company. This model of health behavior counseling employs several full-time counselors and also serves as a training ground for Master's and Doctoral students in Sport and Exercise Psychology and counseling. A "train-the-trainer" example of exercise psychology will also be presented. Corporate staff members from national (U.S.) athletic clubs were interested in increasing client motivation and adherence. Exercise Psychology theories were used as the staff was presented with ways to increase motivation at several organizational levels. The last example will highlight various internships within exercise settings where students trained mainly in sport psychology have worked with clients on exercise psychology topics such as exercise adherence. Student feedback on these experiences will be shared, including reactions to generating their own internship and working with non-sport clients. This last example will include experiences of students who were able to parlay their internship work within these setting into paid positions upon graduation.

Keywords: exercise psychology, training, applied work

Moving Forward

Sean Fitzpatrick
John F. Kennedy University

Abstract: Across the globe, the field of Sport and Exercise Psychology is evolving and growing. This growth makes for an exciting time to be a student, neophyte professional, or even a seasoned professional. However, this evolution needs to be deliberate and thoughtful if the field at large hopes to grow valuable career opportunities for its constituents. Many professionals within the field believe that sport psychology should fall under a larger umbrella of performance psychology (Aoyagi, Portenga, Poczwardowski, Cohen & Statler, 2012), a potential movement most likely fueled at least in part by a desire to open further opportunities for professionals, new and veteran alike. The identification and pursuit of such career opportunities is valuable and should be pursued eagerly. However, implicit and explicit (Practice Committee, Division 47, Exercise and Sport Psychology, American Psychological Association, 2011) in this current movement towards a relabeling of sport psychology as performance psychology is a belief that exercise is not a form of

performance. The merits of this argument can certainly be debated; more important are the potential ramifications for future students if this stance is adopted, chiefly the loss of a rich employment avenue: applied exercise psychology work. The markets for exercise psychology-trained individuals across the globe are most certainly growing and as such the field needs to be best prepared to evolve in an efficient and effective manner. This presentation will focus on the future of the field of exercise psychology with attention paid to the development of training competencies as well as the roles of current Sport and Exercise Psychology organizations. The current movement towards performance psychology will also be discussed with an eye on how and if exercise psychology fits into this evolution. Opportunities within the field are currently growing, in both the realms of sport and exercise. However, it can be expected that growth within the exercise realm will far outpace growth in the other and as such, the field should stay committed to the long standing linkages between these two areas. The opportunities for careers in exercise psychology will be discussed as well as how to build one's professional activities (e.g., teaching, research, and practice) in this domain.

Keywords: exercise psychology, training, applied work

Acute Exercise Effects on Executive Attention in Children: the Moderating Role of Exercise Type and Sequence

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Abstract: Acknowledging that children's attention and cognition are improved by physical activity bouts is critical to counteract the assumption that physical education may be a threat to academic subjects. Nevertheless, while the positive after-effects of acute bouts of exercise on cognitive performances are well documented, there is scarce and inconsistent evidence on whether and how the qualitative aspects of an exercise bout may impact children's attention and learning. We verified whether (1) a physical activity session benefits executive attention, (2) the type and sequence of physical activity tasks within the session moderate the exercise-attention relationship, and (3) how long such effects last after exercise cessation. Thirty-two children were administered the attention subscales of the Cognitive Assessment System in separate sessions before a 90-minute physical activity bout and at different time intervals after it (immediately, 30 and 60 minutes after exercise cessation). The physical activity sessions comprised two 45-minutes bouts of general physical activity and specific tennis training in counterbalanced order. A quadratic effect for time is interval emerged, with opposite trends for the tennis-physical activity and physical activity-tennis sequences. Such trends indicate a facilitating effect of general physical activity on attention lasting 30 minutes, presumably due to enhanced arousal, and a detrimental effect of tennis training immediately after training cessation, probably due to the cognitive load inherent in open skills training. In conclusion, we must further our understanding of the qualitative moderators of the exercise-cognition relationship if we want to exploit the potential contribution of acute exercise bouts interspersed between intellectual learning phases as a contextual factor facilitating attention.

Keywords: executive function, physical activity, exercise mode, time course

Cardiovascular Fitness and Multidomain Cognitive Function among Older Cardiovascular Disease Patients

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Abstract: The association between cardiovascular fitness and cognitive performance in older adults is well documented. Various types of cardiovascular disease (CVD) have long been known as a risk factor for cognitive decline above and beyond the normal aging process. Nevertheless, studies exploring the association between cardiovascular fitness and cognitive performance in older adults with CVD are scarce and mostly conducted fairly close to the CVD event or to the condition diagnosis (during phase II of cardiac rehabilitation program). We looked into this association in stage III – the maintenance stage of cardiac rehabilitation, in patients older than previously reported. For assessing cognitive function we used a novel adaptation of traditional neuropsychological tests providing an overall measure of cognitive function as well as an evaluation of specific cognitive domains. Fifty CVD patients who participated in a cardiac rehabilitation program for at least nine months performed a graded, progressive, maximal exercise test, and based on official age and gender norms of VO2 max, were divided into two fitness groups - high and low. Significantly better scores for the high VO2 group were observed for attention and the global cognitive score, and marginally significant for executive function. The implications are that cardiovascular fitness may be a protective factor for cognition in older patients with CVD during the maintenance stage of cardiac rehabilitation.

Keywords: cardiac rehabilitation, maintenance stage, attention, executive function

Effect of Physical Activity on Working Memory among Older Adults: An ERP Study

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Abstract: Older adults frequently experience deterioration of cognitive function, which is known as age-related cognitive decline. Growing research over the past few decades have reported a positive relationship between physical activity, in particular cardiovascular fitness, and cognition in the older population. However, a few recent systemic and panel reviews have failed to identify a beneficial effect of exercise on cognition among older adults. These ambiguous findings may be attributed to differences across studies in types of cognition that were emphasized, the types of physical activity that were compared, and the approaches of the cognition that were employed. The purpose of the study was to examine the effect of physical activity on working memory among older adults in behavioral and neuroelectric levels. Forty healthy older adults were separated into either a high- or low-physical activity group based on their amount of physical activity participation. Working memory performance and event-related potential components measures were obtained by a modified Sternberg task. Results indicated that older adults with high-physical activity, regardless of working memory load, exhibited faster response time, compared to those with low-physical activity. Additionally, enhanced P3 and N1 amplitude and decreased P3 latency were observed in high-physical activity older adults. These findings implicated that physical activity ameliorate working memory in the older adult. Furthermore, physical activity may facilitate working memory through allocating more attention resources and speeding

up stimulus evaluation in the retrieval phase, and engaging more attention in the early discriminative processes of the encoding phase while performing working memory tasks.

Keywords: executive function, exercise, fitness, event-related potential, Sternberg task

Physical Activity, Work-related Stress, Burnout and Depression: Emerging Relationships

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Abstract: It is generally accepted that physical activity can reduce feelings of stress, burnout and depression while increasing physical health, improving sleep and reducing comorbidity. The impetus for this belief has deep etiological roots. Newest research findings assess various populations and discover the effects of physical activity for buffering psychopathology and its symptoms. In research regarding stress among adults, physical activity can facilitate resilience against high occupational stress. Also, when combinedwithgoodsleep,highperceivedfitness operatesas a stressresilienceresource. It has been revealed that adults with moderate and high cardiorespiratory fitness levels report fewer symptoms of burnout and depression than those with low cardiorespiratory fitness. The findings expand to include young adults and even adolescents. Among university students, higher physical activity levels are linked to lower depressive symptoms in both males and females (medium effect sizes). In adolescent students, vigorous physical activity is helpful for buffering feelings of student burnout and general burnout. Among adult males suffering from burnout, preliminary evidence suggests that exercise has the potential to reduce stress and prevent the development of more severe depressive symptoms (large effect sizes). Collectively, these findings have important health implications given that stress and burnout are considered antecedents of more severe mental health conditions. Physical activity could serve as a generally safe and inexpensive prescription for preventing or reducing psychopathologic onset. Patients with an existing mental health diagnosis may consider physical activity to augment psychotherapy.

Keywords: physical activity, stress, burnout, depression, buffer

Physical Activity as a Resilience Resource: Protection against Burnout, Depression and Anxiety Associated with Occupational Stress

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Abstract: Studies on physical activity as a possible factor of resilience to prevent health impairments due to occupational stress are scarce. This study examined whether physical activity operates as a resilience resource against occupational stress in Swedish health care workers and social insurance officers. 1481 participants (85% women, M=45.9 years) were followed up over a 4-year period. Hierarchical and k-means cluster-analyses were performed with two samples to identify groups of participants with differing risks (assessed via perceived job demands and effort) and adjustment (assessed via burnout, depression and anxiety). Between-cluster-differences in physical activity were tested with ANCOVAs using age, gender, job control and reward as covariates. The cluster analyses provided a five-cluster solution with two groups

showing resilient adjustment against moderate or high stress respectively, and two groups characterized by negative adjustment. The resilient clusters reported significantly higher levels of physical activity, $p < .001$. The present study shows that physical activity facilitates resilience against high occupational stress. The findings highlight that regular physical activity should be a target variable for health professionals who work in the occupational setting.

Keywords: physical activity, resilience, anxiety, burnout, occupational stress

Perceived Fitness Protects Against Stress-based Mental Health Impairments in Police Officers Reporting Good Sleep

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3. University of Queensland

Abstract: This study examines a cognitive stress-moderation model, which posits that the harmful effects of chronic stress are decreased in police officers who perceive high levels of physical fitness. It also determines whether the stress-buffering effect of perceived fitness is influenced by officers' self-reported sleep. A total of 460 police officers ($n = 116$ females, $n = 344$ males, mean age: $M = 40.7$; $SD = 9.7$) rated their physical fitness and completed a battery of self-report stress, mental health, and sleep questionnaires. Three-way analyses of variance were calculated to examine whether officers' self-reported mental health status depends on the interaction between stress, perceived fitness and sleep. Highly stressed officers perceived lower mental health and fitness and were overrepresented in the group of poor sleepers. Officers with self-reported high fitness revealed increased mental health and reported good sleep. In contrast, poor sleepers scored lower on the mental health index. High stress was more closely related to low mental health among poor sleepers. Most importantly, perceived fitness revealed a stress-buffering effect; but only among officers who reported good sleep. High perceived fitness and good sleep operate as stress resilience resources among police officers. The findings suggest that multimodal programs including stress management, sleep hygiene and fitness training are essential components of workplace health promotion in the police force.

Keywords: insomnia, perceived fitness, SF-12 health survey, multiple risk factors, stress-buffer

Cardiorespiratory Fitness Protects Against Stress-Related Symptoms of Burnout and Depression

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Abstract: To examine how CRF and perceived stress are associated with burnout and depression. To determine if the relationship between stress and burnout/depression is mitigated

among participants with high CRF.

197 participants (51% men, $M = 39.2$ years) took part in the study. The Astrand bicycle test was used to assess CRF and to classify individuals in three CRF categories according to gender and age-adjusted standards. Burnout was measured with the SMBQ, depressive symptoms with the HAD-D, and CRF with the Åstrand bicycle test. A gender-matched stratified sample was used to ensure that participants with varying stress levels were equally represented. Participants with moderate and high CRF levels reported fewer symptoms of burnout and depression than participants with low CRF. Individuals with high stress who also had high CRF reported lower scores on the SMBQ Tension subscale and the HAD-D than individuals with high stress, but low CRF. Submaximal fitness tests could be used to identify individuals with increased risk of burnout and with a low capacity to cope with stress. Practical implications: Measuring CRF can foster the creation of tailored occupational health promotion programs, and with regular use, may motivate participants to adopt more physically active lifestyles.

Keywords: cardiorespiratory fitness, stress, burnout, depression, HAD-D

Undergraduate Physical Activity and Depressive Symptoms: A National Study in the USA

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Abstract: To study the effects of physical activity on depressive symptoms and suicide among university students. The National College Health Assessment survey was administered to students at self-selecting universities throughout the USA. The data were self-reports and random sampling was assumed. Variables consisted of weekly physical activity levels, feeling hopeless, feeling very sad, feeling depressed, considering suicide, and attempting suicide. Due to a large sample size, a conservative Bonferroni correction of $P < .01$ was implemented. Data were analyzed with 4 x 2-way ANOVAs and Games-Howell post hoc tests when appropriate. More frequent physical activity related to less frequent depressive symptoms and less frequent consideration of suicide, but did not relate to attempted suicide. In general, males reported higher physical activity levels and less frequent depressive symptoms than did females.

The 26% of students who reported no weekly physical activity typically reported more depressive symptoms in comparison to students who reported one or more days of physical activity. Therefore, some weekly physical activity, even if only one or two days, is better for psychopathology than none. Physical activity may therefore serve as an effective, stigma-free therapy for treating depressive symptoms. The frequency was low for self-reported suicidal thoughts and suicide attempts, so it is difficult to say if physical activity can buffer psychopathologic onset at this level of severity. Depression research has implications for an increasingly sedentary university population in the USA. Institutions should provide increased access and knowledge pertaining to emotional health and psychological benefits through physical activity. Additionally, universities might consider adding physical activity prescription to their gamut of health services. Students perceiving stigma when seeking mental health services may be served better with this novel approach.

Keywords: physical activity, depressive symptoms, suicide, exercise, college student

Dose-Response Relationships between Physical Activity and School Burnout among Swiss Vocational Students

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Abstract: Burnout among working populations and university students has been shown to reduce productivity and hinder mental health and well-being. Burnout among adolescent students however, is now on the radar of developmental psychopathology researchers. The purpose of this investigation was to examine dose-response relationships between vigorous physical activity and burnout in adolescents.

The sample consisted of 145 Swiss vocational school students ($M = 16.22$ years, $SD = 1.12$), who were recruited from four classes that took part in a physical education-based coping training program. Burnout was assessed using the School Burnout Inventory (SBI) and Shirom-Melamed Burnout Measure (SMBM). The SBI measures exhaustion at school, cynicism toward the meaning of school, and sense of inadequacy at school. The SMBM subscale measures the interrelated factors of physical fatigue, emotional exhaustion, and cognitive weariness to create a single burnout score. Vigorous physical activity was assessed using the International Physical Activity Questionnaire (IPAQ) short form (Metabolic Equivalents MET per week). The IPAQ scores were grouped into four physical activity levels, low (0-499 MET, $n = 25$), moderate (500-1499 MET, $n = 47$), high (1500-2999 MET, $n = 51$) and very high (≥ 3000 MET, $n = 22$). Factor structure of the SBI was tested via confirmatory factor analysis (CFA). ANOVAs were used to compare the four groups.

CFA provided a good model fit for the burnout measures. Significant differences existed in some, but not all, burnout dimensions. However, similar trends existed across all subscales. Specifically, low physical activity yielded higher burnout-related subscores than high physical activity in all subscales. With the exception of inadequacy at school, low MET scores indicated poorer mental health than all other levels of physical activity. This trend suggests that at just 500-1499 MET of physical activity, cynicism towards the meaning of school, exhaustion at school, physical fatigue, cognitive weariness and emotional exhaustion are all reduced. A linear trend was exhibited in exhaustion at school, physical fatigue, and the sum scores of the SMBM scale, suggesting a dose-response. Among adolescent vocational students, the results suggested that on the SBI scale, vigorous physical activity buffered exhaustion at school the most. Notably, physical activity seemed to decrease physical fatigue as the MET level increased on the IPAQ scale. Implications for future adolescent burnout research of physical activity are strongly supported with this exploratory research.

Keywords: physical activity, school burnout, dose-response, buffer, adolescents

Aerobic Exercise Training and Burnout: A Pilot Study with Male Participants Suffering From Burnout

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Abstract: Occupational burnout is associated with severe negative health effects. While stress management programs proved to have a

positive influence on the well-being of patients suffering from burnout, it remains unclear whether aerobic exercise alleviates burnout severity and other parameters related to occupational burnout. Therefore, the main purpose of this study was to pilot-test the potential outcomes of a 12-week exercise training to generate hypotheses for future larger scale studies. The sample consisted of 12 male participants scoring high on the MBI emotional exhaustion and depersonalization subscales. The training program took place in a private fitness center with a 17.5 kcal/kg minimum requirement of weekly energy expenditure. The key findings are that increased exercise reduced overall perceived stress as well as symptoms of burnout and depression. The magnitude of the effects was large, revealing changes of substantial practical relevance. Additionally, profiles of mood states improved considerably after single exercise sessions with a marked shift towards an iceberg profile. Among burnout patients, the findings provide preliminary evidence that exercise has the potential to reduce stress and prevent the development of a deeper depression. This has important health implications given that burnout is considered an antecedent of depressive disorders.

Keywords: exercise, burnout, pilot study, Maslach burnout inventory, depression

Psychological factors in injury prevention and rehabilitation Psychological Perspectives to Understand Sport Injury: Prevention, Rehabilitation, and Return-to-Sport

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Abstract: Sport injury is a frequent occurrence in athletes at all levels, and is widely regarded as the primary reason for premature retirement from elite sport. Despite the environmental factors linked to injury control and prevention (e.g., sporting environment, coaching style, game tactics and rules, and health and safety resources), research has demonstrated the vital role of human factors in increasing the risk, severity, and negative consequences of sport injury. Sport injury not only impairs sport performance and physical health, but may have deleterious consequences for athletes' psychological well-being and sport-related motivation (Hagger, Chatzisarantis, Griffin, & Thatcher, 2005). Despite the multitude of injury challenges, athletes must take the necessary steps to fully recover and prevent re-injury. Unfortunately, low treatment adherence and premature return-to-sport are all too commonly reported. These phenomena may extend the rehabilitation period and increase the risk of re-injury. Presently, a number of salient questions regarding athletes' injury rehabilitation and return to sport remain unanswered. For example, why do some athletes violate safety guidelines? To what extent does a lack of motivation undermine the adherence of injured athletes to follow rehabilitation recommendations? How come some athletes feel that their sport performance is hindered by former injuries? In what ways do psychological theories help understand the processes involved in injury prevention, recovery and return to sport? How can scientific knowledge from sport psychology and behavioural medicine inform coaching practice and sport policy for reducing the likelihood and severity of sport injury? The present symposium aims to offer insights into the understanding of the psychological and behavioural patterns associated with sport injury prevention, rehabilitation, and readiness to return to sport after recovery. A series of quantitative and qualitative studies will be presented to showcase the latest findings regarding the psychology of sport injury. A conclusion will be given with respect to how evidence-based theoretical integration may benefit research and practice in sport

injury prevention and rehabilitation.

Keywords: health, safety, injury prevention, recovery, return to sport

Applying the Trans-Contextual Model to Understand Behavioural Beliefs and Adherence of Injury Prevention and Safety in Sport

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Abstract: In sport, there is a considerable amount of evidence suggesting that an emphasis on winning and performance (a sign of controlled motivation in sport) may impair athletes' personal acceptance and values applied to safety, injury prevention and rehabilitation (an indicator of autonomous motivation in health and safety; Chan & Hagger, 2012). This potential negative effect of controlled sport motivation on sport injury prevention might be attributable to the possibility that athletes' general motivational orientations in sport are closely linked with their health and safety motivations and actions. Hence, the purpose of the present study is to apply the trans-contextual model (TCM; Hagger, Chatzisarantis, Culverhouse, & Biddle, 2003) to understand the trans-contextual effect of self-determined motivation from a sport-related context to a sport injury prevention context. The study also examined the effects of general causality orientation, autonomy support, basic need satisfaction, and motivation on athletes' adherence and beliefs of injury prevention.

Questionnaire data was collected from 533 full-time athletes (mean age = 16.79, SD=2.80) in China who competed at a professional level for an average of 3.23 (SD=2.15) years. The participants completed a set of questionnaires assessing their causality orientation, autonomous sport motivation and perceived autonomy supports from coaches in week one. Another set of questionnaires was administered in week two to assess athletes' autonomous motivation for sport injury prevention, self-reported beliefs regarding safety in sport, and adherence to injury preventive behaviours. Structural equation modeling with partial least square estimation and 5000 sample bootstraps was employed to analyse the data.

Self-determined-motivation in a sport context was significantly predicted by autonomy support and basic need satisfaction. Self-determined motivation in sport was also positively associated with autonomous motivation for sport injury prevention. Self-determined motivation for sport injury prevention was a significant predictor of beliefs regarding safety, and adherence to injury preventive behaviors in sport.

In conclusion, the trans-contextual mechanism of motivation may explain the process by which distal motivational factors in sport direct the formation of proximal motivation, beliefs, and behaviours with respect to sport injury prevention. The findings offer insights for sport practitioners and policy makers into building an injury-free environment in sport.

Keywords: autonomy support, preventive medicine, safety violation, basic need satisfaction

Integrated Psychological Theories to Predict and Understand Sport Injury Prevention and Rehabilitation Behaviour

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Abstract: Theoretical approaches adapted from social psychology to predict health and risk behaviour are pervasive in the sport and exercise domain. Such approaches provide a hypothesis-testing framework for empirical investigations to understand the factors and mechanisms involved. In particular, such theories have been applied in the clinical literature involving athletes' recovery from injury with the aim of predicting the behaviours associated with the prevention and recovery from sport injury. The aim of such research is to identify the factors associated with reduced risk from injury and improve rates of recovery, both key outcomes linked to maintaining health and sport engagement. However, problems with these approaches have been identified. For example, substantial variance in behaviour remains unexplained and the inclusion of constructs like past behaviour substantially reduces the efficacy of the theories in explaining behaviour. The notable proportion of unexplained variance makes the identification of the psychological constructs that account for behaviour, uniquely and independent of past behaviour, paramount. Furthermore, theories of health behaviour have become increasingly complex, with additional variables being incorporated as additional predictors, mediators, or moderators to test the limitations and boundaries of each theory. The assessment of added health related variables presents considerable problems for theorists. How can practitioners like coaches, physiotherapists, and sports trainers cut through the plethora of theoretical constructs studies in relation to sport injury prevention and rehabilitation and identify the factors most likely to be closely related to injury prevention and recovery behaviors? Is there a unique set of constructs that can be identified and what are the processes by which these factors influence key behaviours involved in sport injury prevention and rehabilitation? In this presentation we argue that theoretical integration, if adequately specified and tested empirically, can offer some utility in addressing these questions. In particular, we argue that theoretical integration can be advantageous in that it reduces redundancy and increases parsimony in theories (e.g., cutting down similar or identical constructs with different labels). Integration also increases the scope of the theory to explain behaviour by including complimentary premises and constructs from different theories (e.g., explaining origins of variables and identifying mediators). We present a number of case studies representing the application of Self-Determination Theory and the Theory of Planned Behaviour in the context of sport injury to illustrate these points. We argue that these theories are effective in explaining shortcomings and gaps evident in the individual components of each theory alone.

Keywords: theoretical integration, evidence-based research, health and safety in sport

Motivational and Social Cognitive Patterns of Sport Injury Rehabilitation: Does the Quality of the Coach-Athlete Relationship Matter?

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- 2. Curtin University

Abstract: Autonomy supportive action from a coach has been shown to be a key antecedent of adaptive motivational and social cognitive factors (e.g., attitude and perceived behavioural control) in sport injury rehabilitation (Chan & Hagger, 2012). Little is known however, about the influence of the coach-athlete relationship in relation to treatment compliance. Having applied the theoretical integration between self-determination theory and the theory of planned behaviour (TPB), the present study examined whether the quality of the coach-athlete relationship mediated the effects of perceived autonomy support from the coach (PAS) on athletes'

attitude, subjective norm, perceived behavioural control, and intention to engage in injury rehabilitation.

Participants included 293 elite athletes from China (Mean age = 19.63; 51.9% female). Participants completed measures of CA-relationship (Coach-Athlete Relationship Questionnaire), PAS (Health Care Climate Questionnaire) and self-determined motivation (Treatment Self-Regulation Questionnaire). Social cognitive variables based on the TPB were also assessed using the items developed in a previous study (Chan & Hagger, 2012). Participants were asked to respond to the items with respect to a hypothetical sport injury scenario (Chan, Hagger & Spray, 2011). The data was analysed by variance-based structural equation modeling with bootstrapping of 5000 replications. Mediation analysis was employed to reveal if the CA-relationship was a significant mediator of the proposed relationships between the study variables.

The results showed that PAS and CA-relationship were strongly and positively correlated. The positive effect of PAS on self-determined motivation was fully mediated by CA-relationship. The CA-relationship exerted positive effects on attitude and subjective norm, but not on perceived behavioural control and intention. These significant effects of the CA-relationship were mediated by self-determined motivation. Overall, the quality of coach-athlete relationship appears to play a crucial role within the integrated framework involving SDT and the TPB. The motivational orientation based on SDT might inform the development of social cognitive factors based on the TPB, but such effects appeared to be dependent on the quality of CA-relationship. When a positive CA-relationship is maintained, athletes who perceive their coaches to be autonomy supportive and have high self-determined motivation in sport injury rehabilitation are more likely to perceive that injury rehabilitation is beneficial and socially appropriate.

Keywords: self-determination theory, theory of planned behaviour, 3Cs model of coach-athlete relationship

Psychological Readiness to Return to Sport Following Injury: Key Attributes and Antecedents

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Abstract: The decision to return to sport is traditionally based on athletes' physical readiness. A critical lesson revealed in the psychology of injury rehabilitation literature is that recovery is incomplete until the athlete is psychologically recovered and ready to resume vigorous pre-injury activities. Despite increased research attention (e.g., Glazer, 2009; Podlog & Eklund, 2006), the concept of 'psychological readiness' to return to sport remains poorly understood. The purpose of this study was to 1) define 'psychological readiness' and 2) identify its key attributes, antecedents and consequences. This presentation focuses on the attributes and antecedents of psychological readiness. To address questions of interest, 7 British athletes (4 males, 3 females), aged 18-30, participated in a focus group and individual interviews. Participants competed in a range of sports (e.g., rugby union, soccer) at varying competitive levels. Moreover, all participants had incurred a previous injury requiring a minimum 2-month sport absence and had either returned to competition within the past 12 months of being interviewed or were anticipating a return within the next 3 months. Interview data was transcribed and analysed using causal network analysis (Miles & Huberman, 1994). Participant responses indicated "psychological readiness' to be a positive psychological response to re-entry into competitive sport. Three key attributes were identified: 1) confidence in one's recovery and injured body part, 2) realistic expectations of one's sporting capabilities, and 3) motivation to regain previous performance standards. For each attribute, a range of antecedents were suggested. Key sources of confidence in one's injury recovery

included satisfaction with one's social support network, positive feedback from significant others and vicarious experience. Previous experience in recovering from injury and being signed off by a trusted medical professional were also perceived to positively influence the development of confidence. Important precursors of realistic expectations included realistic expectations from significant others, patience and acceptance of the time required to fully recover, and the timing of the injury within the competitive season. Last, the motivation to regain previous performance standards was enhanced through injury rehabilitation "buddies" (i.e., models), effective goal setting, feelings of boredom with the injury rehabilitation process and the perception that significant others wanted one to return.

The findings suggest that a range of personal and environmental factors contributed to perceptions of psychological readiness. From an applied standpoint, numerous factors influencing psychological readiness can be enhanced through intervention.

Keywords: injury, return-to-sport, athlete

Fatigue as a Predictor of Sport Injuries: A Latent Class Analysis

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Abstract: Previous research has showed that psychosocial factors such as fatigue, could increase risk of injury (Borotikar et al., 2008; Johnson, 2011). Therefore, the aim of the study was to investigate the potential risk of different developmental trajectory profiles in fatigue, over three weeks, for injury among Swedish junior elite soccer players.

Participants were 91 junior elite soccer players at the soccer high schools (64 male and 33 female) aged between 15-18 years (M = 16.57, SD = .75). All players were asked, at a weekly basis during the first three weeks of pre-season, to complete the fatigue sub-scale from Recovery-Stress Questionnaire for Athletes-Sport (Kellman & Kallus, 2001). Two months after, the athletic trainers of the participants were asked to record any injury that occurred in the last two months.

Latent class analysis was performed to analyze the data. Sample adjusted BIC was used to evaluate the goodness-of-fit and to help select the best fitted model (Yang, 1998). Relative risk ratios were calculated to compare the injury risk between participants in various latent classes identified from the latent class analysis.

The model with best fit (BIC = 832, entropy .77) contained four different latent classes (i.e., low stable, moderate stable, high increasing, high decreasing). Members of the low stable class characterized by low levels of fatigue over the three-week period (Intercept = 2.5, slope = -.16) were selected as the reference class when calculating relative risk ratios. Members of the high increasing class, experiencing high and increasing level of fatigue over the three-week period (Intercept = 4.94, slope = .29), were exposed to the highest risk of injury (RR = 2.53), compared with the reference class, and with other classes. Results from the participants included in the two other classes as (1) the moderate stable, characterized by a stable moderate level of fatigue during the course of assessment (Intercept = 3.78, slope = .14), and (2) the high decreasing, with high but decreasing level of fatigue during the three-week period (Intercept = 5.97, slope = -1.14), were both exposed to a 1.63 greater risk of

injury than the reference class. The result indicates that high levels of fatigue might increase the risks of injury among soccer players. In other words, players' risk in sport might potentially be reduced by proper recovery protocols. It is therefore highly recommended that coaches and medical staff should work actively and continuously with athletes to aid their physical and psychological recovery. **Keywords:** Risk of injury, recovery stress, soccer players, longitudinal study

Achievement competitive sports on mental health for the Twenty-first Century - New discipline development in China: Clinical sport psychology, sport psychotherapy and sport psychiatry

Li Jing Zhu
Zheng Zhou University

Abstract: Achievement competitive sports on mental health for the Twenty-first Century present an overview from psychological, psychiatrically, developmental and sport science perspectives. Inclusive following areas: (1) benefits and risks of athletic achievement competitive sports; (2) Narcissism and stigma in sport; (3) the mental health of athlete from perspective sport science: physical injury, back injury etc., special brain injury; over training syndrome on achievement competitive sports; adverse psychophysiological and somatoform effects of sports; Doping acceptance under condition; "training world champion" syndrome in sport; (4) The psychiatric consequences of athlete from perspective sport psychiatry, clinical sport psychology: suicide, depression, anxiety, aggression, insomnia, eating disorder, somatoform disorder, substance abuse, adjustment disorder, borderline personality disorder, sexual harassment and abuse, etc.; (5) suicide case studies - elite Olympic athlete; (6) transcultural study and analysis; (7) the current and future role of clinical sport psychologist, psychiatrists in conjunction with sports medicine physicians; (8) summary and future challenges.

Keywords: sport psychiatry, clinical sport psychology, sport psychotherapy, athlete

World Psychiatric Association – A screening scale for depression in athletes News from the WPA

David Baron
Keck Hospital of University of South california (USC)

Abstract: The chair of the WPA Section on Exercise and Sports Psychiatry, Professor David Baron, has recently copyrighted a screening scale for depression in athletes (Baron Depression Scale for Athletes; BDSA). The Section is currently translating it for global use. It is the first of to be used and tested on an international scale. The BDSA is the culmination of having been an athlete, coach, sports medicine doctor and sports psychiatrist. The idea to develop a depression screener for athletes began in 1979, while working with the Special Olympics and taking care of high school athletes. During the 1984 Olympic Games, while working in the Olympic Village and with the aquatic sports athletes, his original observations were confirmed while working with a number of athletes who later were diagnosed with clinical depression. Over the past 25 years he has been work as a Doping Control officer and sports psychiatrist at virtually every level of competition. They have discussed another depression screener utilizing an athlete observing a video of a poor performance. "It was time I spent working with Prof. Aaron Beck that

inspired me to develop and copyright the BDSA"(Baron). The items are in many ways a sports version of the Beck Depression Inventory. In order to be clinically useful, he has been able to trim the final version down to 10 items. It is currently being validated by a collaborative effort of members of the WPA Section on Exercise and Sports Psychiatry. Although copyrighted in the US, there is no charge to use the scale. He only request feedback be made available to the author and WPA Sports Section for ongoing refinement.

Keywords: screening scale, depression, athletes, a sports version, the Beck Depression Inventory

World Council for Psychotherapy – BIOAT and sport psychotherapy intervention

Li Jing Zhu
Zheng Zhou University

Abstract: BIOAT is an efficient technique developed by Chinese clinical sport psychologist, psychotherapist, Professor Zhu Li Jing, The chair of WCP (World Council for Psychotherapy) division on Exercise and Sports Psychotherapy, authorities by "Austria patent Bureau" in 2009. Vienna (Sigmund Freud home town) and USA trained sport psychotherapist, introduced TCM (traditional Chinese medicine) basic concepts into Autogenic training's approach, developing BIOAT as a new method for uncovering the unconscious, a method for influencing one's autonomic nervous system. This patent language is using medical terminology in Latin, English and German. It is special designed for achievement athlete. The idea is come from the personal experiences as athlete, study and training in sport science, psychology and psychotherapy in China, Austria and USA, teaching and researching intensive with Olympic athlete in different discipline (water sport, land sport and aviation sport); as well as teaching mental training strategy for years at Vienna University, is inspired by transcultural scientific thinking, reflected the power from 5000 years unbroken history medicine. BIOAT can be widely utilized in sport for long term mental training and before the championship, offer athlete an excellence and reach peak performance state; it is also efficient for "industrial athlete".

Keywords: BIOAT, autogenic training, transcultural scientific thinking

Psychology of Sport Injury

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Abstract: The ability to remain relatively injury free and to rehabilitate well when injury occurs is essential to longevity in sport and to the full realization of athletic potential. Because injury is a psychologically disruptive experience, recovery is not complete until the athlete is mentally ready for return to play. The goal is to present an applied guide to the psychology of sport injury that is practical, comprehensive, and systematic. Interest in the Psychology of Sport Injury has continued since its initial publication in 1993. The continued utility of this work rests heavily on its applied clinical focus and to the comprehensiveness of its scope. The strategic conceptualization of a psychology of sport injury, blending behavioral medicine and sport psychology, while novel when first published has taken hold in mainstream thinking about injury management. Over the decade that has followed, research has supported the value of psychology in sport injury, and the ecological and theoretical validity of the methods presented in this and other works in sport injury. More details presented in early published book "Psychology of Sport Injury" (1993, 2010)

Keywords: psychology, sport injury, injury management

Sport and concussion

Thomas Wenzel
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Abstract: The role of sports psychology in dealing with concussion in sport continues to grow in importance. As data on the impact of repetitive mild concussions in athletes continues to demonstrate the mental status changes reported by concussed athletes, the need for sports psychologists to be familiar with the most common psychological symptoms grows. Until recently, brain injured athletes were seen primarily by neurologists and neurosurgeons. The extant literature on the consequences of mild concussion is highlighting the important role psychologists can play in helping to diagnose, treat, and monitor these athletes. This symposium will review the most recent literature on concussion in athletes, and focus on the important role of sports psychologists in caring for these athletes. Another key component in addressing this growing problem is changing the current culture in sports that mild concussion is not a serious injury, and can be played through. The role of the sports psychologist in providing accurate education to members of the sports world will also be addressed. A review of psychometric instruments, and their appropriate use will be discussed. Finally, new research on altered brain changes resulting from mild concussion will be reviewed.

Keywords: repetitive mild concussion, sport, brain injury

Psychiatric Aspects of Multiple Head Trauma in Athletes

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Abstract: Head and neck trauma have been an expected component of contact and collision sports. Only recently has the potential impact on long-term neuropsychiatric functioning been an issue for sports psychiatrists worldwide. The extant literature reports over 4 million known sports related concussions annually. Despite numerous international consensus conferences held to determine appropriate diagnostic and treatment guidelines, none currently exist. The sporting world has finally begun to fully appreciate the negative impact concussion has long term. To date, there are no specific diagnostic or treatment guidelines accepted internationally. The potential impact on youth sports is particularly important (as a developing brain is more susceptible to trauma). In addition, the psychiatric effects of Second Impact Syndrome and Chronic Traumatic Encepholopathy are just now being explored. This presentation will review the current literature available on the topic, and present new research being conducted on potential biomarkers which may assist in diagnosis and treatment monitoring of brain injured athletes. Novel neuroimaging techniques, such as DTI, will be highlighted, along with computerized CPT analysis. The importance of this topic has been underscored by the designation by the US government of March as TBI Awareness month (established in 2012).

Keywords: multiple Head trauma, concussion, athlete

Menstrual dysfunction in athletes

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Abstract: Several forms of menstrual irregularities have been described in the female athlete: primary and secondary amenorrhoea, oligomenorrhoea, short luteal phases and anovulation. The incidence

of menstrual irregularities is much higher in activities where a thin body is required for better performance (Warren MP, Shanthia S., 2000). The result of our review study: Activities that tend to be associated with low body weight (eg, running, ballet dancing) and sports in which scoring is subjective (eg, figure skating or gymnastics) are associated with a higher incidence of amenorrhoea than are other activities such as swimming. Gradually increasing exercise is less likely to be associated with amenorrhoea than are more acute increases training load; Over training syndrome might have a causal relationship with amenorrhoea; Relative caloric deficiency, it appears that amenorrhoea occurs only when there is relative caloric deficiency due to inadequate nutritional intake for the amount of energy expended.

Keywords: primary and secondary amenorrhoea, oligomenorrhoea, luteal phases, anovulation, sport, thin body

Psychology of coaching

Elite Rugby Players’ Perception of Coaches’ Contribution to the Development and Maintenance of their Mental Toughness

Roberta Antonini Philippe, Sam S. Sagar
University of Geneva

Abstract: Mental toughness is an umbrella term used to encompass psychological factors that are believed to be needed to help athletes develop psychological or mental strength (Gucciardi, Gordon, & Dimmock, 2009). Qualitative research showed that both athletes and coaches perceived coaches' contribution to the development of athletes' mental toughness was significant. The present study sought to examine elite rugby players' perceptions of the mechanisms by which coaches contributed to the development and maintenance of their mental toughness. Seventeen elite rugby players (Mage28.6 years; SD = 6.1 years) from the Swiss National Rugby Team were interviewed individually. Qualitative data analysis revealed three dimensions in the coaches' role when helping to develop and maintain players' mental toughness. These are: (1) expert role; (2) instructional role; and, (3) active role. The findings show that the nature of the coach-athlete relationship and interaction contribute to the athlete's mental toughness development and maintenance; and more so in its development stage than in its maintenance stage. The findings have both practical and theoretical implications and are valuable to coaches, athletes, sport practitioners and scholars, informing their understanding of athletes' mental toughness as well as of coach-athlete working relations. Further, they inform coaching scientists and practitioners in their endeavours to design educational programmes for coaches; specifically about coaches' role in development of mental toughness in their athletes.

Keywords: relationship, mental toughness, rugby

Effective Interpersonal Coaching for Enhanced Performance and Wellbeing

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Abstract: Within the sporting domain, the relationship that has yielded considerate attention is the relationship between that of the athlete with their coach with a number of complementary paradigms (e.g., multidimensional model of leadership, mediational model of leadership and 3+1Cs model) attempting to explain the complex

interpersonal dynamics. Whilst diverse, all of these paradigms nonetheless unite to underline the development and maintenance of an effective coaching partnership as central to performance achievement, personal development as well as enjoyment and continued participation in sport. Accordingly, the aim of the symposium is to present a selection of the latest research that has examined the influence of the coaching partnership on performance and wellbeing in athletes. The generated findings of these studies contribute to widening our theoretical understanding of this multifaceted phenomenon as well as signifying the importance of a coaching environment that is interpersonal and effective for enhanced performance and wellbeing.

Keywords: coach-athlete relationship, performance, wellbeing, coach leadership

The Coach-athlete Relationship in the Gulf Region

Ahmad Hasan, Jowett Sophia
Loughborough University

Abstract: The aim of this study was to explore a new area that has not been targeted before. The sport domain in the Middle East area and in particular in the Gulf region differs in terms of the diversity of the cultural backgrounds of the coaches. Coaches from all over the world come into the Gulf region to coach Arabic athletes. This study aims to investigate the quality, content and functions of the sporting relationship developed between coaches who come from different cultural backgrounds and their Arabic athletes. Also, the study investigated the impact of the cultural background of the coaches (Arabic/local versus Oversea/foreigner) on their relationships with their athletes. A total of nineteen dyads participated in this study. The participants represented five countries from the Gulf area (Kuwait, Saudi Arabia, Bahrain, United Arab Emirates, and Qatar). A semi-structured interview schedule was designed guided by the 3+1Cs model. The questions were open-ended, and divided into seven sections. The first section aimed to explore the nature of the coach-athlete relationship by examining the three constructs of closeness, commitment, and complementarity (3Cs). The second section examined the effect of the language and communications on the coach-athlete relationship. The third section explored cultural issues, which could affect the coach-athlete relationship. The fourth section focused on the religion's effect. The fifth section concerned issues related to the officials. The sixth section was related to the rules that the coach drew while he was working with his/her athlete. The last section concerned general and personal issues. The results of the study showed that the 3Cs model is a good tool to map the quality of the coach-athlete relationship among Arabic athletes and their coaches. The findings of this study showed that cultural background has subtle effects on the coach-athlete relationship. Nonetheless, it was apparent that athletes showed more commitment towards the foreigner coaches and more closeness with local coaches. Interestingly, foreigner coaches were preferred due their sport professionalization. Both athletes and coaches recommended that often Arabic coaches work side by side with foreigner coaches. Language as cultural dimension was found to be a significant aspect of the relationship. Finally, the participants of this study agreed that discussing including personal issues with each other could help them develop better and more successful coach-athlete relationships.

Keywords: coach-athlete relationship, gulf, local coach, foreigner coach, cultural background

Relationship of Perceived Coaching Behaviors with Athletes' Satisfaction: Cross-Cultural and Interpersonal Differences

Dorothee Alfermann
Leipzig University

Abstract: For decades, the two predominant approaches in assessing coach-athlete interaction are coach oriented. This means that the coach is seen as the leader and the athletes as the followers. The mediational model of Smoll and Smith (1989) and the multidimensional model of Chelladurai (1990) both emphasize and assess the observed or perceived coach behavior and less so the athletes' behavior in terms of coach-athlete interaction. Contrary to these models, the 3C approach of Jowett (2007) emphasizes the symmetric interaction between coach and athletes. The aims of the presentation are twofold: (1) To investigate the relationship of perceived coach behavior and satisfaction assessed from different perspectives – perceived leadership behaviors (training and instruction, positive feedback, social support, democratic style), perceived motivational climate (mastery and performance climate), and perceived interpersonal coaching behaviors (closeness, commitment, complementarity); (2) To present comparative data on the relationship of perceived coach behavior and satisfaction between German and Japanese swimmers. The results will contribute to a new look on interpersonal coaching behaviors and their consequences for athletes' satisfaction.

Keywords: perceived coach behavior, athlete satisfaction, cross-cultural comparison

Interpersonal and Social Dynamics in Sport Settings

Roberta Antonini Philippe
University of Geneva, Switzerland

Abstract: The symposium integrates contributions from three countries. The thematic “Interpersonal and social dynamics in sport settings” will be at the heart of the symposium. The objectives will be: (a) to present five papers and (b) to engage the audience in a discussion about the current status of research in this area and future research directions. Regarding this need, the present symposium comprises the following studies: The first study (Antonini Philippe & Sagar) sought to examine elite rugby players' perceptions of the mechanisms by which coaches contributed to the development and maintenance of their mental toughness. Secondly, in Nicolas and Gaudreau's study the mutual influence of coach-athlete relationship was studied and also the athlete's coping strategies employed during sport competition in individual sport.

Legrain, Paquet, D'Arripe-Longueville, & Antonini Philippe used the theoretical distinction relative to the hierarchical authority, to study the place of young coaches in interpersonal relationships. Macquet highlights a qualitative study about interpersonal processes and situation awareness and its influence on the effectiveness of training sessions and performance outcome. Finally, Shanmugam, Jowett & Meier present a two-folded study to determine the association between the quality of significant interpersonal relationships and eating psychopathology, and to examine the mediating role of self-esteem, self-critical perfectionism and depression.

Keywords: coach-athlete relationship, mental toughness, eating disorders, coping, authority

Relationships between Athlete's Self-Perception of the Coach-Athlete Relationship and Coping Strategies in Individual Sports

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Abstract: Despite the supposition that coping and interpersonal relationship are interrelated, very few studies have investigated how socio-environmental variables such as the coach-athlete relationship influences and is influenced by coping strategies (Lazarus, 1991). The aim of this study is to determinate the mutual influence of the coach-athlete relationship and an athlete's coping strategies employed during sport competition in individual sport. Eighty athletes ranging from provincial to international level of expertise completed the perceived coach-athlete relationship questionnaire (CART-Q, Jowett & Ntoumanis, 2004) the week preceding an important competition, and after the competition, coping strategies used during the competition (CICS; Gaudreau & Blondin, 2002) and for the second time the CART-Q. Correlational analysis indicated that the coach-athlete relationship predicted the coping strategies employed by athletes during competitions. The Cart-Q score before competition predicted positively task-oriented coping and negatively disengagement-oriented coping employed by athletes during competition. In return, the coach-athlete relationship after the competition was explained in part by the coping used during competition. Task oriented coping strategies predicted the quality of the coach-athlete relationship after competition in its closeness and commitment dimensions. As expected, the findings indicated that the significant difference between the coach-athlete relationship assessed before and after competition was partly explained by coping strategies used by athletes during competition. In other words, the coach-athlete relationship influenced and is influenced by coping strategies.

Keywords: stress, coping, individual sports

Young Coach-Athlete Relationship and Authority Dilemma

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2. University of La Réunion, France
3. University of Nice, France
4. University of Geneva, Switzerland

Abstract: Because they are viewed by same-age athletes as peers, young coaches are concerned by an authority dilemma during training sessions and competition in sports setting. On a theoretical standpoint, this instructional interaction could be referred to as a co-construction process (Vygotsky, 1978) or to more as a peer tutoring situation (Piaget, 1995) with a more knowledgeable partner tutoring a novice peer and taking charge or control of the situation. According to this theoretical distinction relative to the hierarchical authority, the place of young coaches seems specific. With regard to both intrapersonal and interpersonal processes interlinked in coach-athlete relationships (Reeve & Jang, 2006), the control concerned needs to be placed at the heart of the examination of a coach's athlete's motivation to interact.

With respect to a bi-directional basis of motivation, a recent study (Legrain et al., 2011) through verbal and nonverbal indicators examined how personal and interpersonal needs for control (Desire for Control, DC; Burger, 1992) would influence both young coaches' instructional style, same-age athletes' motivation for practice and perception of the coach's involvement in his/her tutor role in a kick boxing setting. The results showed that (a) high DC coaches used more controlling verbalization and through their behavior swallowed up the interactional space than low DC coaches, and (b) high DC athletes preferred to perceive themselves as being in control of what happens to them in comparison with low DC athletes. On a personal standpoint, these results confirmed previous research conducted

(Legrain et al. 1999) showing that coaches and athletes harbored personal beliefs about control that would affect their motivation to endorse their role, respectively. From a more interpersonal perspective of interaction (Furrer & Skinner, 2003), the results indicated that the verbal and non-verbal relationships did not depend only on young coaches' personal dispositions but also on the implicit same-age athletes' request for autonomy. This result is consistent with Legrain et al.'s conclusion showing that the coach-athlete interaction depended on whether the coach exerted control on the training situation with respect to athletes' autonomy expectations. From this perspective, individual differences in reactivity and self-regulation related to the coach's and athlete's temperament would be at the heart of operational coaching interactions (Barron, 2000). These results indicate that taking in account desire for control needs may facilitate a better understanding of coaches and athletes to not only interact but also interthink.

Keywords: young coaches, authority, relationship

Do the Coach and Elite Athlete Have the Same View of a Situation?

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Abstract: It is widely acknowledged that interpersonal processes and situation awareness (SA) have an important impact upon the effectiveness of training sessions and performance outcomes. SA refers to awareness of "what's going on" and "what might happen" when individuals complete tasks in natural settings and how awareness develops and is maintained. In elite sports, it seems important to know what information the coach and athlete focuses on and that they understand it in the same way in order to help athletes improve performance. This study used the Distributed Situation Awareness model to investigate coach-athlete SA. This model postulates that SA is not shared among individuals while collaborating. Rather, it is distributed, meaning that some information held by individuals is similar and some is different, depending on the individual's competencies and role within the team. This study assessed the consistency of four athletes' and one coach's SA and the way they used information.

A winter training session, summer competition and post-competition training session were video-recorded for each athlete and coach. Post-performance interviews were conducted separately to describe SA. The interview data were used to identify: (a) similarities and differences in the content of the information held by each athlete and coach; and (b) the use they made of the information. Results showed five categories of information: (a) technical elements; (b) athlete's psychological states; (c) organization and safety; (d) performance; and (e) athlete's experience. Technical elements were the most frequently identified category among coach and athletes. They were also more frequently mentioned in training sessions than competition, and reported more by the coach than athletes. Psychological states, organization and safety and performance were more frequently mentioned in competition than in training sessions and reported more by athletes than the coach. Results also showed two types of information usage: (a) descriptive; and (b) explanative. Coach and athletes more frequently described what happened rather than give possible causes of it. In comparison to athletes, the coach more frequently explained possible causes of athletes' behavior and situations.

Results suggest SA was partly shared and partly distributed between the coach and athletes. Results also suggest coach and athletes did not understand the situation in exactly the same way. They had different pieces of information or made different sense of them depending on their role and experience. From a practical perspective, it is important to ensure that they have a common view of the

situation.

Keywords: qualitative, situation awareness, performance

Athlete Burnout and the Coach-Athlete Relationship

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- 3. University of Utah
- 4. Université Claude Bernard Lyon 1
- 5. Loughborough University
- 6. Swedish Olympic Committee

Abstract: Researchers have found that a positive coach-athlete relationship is associated with beneficial sport outcomes such as heightened motivation (Adie & Jowett, 2010), enhanced team cohesion (Jowett & Chaundy, 2004), and passion (Lafreniere, Jowett, Vallerand, Donahue, & Lorimer, 2008). The most widely used framework for examining the coach-athlete relationship is known as the Closeness, Commitment, and Complementarity (3Cs) model (Jowett, 2007). The nature of the coach-athlete relationship is likely of greatest importance when athletes experience deleterious mental and performance states such as injuries and burnout. Burnout states however, have been shown to negatively impact an individual's social relations in general (Maslach et al., 1996). Qualitative interviews with athletes suffering from burnout have described interactions with important others (e.g., coach, teammates, parents) as more negative than positive (Udry, Gould, Bridges, & Tuffey, 1997). The aim of the current study is therefore to extend these qualitative findings investigating the relationship between burnout and the coach-athlete relationship. Participants were 108 junior competitive athletes (79 males and 29 females aged 15-18) from both team and individual sports. Athletes completed the Athlete Burnout Questionnaire (Raedeke & Smith, 2001) and the Coach-Athlete Relationship Questionnaire (CART-Q; Jowett & Ntoumanis, 2004). Bivariate correlations showed that all three burnout dimensions were negatively associated with a total score of the coach-athlete relationship (Exhaustion, r = -.26, p < .001). A linear regression analysis using Exhaustion, Reduced Sense of Accomplishment and Sport Devaluation as independent variables, and a total score of the 3Cs were conducted. The model was statistically significant, F (3, 101) = 8.095, p < .001, and accounted for approximately 19% of the variance in the coach-athlete relationship (R2 = .19, Adjusted R2 = .17). Reduced Sense of Accomplishment was the strongest weight in the model (β = -.31; p < .01). Exhaustion and Sport Devaluation were not significant predictors. The findings suggest that burnout could be a factor related to problems in the coach-athlete dyad.

Keywords: coaching, burnout, elite athletes, stress, motivation

The 3Cs Model of Coach-Athlete Relationships Applied to the Dance Context: Psychometric Properties of the Teacher-Dancer Relationship Questionnaire (TDRT-Q)

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- 2. University Complutense Madrid

Abstract: The quality of key relationships in achievement-orientated environments such as sport, education and the arts is

central for growth and development. Teachers or coaches have the capacity to enable or disable individuals' engagement and ability to reach their potential through the quality of relationship they develop with them. In the sports field, the last decades have seen a shift in focus from coaching behaviours to an interrelational perspective in which coaches and athletes interact, communicate and relate in diverse ways. As a result, a new conceptual framework for analysing such relationships has emerged: the Closeness, Commitment, and Complementarity (3Cs) model of coach-athlete relationships (Jowett, 2007). This conceptual framework has attracted an important volume of research that has found a congenial coach-athlete relationship to be associated with athletes' physical self-concept, motivation, passion, satisfaction, social support, etc. It has also fostered the development of a specific instrument, the Coach-Athlete Relationship Questionnaire (CART-Q, Jowett & Ntoumanis, 2004), for assessing this relationship. The dance context bears great resemblance to the field of sport, placing comparable physical and psychological demands on performers, yet is distinctive in terms of its artistic elements or the role played by the audience. The aim of this study was to analyse teacher-dancer relationships using the 3Cs model and to test the extent to which this model applies to this dyad. For this purpose, the Spanish translation of the CART-Q was adapted to the teacher-dancer relationship and then validated. The resulting Teacher-Dancer Relationship Questionnaire (TDRT-Q) was completed by 175 Spanish dancers aged 16 to 40 of diverse performance levels and various dance disciplines, demonstrating adequate psychometric properties. A confirmatory factor analysis (CFA) was performed to assess the factorial validity of the TDRT-Q. The findings from this analysis highlighted the hierarchical nature of the relationship as originally postulated by Jowett, (2007), though aspects specific to the teacher-dancer relationship emerged.

Keywords: teacher-dancer relationships, coach-athlete relationships, 3C model, factorial validation

Psychophysiology and neuroscience perspective
The Entropy of EEG Interpreting Choking under Pressure

Yinping Tang, Jin Wang, Hu Lou, Xuefang Zou, Jie Liu, Chen Zhao, Lei Xu, Wanxin Du
Zhejiang University

Abstract: Objective: In sports, there are many cases when performance decreased under pressure at a crucial moment. Baumeister has defined this phenomenon as “choking” (1984). Based on the self-organizing system theory, we want to investigate the internal systematic mechanism of choking with information entropy of EEG.Methods: We used money as a reward and video surveillance together as pressure intervention, and approximated entropy (ApEn, Pincus, 1991) to calculate the complexity of EEG. After sufficient pre-training, the 12 healthy college students completed the golf putting task (300 pars) under a high-pressure situation followed by a low-pressure situation. Meanwhile, the EEG signals and behavioral performance were recorded. Two subjects performed worse under pressure, and five did better (P<0.05).Results & Discussion: The manipulation checking showed that all subjects more or less felt stress in the high-pressure situation.The performance analysis showed that the ApEn did not seem to relate to a single performance significantly, but related to average performance negatively. More specifically, the chokers' ApEn were higher than other participants who matched their performance level respectively. As for all, complexity of EEG generally went up under the pressure situation.Further comparison analysis of ApEn showed that a. the complexity of EEG with the worst performance dropped at P3, P4, T7, P8 while raised at T8 and CP5; b. the complexity of EEG with the better performance fell down at C3 while went up at F7 and P8; c. there was

no significant consistent change of ApEn among the subjects with non-change in performance.Conclusions: The evidence of the present study shows that the complexity of EEG calculated by ApEn is promising and that the working processes of the brain while choking occurs can be explicated and predicted.

Keywords: choking under pressure, information entropy, EEG

Sport expertise

Towards a Shared Understanding of Athlete Development: Results of a Multidimensional Research Program

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Abstract: It is now acknowledged in the literature, that the transformation of potential gifts into talent (expertise) across numerous domains (education, sport etc.) is contingent on a favourable and dynamic integration of intrapersonal, environmental and chance factors (Gagné, 2003; 2009).A recent sport-specific conceptualisation depicting interactive micro, meso and macro level factors across development (non-elite, pre-elite, elite) is the 3D-AD model of athlete development (Gulbin & Weissensteiner, 2013). At the core of the model, the micro level pertains to athlete-centric attributes (i.e., sport specific skills, psychological skills and attributes, genetic profile, physiological capacity, morphology, practice and competitive investment), the surrounding meso layer to environmental factors (family, club, community, coaching, daily training environment, service provision) and the encompassing macro layer to system and chance factors. The relative weighting and importance of each factor and level varies over time and is thought to be sport and sub-discipline dependant. This symposium presents current research emanating from a three year multidimensional project examining talent identification in Australia which was supported by a grant from the Australian Research Council. The research is comprised of four interlinked programmes of work. The findings presented here are from the programme dedicated to talent development and recruitment and emanate from a mixed methods approach. We present findings from the professional sports of cricket, tennis and Australian Rules (AFL) football. An introduction to the symposium will be given describing how the 3D-AD model of athlete development provides the underpinning framework for understanding athlete development. This symposium will then feature: a) findings from an athlete developmental survey administered to non-elite, pre-elite and elite cricketers; b) research examining the key characteristics and factors underpinning international tennis success, and c) insight into the philosophy and current practices of talent recruitment personnel in the sport of Australian Rules football. The conclusion will be provided by Professor Francoys Gagne as discussant. Implications for future research and practice specific to the identification, recruitment and development of sporting talent will be presented and discussed.

Keywords: athlete development, expertise, skill acquisition, talent identification

Multidimensional Antecedents for Sporting Expertise: Findings from a Developmental Survey of Cricket

Clare MacMahon¹, Juanita Weissensteiner², John Warmenhoven²

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- 2. Australian Institute of Sport

Abstract: To gain a better understanding of micro, meso and macro level factors and their interaction which underpin the development of talent and expertise specific to the sport of cricket, an online player development survey was developed and administered to players of all competitive levels, across Australia. Key themes explored within the survey included socio-developmental background (number of siblings, relative age of siblings to respondent, sporting and coaching profile of siblings and parents, socio-economic background etc), support systems (familial, club, peers), developmental milestones, transition and trajectory, contextual factors such as accessibility to training and competition venues, coaching provision, the club environment and the impact and perception of chance events. Data were used to compare recreational (non-elite), pre-elite and elite players between the ages of 18 and 25 across all of these themes in order to identify potential commonalities and differences between cohorts. Inclusion of a psychological inventory within the survey (measuring self-determination, negotiation efficacy and resistance to change) also allowed for potential relationships between a cricketer's socio-developmental and contextual background, their level of performance and their psychological commitment to the one sport, to be explored. Results will inform an empirical multidimensional model of sporting development specific to cricket (Gulbin & Weissensteiner, in press).

Keywords: sport expertise, development, skill acquisition, Cricket

Introduction to the Symposium: Athlete Development and Expertise

Juanita Weissensteiner
Australian Institute of Sport

Abstract: This talk will introduce the symposium. It will first discuss talent development broadly and across domains, using the example of the Differentiated Model of Giftedness and Talent (Gagne, 2003; 2004; 2009). It will then discuss the most recent modelling of talent development within the domain of sport. Specifically, this talk will present the 3D-AD (Three Dimensional Athlete Development) model of athlete development (Gulbin & Weissensteiner, 2013), highlighting the key features of the model. These key features include the acknowledgment of factors and their interaction within and across multiple levels (micro, meso, macro), and application to athletes across all levels of development (non-elite, pre-elite, elite). The model features athlete related factors such as physiological capacities and psychological attributes, as well as environmental factors, such as families and coaching. The complex and multidimensional background of this model will provide the framework for the symposium, the presentation of specific research findings, and the discussion to follow.

Keywords: talent development, sport expertise

The Importance of Self-Regulatory Skills during the Junior to Senior Transition in Australian Tennis

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- 3. Swinburne University

Abstract: Self-regulation or the extent to which learners exert control over their own learning to master a specific task and improve (Zimmerman, 1989) has recently been argued to be a key psychological discriminator between successful and unsuccessful elite athletes (Jonker, Elferink-Gemser, & Visscher, 2010). This study utilised evidence sourced from semi –structured interviews with retired elite Australian tennis players who were divided into Top 100

ATP ranked athletes (considered successful) and those with an ATP ranking greater than 100 (considered less successful). Participants were interviewed to gain retrospective information on their individual developmental pathways and transition experiences to a professional career, specifically investigating the attributes and factors they thought either facilitated or constrained their developmental progress and ultimately their professional ATP ranking. Thematic analysis of the interview transcripts revealed that a favourable and complementary mix of intrinsic (i.e., intrapersonal skills and attributes of the player) and extrinsic factors (coaching, support provision etc.) underpinned a successful career. One of the major discriminators that separated the two cohorts was the self-regulatory skills which were most evident in the Top 100 ATP ranked players. These athletes commonly expressed having an ownership of their game through an awareness of their personal strengths and weaknesses and knew exactly what was required to succeed. The Top 100 ATP ranked athletes addressed and worked on their own identified limitations and sought the required support such as the “right” coach to assist their development. Discussion will centre on how information and insights gained from this investigation can be utilised to inform and refine current and future developmental practices within a sports system.

Keywords: sport expertise, development, tennis

The Recruiters Eye: A Preliminary Understanding of the Characteristics of Expertise in Talented Recruiters

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Abstract: Although substantial research has been conducted in an attempt to understand the factors that are associated with the development of elite level athletic talent, there is a distinct lack of research relating to those ‘experts’ responsible for the subjective selection of potential champions and the characteristics that define them. Although many sports ultimately rely on the skill of recruiting (or scouting) for their success, there is no formalised guide that outlines the characteristics skilled recruiters possess. This research stands to address this overlooked area of expertise and provide a significant contribution to an area of knowledge that is currently under-represented in the field of research. Research on expertise in sport has noted that many coaching practices are based on "anecdotal evidence and historical precedence" developed from "intuition, tradition, and emulation" (Williams & Ericsson, 2005, p. 302). In related work, decision making research distinguishes between the two approaches of intuition and deliberation, where the former relies on “feelings” and more automatic decision processes, and the latter on careful analysis of data (Betsch, 2007). In this study, semi-structured in-depth interviews were conducted with a sample of the head recruiters of 10 Australian Rules football teams. Recruiters were asked about the key information sources they use in evaluating athlete potential, as well as the characteristics they believe define a skilled recruiter. Recruiters also completed the Preference for Intuition and Deliberation (PID) scale (Betsch, 2007) to assess their preferences in decision making styles. Interviews were transcribed, verbatim, and analysed in sentence by sentence open coding using NVIVO (version 9) software to identify emergent and recurrent themes. Preliminary thematic analysis of the interviews shows a pattern in which expert recruiters appear to initially identify talent based on an intuitive and subjective assessment. This initial assessment, however, is then validated through a structured and systematic process of data collection and evaluation. This study also explored the characteristics that recruiters use to define potential expertise in an athlete. The preliminary analysis of the interviews suggests that in addition to competency associated with the fundamental technical skills of the game (e.g., kicking), there is

significant importance placed on an athlete’s perceptual-cognitive ability, particularly when in a game play situation. These findings will be discussed in the context of their importance in the overall selection process employed by expert recruiters.

Keywords: sport expertise, development, Australian Rules football

Theoretical and applied issues
Sport and Exercise Psychology Training in China

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Abstract: The development of the new discipline of Sport and Exercise Psychology in China has been informed by three aspects: sport psychology in competitive sports; exercise psychology; and sport psychology in physical education. Currently, sport psychology professionals in China serve high level competitive athletes to enhance performance. Consultation in national teams is impacted by philosophy from ancient times, and theories related to peak performance and talent development. Philosophical thoughts from ancient times continue to have far-reaching influence on SEP and approaches to healthy lifestyle in modern China. The consulting practice and research in national teams are combined to lead the development of sport psychology in China. Theories were conducted related to talent identification (Identifying characteristics of talent athletes in1980s-1990s), mental construction framework (Liu, 2001), adversity coping training framework (Si, 2004), burnout (Zhang, 2006) positive thinking patterns and decision making (Liang, 2006), and physiological monitoring (i.e., EEG and ERP). A sport consultant certification system was established in 2006 leading up to the Beijing Olympics, but sport consultants working in teams are not required to be certified. However, one’s position in sport colleges, universities, or sport science institutes, and competency in sport psychology are more emphasized in practice. Sport psychology graduate programs in China offer support for research and psychological services in national teams. Both master’s and doctoral programs, which are located either in kinesiology department of sport colleges and universities, or physical education department of normal universities, offer graduate students courses in SEP (required) as well as opportunities of research (required) and practice (optional). Sport Psychology is a sub-discipline under the China Sport Science Society. Sport colleges and universities, and sport science institutes in provinces, which are all guided by government, are currently dominating SEP education, research and consultation. The benefits and drawbacks of this model will be explored, and a brief overview of career options in China for sport psychology graduates will be provided.

Keywords: China, training, consultation

Sport Psychology Training and Registration in Australia

Stephanie Hanrahan
The University of Queensland

Abstract: Legally in Australia, practicing sport psychologists must be registered as psychologists. The primary professional organization for sport psychologists in Australia is the College of Sport and Exercise Psychologists (CoSEP) within the Australian Psychological Society (APS). A 4 year accredited psychology degree results in provisional accreditation as a psychologist. Full general registration can be obtained after the completion of a 2 year professional

masters. Area of practice endorsement in a specialty (e.g., Sport and Exercise Psychology) requires an additional 2 years supervised practice, 80 hours of supervision, and 80 hours of professional development. CoSEP is involved in the accreditation of university graduate programs. Masters programs need to include coursework, research, and 1000 hours of supervised practice. Because students in the masters programs are seeing clients, they legally must have at least provisional registration with the national registration board. International applicants must get their qualifications assessed by the APS. In addition to meeting the content requirements of CoSEP (including sport psychology theory, research design and methodology, psychological assessment, intervention and evaluation, professional practice and ethical issues, performance enhancement in sport, critical issues/interventions in sport, and sport and exercise sciences), graduates of accredited masters programs should have met all of the competencies required for full registration as a psychologist. The master’s program at the University of Queensland has had students from 11 countries. There is a course that focuses on working with different populations and multicultural practical experiences are available (e.g., working with refugees). Once full membership of CoSEP is obtained, members are required to maintain a program of on-going professional development, including peer supervision. PhD degrees in Australia tend to be research only degrees and PhD students are not required to be registered psychologists or members of CoSEP.

Keywords: Australia, training, consultation, supervision, registration

Sport and Exercise Psychology Training and Certification in North America

Sam Zizzi
West Virnigia University

Abstract: In North America, which includes Canada and the United States, there is no system specifically for licensing the practice of sport psychology. However, strict regulations are in place that define and protect the practice of psychology. The Canadian Psychological Association mandates that a doctoral degree is necessary to practice as a registered psychologist, though some opportunities are available to work in limited settings with an applied master’s degree. In the US, the American Psychological Association (APA) accredits doctoral programs in Clinical and Counseling Psychology while individual states are allowed the freedom to determine practice laws within their boundaries. Many options are available at the master’s level to allow a professional to practice counseling in most states, either as a licensed professional counselor or social worker. The best guide available in North America for gaining competence in Sport and Exercise Psychology is the Certification program developed by AASP, the Association for Applied Sport Psychology. This certification program requires either a Master’s (provisional) or Doctoral (standard) degree along with 400 hours of mentored practice. Training must be completed in a variety of areas including exercise science, counseling, psychological skills, general psychology, and ethics. As of fall 2012, over 420 professionals have achieved this credential, most of them residing in the US. AASP also publishes a directory of graduate programs in applied sport psychology that allows students an opportunity to review characteristics of each program, including coursework, internship options, and faculty research interests. The United States Olympic Committee also sponsors a voluntary registration process that allows members of APA who are also AASP Certified to be eligible to work with Olympic level athletes or teams. Western cultural principles are embedded in the training approaches in North America. In particular, the US-based programs adopt a “liberal studies” approach to education that emphasizes broad coursework, teaching experience, applied work, in concert with research experience. Canadian programs at the graduate level are modeled on the British system, and thus prepare students in a more focused area

of research. Additionally, a culture of accountability, protecting clients’ welfare, and providing evidence-based services underlies all applied work in psychology. Career options and placement locations will be discussed, as well as benefits and shortcomings of these training models.

Keywords: North America, training, certification

Attracting and Retaining Young Peoples Participation in Physical Activity and Sport

Mike Weed
Canterbury Christ Church University

Abstract: World Health Organization globally estimates 170 million children and young people are overweight, while the International Association for the Study of Obesity shows, childhood overweight and obesity prevalence exceeds 25% in most developed countries, with some, such as the USA and Greece, exceeding 30%. Together with rising levels of inactivity, and the increased all-cause mortality risks associated with both obesity and inactivity, it is not surprising that increasing physical activity in children and young people is a policy priority in most developed countries around the world. Furthermore, while the public health goal is to increase physical activity levels, it has often been the case that a significant role is envisioned for sport within such policies. Despite this public health context, and a relatively healthy literature on young people’s physical activity and sport participation, there remain some fundamental and inextricably interlinked questions about the processes by which children and young people are attracted to, engaged with, and retained in physical activity and sport. Firstly, how are children attracted and engaged with physical activity and sport in the first place? Secondly, are the factors that attract and engage children and young people the same as the factors that retain their participation? Thirdly, how do the factors that attract, engage and retain children and young people change with age. Finally, are there differences in the way in which children and young people are attracted to, engaged with, and retained in informal physical activity as opposed to competitive sport participation, and might there be a group of important activities that lie somewhere in between? The purpose of this symposium is to explicitly address these questions, both theoretically and empirically. Firstly, Hagger and Chan offer a conceptual review of theories that might inform physical activity and sport promotion in young people, and recommendations for the processes by which they might be implemented. Secondly, Chan discusses the social factors that might retain young people in competitive sport, showing that the importance of different sources of social support change and evolve with age. Thirdly, Foad discusses the attraction and engagement of less active primary school children in physical activity and sport participation, and the process by which such engagement progresses. Finally, Weed discusses the incremental relative sport participation preferences by age of young people aged 7-15 that choose to participate in sport in their leisure time in comparison to those who do not.

Keywords: young people, sport promotion, physical activity

Evaluation of Primary Change4Life School Sport Clubs in their Opening Year: A Multi-method Approach

Abby Foad, Mike Weed, Suzanne Dowse, Ian Wellard
Canterbury Christ Church University

Abstract: Primary Change4Life School Sport Clubs are extracurricular clubs aimed at encouraging less active 7-9 year-old

children to become more active. The clubs developed in response to widespread concern that many children are not engaging in sufficient activity to benefit health and therefore the need for targeted initiatives to increase activity levels, particularly among the least active. The present study adopted a multi-method approach including longitudinal behavioural and psychosocial data from 497 children, survey data from 476 teachers, interview and focus group data from six site visits and secondary analysis of participation data to provide an overview of the first year of the Primary Change4Life School Sport Clubs. ANOVA revealed significant increases in all levels of physical activity participation over 12 weeks of the clubs ($p < 0.001$). Perceived enjoyment remained high, and stable ($p = 0.5$) while perceived self-efficacy increased between weeks 6 and 12 ($p < .001$). Significant predictors of physical activity participation and change identified by hierarchical linear and binary logistic regression respectively were prior perceived physical activity participation, self-efficacy and enjoyment ($p < 0.05$). Survey and site visit data suggested that the clubs had impacted positively on children's attitudes to being active; development of physical skills; knowledge of healthy lifestyles; sense of belonging; and confidence. Initial evaluation indicates that Change4Life School Sport Clubs can be effective mechanisms for change. Continued evaluation will further our understanding of impact and sustainability as the initiative develops over the next two years.

Keywords: primary education, sport promotion, Change for Life

Behaviour Change Techniques to Promote Sport and Activity in Young People: A Conceptual Review

Hagger Martin, Chan Derwin
Curtin University

Abstract: While sport per se is not a likely target activity in campaigns to promote health in youth, there are elements within many activities falling under the 'sport' banner that can confer health benefits such as reduced risk from certain conditions and healthy weight management. The promotion of sports that have an element of cardiovascular stress is, therefore, likely to assist in the governmental and health-promotion groups' goal of prevention of the long-term conditions associated with behavioural causes. The focus on prevention has inspired public health specialists to collaborate with behavioural scientists to develop interventions that will be effective in increasing participation in health-promoting behaviours like physical activity in young people. Exercise psychology is a key discipline at the forefront of informing preventive initiatives in public health in the promotion of more active lifestyles. Central to the exercise psychology approach is the adoption of theories of behaviour change, typically adapted from social psychology, to understand and inform the development of intervention content that will be most effective in bringing about a change in physical activity patterns. Researchers applying these theories to the promotion of physical activity for health have typically aimed to identify, through formative research, the social psychological factors associated with physical activity participation and the mechanisms by which these factors affect behaviour. Such basic research provides essential data on the psychological targets for behavioural interventions aimed at changing behaviour. The interventions need to adopt specific techniques that are instrumental in the psychological variables linked with behaviour and an important matching process needs to be undertaken, known as 'intervention mapping' to identify the appropriate techniques. These can then be adopted and evaluated in trials, using appropriate delivery methods, to change behaviour. In this presentation, I will argue for the importance of these three steps in developing interventions to promote sport participation in youth: (1)formative psychological research based on theory to identify the salient factors associated with participation; (2) intervention mapping to identify appropriate techniques that will form the 'active ingredients' of interventions aimed at changing behaviour; and (3)adoption and implementation of the

techniques, using appropriate delivery methods, in randomised trials and including relevant comparison groups and mediating variables to assess the effectiveness and mechanisms behind the behaviour change techniques. The presentation will draw from recent evidence indicating the importance of a systematic approach to intervention design when it comes to developing effective interventions to promote sport participation in youth.

Keywords: behaviour change, sport promotion, young people

Relative Influence of Coach, Parents, Peers: Perceived Social Influences in Sport Scale-2 (PSISS-2)

Derwin Chan¹, Richard Keegan², Chris Lonsdale¹
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2. University of Western Sydney

Abstract: Tremendous amount of research has suggested that the sporting experience of young people is heavily dependent on the social agents in the sport environment. However, due to the limitations of the existing psychometric instruments, there is a scarcity of research that effectively and systematically compared the relative roles of significant others in young athletes. Therefore, the present study developed Perceived Social Influences in Sport Scale-2 (PSISS-2) to examine the relative impacts of coach, parents, and peers on the motivational outcomes of young athletes. We also examined if the relative roles of these key social agents were different between children and adolescent athletes. The items pool ($N = 49$) of PSISS-2 were generated based on PSISS-1 and the data from recent qualitative studies about significant others in youth sport, and were examined by an expert panel in terms of content validity as-well-as reading-age appropriacy. Exploratory and confirmatory factor analyses were employed using three separate samples of children (age = 9-12) and adolescent (15-18) athletes in China (total $N = 461$). We used variance-based structural equation modeling to examine the predictive power of PSISS-2 on the perceived competence, anxiety, enjoyment, and effort in sport. The factor analyses revealed a model with three factors: positive reinforcement, punishment/ dysfunction, and affiliation, which explained substantial amount of variance of the motivational outcomes. In line with Chan, Lonsdale, and Fung (2012), the relative social influences of coaches, parents, and peers were moderated by athletes' age. In comparison to other social agents, parents appeared to be more important for children, and peers were shown to be more influential to adolescents. In conclusion, the PSISS-2 appears to be a relatively reliable and theory-neutral tool for assessing young athletes' perceptions of the influences exerted by key social agents in sport. The findings of this study are reconcilable with existing research, but also suggest new directions and opportunities for progress in this area.

Keywords: youth sport, social influence, coaches, parents, peers

De-emphasise the Sport and Promote Novelty and Learning: How to Engage Less Active 7-15 year olds

Mike Weed
Canterbury Christ Church University

Abstract: National School Sport Week was a nationwide sponsored initiative in primary and secondary schools in the UK that ran in the four years preceding the London 2012 Olympic and Paralympic Games. It sought to use themes and activities associated with the Games to promote sport in schools, and had an average participation rate of over 10,000 schools and over four million children and

young people each year. Evaluations of National School Sport Week in 2010, 2011 and 2012 included direct surveys of the sports participation habits and preferences of over 5,000 children and young people aged 7-17, making this the largest direct survey of young people's sport participation ever conducted across the UK. Although not necessarily intended to focus on the needs and preferences of the less active, the size of the sample allowed comparisons to be made between the sport participation preferences of those who only participate in sport during physical education lessons and those who choose to participate in sport in their leisure time. Analysis took place across the ages 7-15, with sub-samples of at least 100 for each participant group in each year group (range from $n = 103$ to $n = 640$), and an overall usable sample of 4,664. Ages 16-17 were excluded because the sub-samples were too small. Results showed that themes focusing on competition and playing more sport were least attractive to the less active across all age ranges, while themes focusing on fun and novelty were most attractive to the less active across all age ranges. The use of sport themes in the wider curriculum beyond PE was more popular with the less active than those who played sport more often. Finally, the London 2012 Olympic and Paralympic Games in its widest sense (i.e. incorporating themes beyond elite competition) was more effective in exciting and engaging the less active up to the age of 12/13 years, after which there were no differences between less and more active young people. In conclusion this data suggests that de-emphasising themes associated with competitive sport and emphasising novel sporting activities played for fun alongside wider learning about sport offers the best way to engage the less active across all ages from 7-15, whilst the use of events such as the Olympic and Paralympic Games to excite and engage the less active will be most effective in primary and very early secondary education.

Keywords: less active, sport promotion, novelty

Health Enhancing Physical Activity Promotion – From Theory to Practice

Yanping Duan
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Abstract: During the past two decades, evidence-base on the way to promote the health enhancing physical activity (HEPA) has received increasingly attention by researchers and practitioners in the sport science domain. Focusing on this topic, the aim of our symposium is: (1) to elaborate our theoretical understanding regarding the process of progressing from sedentary behavior to habitual HEPA as well as relevant empirical studies of theory applicability examination in Germany and China; and (2) to demonstrate specific exercise intervention studies and practice promoting health benefits among adults and old adults in Germany and Hong Kong China. In particular, the first presentation models the process of behavior change by proposing FIT model with the emphasis on the critical behavior change steps from preparing to maintaining HEPA, both in theoretically and practice. The report ends with intervention measures applied by German Gymnastic Federation to activate the adult population in Germany. The second presentation focuses on the FIT model tests by examining the association between stages of change and health correlates as well as between stages of change and psychosocial correlates with two large adult samples. The third presentation examines the effects of a structured exercise program for traffic safety and mobility improvement among German elderly cyclists. The fourth presentation shares the research findings of an exercise intervention on examining the training effects of water Tai Chi on the health-related quality of life and the physiological health parameters in the old adults in Hong Kong. In addition, this presentation also presents the exercise and physical activities proven to be beneficial to the health and fitness of older adults from previous studies.

Keywords: health enhancing physical activity promotion, theory

test, exercise intervention

Correlates in the Process of Stages of Change for Health Enhancing Physical Activity in Adults

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Abstract: The FIT Model (Brehm, Duan, 2010), a health enhancing physical activity (HEPA)-specific stage model, was constructed to describe and explain the process of physical activity (PA) change and some critical correlates related to behavior change. In particular, the FIT model differentiates six stages of behaviour change (Not Considering, Considering, Preparing, Exploring, Fluctuating and Maintaining), five health correlates (fitness, physical complaints, findings of two empirical studies based on the FIT model, which test association between stages of change and health correlates as well as between stages of change and psychosocial correlates in two large-size adult samples. For study one, 2710 adults aged 27-55 years ($M = 39$ yrs, $SD = 8.67$; 42% German and 58% Chinese; 57% females) completed self-of change, five health correlates and ten psychosocial correlates. The results revealed that all five health correlates significantly differed between the stages. Regarding the relationship between stages of change and psychosocial correlates, nine out of ten psychosocial correlates (AAS being the notable exception) significantly discriminated stages of change. Particularly, both nationality and gender moderated the relationship between stages of change and most health correlates as well as between stages of change and some of the psychosocial correlates. For study two, 3807 Chinese university students ($M = 19$ yrs, $SD = 1.34$; 58.1% females) responded survey regarding stages of behavior change and five health correlates. It was found that students who were in PA stages had better health status than those in physical inactivity stages. Furthermore, demography variables and health correlates could explain 17.6% variances of PA stages of change ($F = 108.48, p < 0.05$).

The results of two studies above showed the potential usefulness of the FIT model in HEPA promotion among young adults and middle-age adults. Based on the valid association between stages of change and health correlates, it is possible to diagnose the specific health status from the stage of activity. Moreover, by identifying several psychosocial correlates which influence adjacent stage transition, we can target them for behaviour change by means of stage-matched interventions in the future.

Keywords: health enhancing physical activity, FIT model, process of stages of change, health correlates, psychosocial correlates

Exercise Intervention for Enhancing Health and Fitness of Older Adults

Pak-kwong Chung
Hong Kong Baptist University

Abstract: The purpose of this presentation is to share the research

findings of a study on examining the training effects of water Tai Chi on the Health-related Quality of life and the physiological health parameters in the older adults in Hong Kong, and at the same time, presenting the exercise and physical activities proven to be beneficial to the health and fitness of older adults from previous studies. Aging has become a global issue. In Mainland China, it is projected that the percentage of people aged 65 years and above will increase to 13.3% in 2025, and 23%, or 114 million by 2050. In Hong Kong, the proportion of population aged 65 years old and over currently is 12.6%, which is projected to be increased to 24.2% in 2029 (Hong

Kong Census and Statistics Department, 2008). How would this 20–25% of our populations spend their time, maintain their health and find meaningful activities during their post-retirement years is of concern to individuals, families, health care providers and the government. In the Water Tai Chi study, there were 42 male older adults (average aged was 71) were invited to participate voluntarily in an 8-week intervention program. Although the training effects this Water Tai Chi intervention program in the study was found insignificant, the experience gained from this study would be useful to the further study in the future, in which extension of training duration 12 to 18 weeks, and better control in exercise intensity as well as nutritional supplements and extra-curricular activities of the participants during the training would be the major considerations for improvement. With the literature review on the previously related studies, it revealed that excise and physical activities, such as walking, dancing, Tai Chi, aquatic activities etc. are suitable for older adults to improve their health and fitness as well as lower the degeneration process caused by chronic illnesses, such as arthritis as well as pains and disabilities. Exercise and physical activity could also offer older adults the benefits of physical functioning and mental health.

Keywords: water Tai Chi Program, old adults, health-related quality of life, physiological health parameters, exercise

It Takes More than Expertise, It Takes the Person: Reflections on Sport Psychology Service Delivery

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1. University of Denver,
2. University of Utah,
3. Utah State University,
4. California State University, Fullerton,
5. United States Skiing Association

Abstract: For decades, sport psychologists have examined issues involved in sport psychology service delivery. Specifically, variables considered to impact the consultant's effectiveness have attracted considerable attention (e.g., Poczwadowski & Sherman, 2011). Given the increasing need for consulting services at all levels of sport participation and the growing number of graduate programs in sport psychology in the world, issues pertaining to the consultant as the instrument of the intervention (or the consultant as a performer [Brown, 2009]) have received numerous examinations (e.g., Cropley, Miles, Hanton, & Niven, 2007; Friesen & Orlick, 2010; Winstone, & Gervis, 2006). The purpose of this symposium is to bring into focus the person in the sport psychology practitioner. It seems that professional expertise alone does not account for a number of critical factors in successful consultation. Professional philosophy, working interpersonal alliance, and other consultant-as-person related tools (e.g., self-care, self-reflection) are vital in both successful delivery of sport psychology services and consultants' satisfying long-term professional careers. The symposium organizer will briefly outline multiple psychological and situational challenges that consultants face in their work. Time demands and schedule conflicts, multiple clients, different professional roles, and work-life balance issues are a few examples of pressures to be confronted and effectively resolved. The first presentation will focus on self-regulation as a competence that allows for integration of the consultant-as-performer and consultant-as-person in ever dynamic and multidimensional contexts of sport psychology service delivery. The second presentation will explore a consultant's extensive experience over several Olympiads and his continued consultation in professional sports settings while making references to his unique style and awareness. Case studies and personal stories will illustrate the "razor's edge" of personal consulting (Ogilvie, 1968). The third presenter will provide insight into

challenges and opportunities in consulting work at a mid-career point from a perspective of the person as the instrument of intervention. Examples of successful and unsuccessful coping strategies will be discussed. Finally, the forth presentation will provide observations on self-managing within a four-year long immersed consultation. For instance, there is a need to navigate administrative pressures to deliver services professionally and ethically while attempting to balance personal life with work. The interaction with the audience will aim at soliciting and reinforcing the diversity of perspectives on career choices, practical issues in consulting, and corresponding solutions that have a potential to promote effective service delivery and, at the same time, to contribute to satisfying and fulfilling consulting careers.

Keywords: sport psychology service delivery, consultant as performer/person

The Perilous but Exciting Road to Consulting

Rich Gordin
Utah State University

Abstract: Part of doing applied sport psychology is "being you". Your self is generated over an entire career and is influenced by many factors. Some of these factors include: your growth and development experiences, mentors, self-exploration and continued self-awareness as well as curiosity. I plan to explore my development as an applied sport psychologist over a 35-year period. I will include in my remarks the things that have worked well for me as well as the things that have required adjustment in my style. I will discuss my best consulting and my worst consulting. I will use case examples and personal anecdotes to illustrate my points. This presentation will also explore the exciting aspects of my consulting experiences around the world but also the drawbacks and challenges with such a lifestyle. The presentation will explore the effects on the consultant in regard to family life and personal stresses. Often in the world of applied sport the psychology only the glamorous aspects are shared. The author plans to explore the side of the field that includes challenges to our work.

Keywords: sport psychology service delivery, consultant as performer/person

Harmonious Work-Life Balance: Self-Care Strategies in the Consultant-as-Instrument Experience

Traci Statler
California State Univ.

Abstract: As mentioned by others in this symposium, much focus in the sport psychology literature has centered on the experience of the athlete or performer, the coach, and the support network involved in the generation of successful performance. More recently attention has also been given to the consultant's contribution to performance generation in the form of consultant effectiveness and the consultant-as-instrument literature. Yet despite this recent focus on the consultant as a contributory element, minimal attention has been given to the training of would-be consultants on strategies for ensuring that that "instrument" is in optimal condition for use in theconsulting relationship. Like any other tool, apparatus or instrument, in order for the consultant to be the best "instrument" they can be in this environment, care must be given to enrichment, balance and maintenance of that instrument. In this portion of the symposium, the presenter will address the day-to-day challenges of balancing the frequently conflicting requirements of academic and professional work load, consultation expectations, interpersonal relationships and family responsibilities with the very real needs of

self-care. As a mid-career professional, the author will address the changes experienced in this need for harmonious balance as a result of her transition from graduate student to new professional and now into a stage of career stability. Examples of both successful and unsuccessful strategies employed during these different stages will be shared, with "best-practice" recommendations for aspiring sport psychology professionals highlighted.

Keywords: sport psychology service delivery, consultant as performer/person

The Advantages and Disadvantages of Working Full-Time for a National Governing Body

Lauren Loberg
United States Skiing Association

Abstract: In this presentation, the author will provide a case study based on her full-time work with a National Governing Body that oversees 48 medal events at the Winter Olympics. Research often highlights the event of the Olympics and elite level performance. However, the author plans to speak about the entire four-year period placing the emphasis on the "total" athlete, a balanced lifestyle and practicing what you preach." Examples will demonstrate how these concepts were introduced to an organization by the author, a young female consultant, and the benefits and challenges of this process. The vantage point of a consultant as in-house staff provides the consultant with a perspective different from the consultant who works with a team sporadically throughout the year. Changing the outlook and/or mission of an organization or department can be challenging to a consultant professionally and personally. The author's experience also allows her to discuss the day-to-day journey a consultant will take with an athlete through his/her career. She will highlight the interaction that occurs at the introductory Rookie Camp through the career to the concluding Transition Camp and after he or she has left the organization. The presenter is in constant contact throughout the year, whether it is face-to-face or electronically as the athletes travel abroad. As a continuous resource, it is important for the author to manage her personal life, as well as the internal politics of a large organization whose focus is on the outcome of a two-week period every four years. This presentation will emphasize examples of how she remains available to the athletes around the clock across disciplines and international time zones, while still maintaining her own quality of life.

Keywords: sport psychology service delivery, consultant as performer/person

Sport Psychology Consultant: Growing as a Performer, Person, and Self-regulator

Artur Poczwadowski
University of Denver

Abstract: Sport psychology consultants face numerous challenges in their work while intensely serving their clients needs (Poczwadowski & Sherman, 2011). Effective resolutions tothese ongoing demands aim at bothwelfare of the client and the consultant's work-life balance, his or her professional and personal growth, and work enjoyment and satisfaction. In short, managing oneself as the instrument of the intervention is a vital competence and critical component of effective practice (Poczwadowski, Sherman, & Henschen, 1998). In particular, a meta-competence of self-regulation elevates the consultant's self-focused decision-making to an executive role and involves, for example, self-awareness, self

-reflection, self-motivation, self-care, self-renewal, work-life balance management, and self-monitoring with following it self-correcting and self-enhancing actions. These self-regulation activities address both the consultant's role as a performer (professional) and "the person in the professional" (personal; Poczwadowski & Aoyagi, 2013). The purpose of this presentation is to give examples from the author's sport psychology practice that aim at describing the performer, person, and self-regulator as interdependently linked aspects of oneself who is engaged in the consultation. In doing so, the following time perspectives will be used: (a) a single session, (b) a complete consultation process, and (c) one's entire career span. Positive ethics (e.g., Aoyagi & Portenga, 2010), practice diversification (Hays, 2006), self-reflection (e.g., Cropley, Miles, Hanton, &Niven, 2007), public presentation preparation and delivery (Brown, 2009), deeply held personal values (e.g., Brown, Pryzwansky, & Schulte, 2011), and one's philosophy on the client development (e.g., Henschen, 2012) are a few examples of tools, competencies, and processes that are useful in the "executive" role behind self-regulation. The presenter will argue for enhancing the consultants' deliberate self-regulation awareness and skills ("the executive" as an overarching function) on the grounds of seemingly being a critical part of professional decision-making (e.g., Martindale & Collins, 2007). The enhanced competence of self-regulation is helpful in successful negotiation of numerous multidimensional challenges in sport psychology practice that involve the client and consultant in the dynamic contexts. As a discussion point and a subject of critical evaluation by the attendees of the presentation, it will be proposed that not only self-regulation is an important tool in promoting effectiveness of sport psychology service delivery, but also adds to the consultant's growth in becoming a

better, more compassionate, and more fulfilled person while pursuing of excellence in consulting.

Keywords: sport psychology service delivery, consultant as performer/person

Theoretical Understanding and Practical Evidences of Physical Activity Research in Exercise Psychology: Korean Experiences

YoungHo Kim¹, MyungWoo Han¹, JungGil Park¹, HwaJung Oh¹, HakGeon Lee¹, Jin Hwang¹, EunSuk Kim¹, HyunYoung Lee¹, KyungWon Kim¹, AdrianH Taylor¹, DukSun Chang¹⁰, HoTae Kim¹, JaeHyun Yuem¹, SooJin Kang⁵
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6. SeoWon University
7. KookMin University
8. University of Exter
9. ChonBuk National University
10. Korea National Sport University

Abstract: It is well documented that physical activity is one of the most important health behaviors not only to prevent various health problems, but also to promote healthy lifestyles. However, recent statistics indicate that many people, regardless of age, are insufficiently active in obtaining the many health-related benefits of physical activity. In this regard, a large number of studies have indicated that physical activity behavior is significantly related to various psychological constructs. Although much information on exercise psychology has been developed in Western and Eastern countries, little information of Korea is available. Concerted

recent efforts have been paid much attention to carry out physical activity research focusing on the broad range of interactions with psychological variables in Korea. The current symposium tries to introduce the developmental procedures of the exercise psychology in Korea. For this, the past 30 years of exercise psychology were reviewed, and current issues and future direction will be discussed. In addition, we attempt to introduce the research findings aimed at identifying the applicability of various psychological theories to understanding physical activity among various age groups or settings in Korea.

Keywords: physical activity, psychological theory, psychological variable, exercise psychology

Application of the Transtheoretical Model to Understanding Physical Activity

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1. Seoul National University of Science and Technology
2. ChonBuk National University

Abstract: It is well documented that physical activity is one of the most important health behaviors not only to prevent various health problems, but also to promote healthy lifestyles. However, recent statistics indicate that many people, regardless of age are insufficiently active to obtain the many health-related benefits of physical activity. In the last decade, it has become increasingly important to identify ways to promote physical activity for health and wellness among various populations in Korea. Concerted recent efforts have been a shift towards theoretically based studies that concentrate on physical activity adherence, focusing on the broad range of interactions with psychological variables. One of the more promising theories is the Transtheoretical Model (TTM) of behavior change. This presentation introduces the results of four different published articles based on the TTM and addresses the applicability of the TTM to understanding physical activity among various age groups or settings in Korea. Based on the TTM, three articles applied a cross-sectional research design and one study was carried out in a longitudinal viewpoint. For these studies, adolescents, college students, and adults were randomly selected. In cross-sectional studies, the TTM's constructs were measured by the standardized Korean-version questionnaires. Meanwhile, the stage-matched strategy was applied to identify the effect of physical activity intervention. In all of the three studies, participants' physical activity was significantly classified into the five stages of change. Except cons, most of the TTM's constructs such as self-efficacy, pros, cognitive processes of change, and behavioral processes of change gradually increased with advancing stages of physical activity. In the longitudinal study, physical activity and the TTM constructs (self-efficacy, pros, cons, cognitive processes, and behavioral processes) were significantly changed after the intervention. These findings are supported by the TTM's assumption. The findings offer further cross-sectional support for the internal validity of TTM. Overall, the results are in general agreement with the previous findings reported by western countries and therefore, the external validation of TTM is supported. In addition, the longitudinal application has resulted in preliminary support for this intervention modality within a non-western sample, provided further support for the construct validity of the transtheoretical model, and opened new lines of future inquiry. The TTM studies provide a starting point for practical interventions aimed at increasing physical activity levels in healthcare settings, and also influence perceptions regarding theoretically based and practical important exercise strategies for public health professionals.

Keywords: physical activity, transtheoretical model, health

The Emergence, Development, and Future of Exercise Psychology in Korea

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Abstract: Background: Although much information on exercise psychology has been developed in Western and Eastern countries, little information on Korea is available. In addition, the number of inactive people is still not reduced to the desired level. Furthermore, recent data reported the rate of potential patients due to physical inactivity, which is contradictory to the expectation. Therefore, a carefully considered review on the exercise psychology, including such themes as the reasons of exercise inactivity and future implications, etc., is needed in order to prepare for the future. Objective: The purpose of this presentation is to introduce the developmental procedures of the exercise psychology in Korea. After reviewing the past 30 years of exercise psychology, current issues and future direction will be discussed. Methods: Qualitative and quantitative research method will be utilized. That is, literature content analysis will be conducted and descriptive statistics on the analysis will be provided to satisfy the purpose of this study. Results: The order of the content will consist of the birth of exercise psychology in Korea, development, current status and issues, and suggestions for future studies, respectively. The potential and possibilities to promote exercise participation rate using psychological theories will be examined. For example, the effectiveness of transtheoretical model for behavioral changes and the psychological skills training program for the facilitation and adherence to the exercise will be discussed. Conclusion: The results extracted from the review revealed the strong points and weak points in exercise psychology in Korea. Furthermore, those findings suggest some useful strategies and/or means to facilitate exercise and to adhere to the physical activities. It, in turn, could provide people with the appropriate information enhancing the quality of life and public health status. Implications: The content analysis in a certain area or on a special topic helps people prepare for the future by finding the strong and weak points and suggesting alternatives. The results found in this study could be used to promote the rate of current exercise participation.

Keywords: Korean perspective, exercise psychology, physical activity

Understanding Korean Adolescents' Physical Activity Based on the Theory of Planned Behavior and Self-Efficacy Theory

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3. KookMin University

Abstract: This presentation introduces the results of two different studies using the Theory of Planned Behavior (TPB) and Self-Efficacy Theory (SET) in order to understand and predict Korean adolescents' physical activity. Study 1 examined relations between perceived social supports, perceived barriers, self-efficacy, and outcome expectancy in a physical activity context. Study 2 tested the mediating role of adolescents' attitude toward school physical education, self-efficacy, and outcome expectancy in the relationship between the perception of learning environments in P.E. classes and after-school physical activity. A cross-sectional research design was used to assess the socio-psychological variables from two theoretical perspectives. Two samples of middle school students volunteered to participate in Study

1 (N=898) and Study 2 (N=716). In Studies 1 and 2, multi-group structural equation modeling was used to test the mediating roles of the social and psychological variables on physical activity behaviors. The results from the two studies provided strong support for each of the proposed models. The results of Study 1 indicated that self-efficacy partially mediated the relationship between social support and physical activity. Study 2 demonstrated that adolescents' attitude toward physical education classes and self-efficacy constructs mediated the influence of perceived learning environments on physical activity behavior. The findings supported the previous results that positive learning environment, positive attitudes toward physical education, social support from family, and self-efficacy are motivationally beneficial to Korean adolescents in physical activity behavior. Studies 1 and 2 revealed that social support from peers and self-efficacy are important to consider when examining Korean adolescents' regular physical activity behavior. Future studies should investigate other important factors in predicting physical activity and should also consider using experimental design to ascertain the causal effect.

Keywords: theory of planned behavior, self-efficacy, physical activity

An Integrative Approach to Psychological Variables to Predict Health-Related Quality of Life in Adults

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Abstract: There has been very limited research focused on the overall influence of physical activity (PA) on its actual purpose, which is the improvement in health and quality of life, as previous relevant studies have dealt only with the direct effect of psychological variables on physical activity. Also, most other research that actually studied the relationship between physical activity and health and quality of life was done through standardized studies with single theories. No previous research has attempted a combination study of psychological variables on similar theories. The purpose of this study is to predict health-related quality of life through a combination of subordinate variables of the planned behavior theory and the stages of change in physical activity. Participants were 318 adults (precontemplation stage: 16, contemplation stage: 43, preparation stage: 87, action stage: 52, maintenance stage: 120; Meanage = 35.4 years old). Korean version of questionnaires were applied to measure the stage of physical activity, METs scores, attitude, subjective norms, and perceived behavioral control.

This study showed that there was a significant statistically difference in all variables in the stages of change in physical activity. The result of hierarchical regression analyses revealed that perceived behavioral control was at 33%, 18% for subjective norms and 16% for attitude in terms of subordinate variables of the planned behavior theory in stages of physical activity. Meanwhile, the result showed that perceived behavioral control was at 23%, 19% for attitude and 11% for stages of physical activity in terms of health-related quality of life.

This research has confirmed the validity of the integrated model for the variables under the theory of planned behavior (TPB), including intention, subjective norms, perceived behavioral control, and stages of change (SOC). Collaborative studies that integrate the relevant single theories should have a significant impact on mobilizing further studies, as well as providing fundamental materials for preparing t

reatment strategies for the improvement of adults' health and quality of life.

This study indicates that integrative studies on psychological variables will develop into a prominent part of sports science.

Keywords: health, quality of life, physical activity, psychological variable

The Role of Physical Activity in Health Behavior: A Review of Experimental Studies

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2. University of Exter

Abstract: Evidence has shown the beneficial effects of physical activity on obesity (King et al., 2007; Poirier & Despres, 2001), smoking cessation (Ussher & Taylor, & Faulkner, 2012), and preventing substantial weight gain after cessation (Farley, A.C., et al., 2012) in chronic studies. Experimental work is needed to understand if and how single sessions of exercise influence cigarette and food cravings. Haasova and colleagues (2012) reported strong evidence, from a meta-analysis of over 20 studies, that exercise acutely reduces cigarette cravings (desire to smoke). From fewer studies, similar findings have been reported for alcohol (Ussher et al., 2004) and chocolate (Taylor & Oliver, 2009) among regular consumers who are abstinent, and therefore may experience withdrawal symptoms or difficulty regulating their behavior especially when faced with cues associated with reward or pleasure. This presentation will focus on the acute effect of exercise on the desire to engage in health behaviors such as high energy snacking and cigarette smoking, with findings from three experimental based studies (Oh & Taylor, 2012; Oh & Taylor, in press; Oh & Taylor, in press). The studies involved behavioral observation, self-report measures, direct and indirect measures of attentional bias. The three studies found that 15 minutes of moderate intensity walking or cycling appears to reduce ad libitum chocolate snacking, the desire and attentional bias to alcohol and cigarette related cues. The findings have suggested that compared with being sedentary, a short bout of physical activity may help to regulate one's health behaviors. A single short bout of exercise is a relatively small amount of physical activity, however when the repeated successful experience of self-regulation is accumulated, in the long-term the results may contribute to enhance an individual's motivation to change from unhealthy habitual behaviors. The findings of the experimental studies can influence the design of intervention studies. For example, 'the Exercise Assisted Reduction then Stop smoking (EARs)' intervention study (Taylor et al., in press), which is an exploratory trial to evaluate the effects of a physical activity intervention as a smoking cessation induction and cessation aid, involves moderate intensity exercise for at least 15 minutes for 16 weeks.

Keywords: health behavior, physical activity, exercise psychology

Effect of a School-based Obesity Prevention Program for Obese Male Adolescents

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Abstract: Obesity is one of several major public health problems and is quickly becoming an epidemic as evidenced by the rapidly increasing prevalence rates around the world. An active lifestyle and regular physical activity are important contributors to the prevention and reduction of the health risks caused by obesity.

The present study examined a school-based obesity prevention program aimed at reducing body weight, promoting physical activity levels and enhancing psychological variables of physical activity behavior among obese male adolescents.

A total of 48 obese male adolescents (Meanage = 13.92, SD = .85, MeanBMI = 27.23, SD = 2.23) were recruited and randomly classified into the experimental group (n = 22, Meanage = 14.14, SD = .71, MeanBMI = 27.03, SD = 2.58) and the control group (n = 26, Meanage = 13.67, SD = .95, MeanBMI = 27.040, SD = 1.92). Participants in the experimental group received an obesity prevention program which consisted of skipping rope (3 times per week, 50 minutes) and psychological modification (2 times per week, 50 minutes) for four months. During the same period, participants in the control group did not participate in any other activities and lived as usual. At baseline, week 8, and week 16, all participants in the experimental and control groups completed measures of decisional balance, self-efficacy, physical activity, and Body Mass Index. Data were analyzed using frequency analysis, repeated measures MANOVA.

The effects of implementing a school-based obesity prevention program were significant. Participants perceived a positive program impact on their BMI, physical activity, and psychological variables relating to physical activity. Particularly, in the experimental group participants' BMI and perceived barriers were significantly reduced among the baseline to 16 weeks via 8 weeks. In contrast, exercise self-efficacy and perceived benefits toward physical activity were continually promoted during the same period. However, for the majority of outcome variables, differences between the experimental and control groups at the baseline and 8 weeks were not significant. A school-based obesity prevention program was significantly effective and fills a needed niche within school physical education programs. An expanded intervention and evaluation is needed to enhance and assess long-term program effectiveness.

Keywords: obesity, physical activity, adolescent, psychological modification

Theoretical Models of Exercise Behavior

Jingcheng Li
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Abstract: The aim of this symposium is to present the researches of Chinese scholars in the field of exercise psychology, especially in studies on theoretical models of exercise behavior, to show the topics and development of works, and to exchange the views of different ideas with colleagues from around the world.

The topics and main works of presentations in this symposium are:

1. Comparative Study on Prediction of Exercise Behaviors of Students with Theory of Reasoned Action, Theory of Planned Behavior, and Social Cognitive Theory

The questionnaires based on theoretical models of exercise behaviors and exercise behaviors of a week were adopted to survey 199 participants' (97 male, 102 female) psychological attitudes and times and duration of exercise behaviors. The results showed that exercise behaviors could be predicted well by social cognitive theory, and self-efficacy and outcome expectancy contributed significantly to the prediction of times and duration of exercise.

2. Constructing a Social-cognitive Motivation Model of Exercise Behavior: Theory of Automatic Behavior

Based on the framework of theory of planned behavior (TPB) and empirical researches, the Theory of Automatic Behavior (TAB) was constructed. There are seven social-cognitive variables (intention,

plan, attitude, self-efficacy, subjective norm, subjective resource and knowledge) and an exercise behavior variable in TAB. All social-cognitive variables are predictors of exercise behavior. TAB shows more logical variable relation than previous theories of exercise behavior from the perspective of mind process.

3. Research on Exercise Behaviour and Exercise Motivation during Different Exercise Stages

A total of 587 intellectuals participated in this study. Their age was between 23 and 69 (M = 40.38, SD = 10.098), and included 186 women and 401 men. The instruments were MPAM-R, the scale of exercise stages and the index of sport population. The results showed that (1)the persons in the maintenance stage exercised the longest and the most times, (2)the exercise frequency increased with progress of exercise behaviors stages, and (3)the persons in the action stage had the strongest exercise motivation.

4. A Systematic Review of Physical Activity Study Based on the Trans-theoretical Model in China from 1998 to 2012Studies published between January 1, 1998 and December 31, 2012 were located by searching three databases (i.e., CNKI, WANFANG DATA, & VIP). Each of the full texts of the identified papers and the associated reference lists of all relevant publications were retrieved and reviewed (N = 114). Data were coded and analyzed, with the 12 studies that emphasized adolescents' physical activity behavior being further analyzed using a semi-quantitative summary.

5. Application and Development of Exercise Motivation in China

Chinese exercise psychologists pay more attention to the Trans-theoretical Model (TTM), Self-Efficacy Theory (SET), Theory of Planned Behavior (TPB), Health Action Process Approach (HAPA), Health Belief Model (HBM), and Self-Determination Theory (SDT). Two types of exercise motivation models (continuum theory and stage theory) were developed in China, which are different from western models. The empirical and longitudinal studies should be emphasized from cross-cultural perspectives.

From the above topics, we can see that the focus of issues in this symposium is the development of theoretical models of exercise behaviors in China and its application studies to exercise behaviors of Chinese individuals.

Keywords: exercise psychology, theoretical models of exercise behavior, topics and development of works in China

Comparative Study on Prediction of Exercise Behaviors of Students among Theory of Reasoned Action, Theory of Planned Behavior, and Social Cognitive Theory

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Abstract: The theory of reasoned action (Ajzen and Fishbein,1975, 1980) proposed that the direct influencing factor of behaviors was intention, while two variables that decided the intention were attitude toward the behavior and the subjective norm. The theory of planned behavior (Ajzen, 1985) believed that individual intention of behaviors was not strong enough if the perceived behavioral control was lower, and the individual had a positive attitude toward the behavior and the subjective norm. The perceived behavioral control was also an independent factor predicting behaviors other than intention. Social cognition theory (Bandura, 1986) suggested that self-efficacy and outcome expectancy were important behavioral self-regulations of social cognitive mechanisms, while self-efficacy was a decisive factor predicting behaviors. The purpose of this study was to prove the factors that influence participating behaviors of exercise by comparing prediction effects among theory of reasoned action, theory of planned behavior, and social cognitive theory. One hundred ninety-nine students (97 males, 102 females) participated in the investigation. Questionnaires based on theoretical models

of exercise behaviors (edited by Dzewltowski (1990)) and Exercise Behaviors of a Week were used to survey participants' psychological attitudes and times and duration of exercise behaviors. The study lasted four weeks. Exercise intention predicted well the times, F(1,197)=20.75,P < 0.001, and duration, F(1,197)=16.82,P < 0.001, of physical activities, but only attitude toward exercise contributed significantly to the intention to exercise behaviors. Perceived control of behavior improved significantly the prediction of theory of planned behavior to the intention toward exercise, but could not predict exercise independently. The exercise behaviors could be predicted by social cognitive theory, and self-efficacy and outcome expectancy contributed significantly to the prediction of times, F(4,194)=13.63,P < 0.001, and duration, F(4,194)=10.14,P < 0.001. The results showed that the attitude in theory of reasoned action had significant influence on exercise intention, and perceived control of behavior improved significantly prediction level of exercise intention proposed by the theory of planned behavior, and significant predictions of exercise was shown by the self-efficacy and outcome expectancy in social cognition theory. Among the three theoretical models, theory of social cognition had the best effects in explaining and predicting the exercise behaviors of students in four weeks.

Keywords: exercise behaviors, theory of reasoned action, theory of planned behavior, social cognitive theory

Constructing a Social-cognitive Motivation Model of Exercise Behavior: Theory of Automatic Behavior

Mingsheng Xiong
Wuhan Sports University

Abstract: To construct a Social-cognitive Motivational Model for Exercise Behavior: Theory of Automatic Behavior (TAB) based on the framework of theory of planned behavior (TPB) and related theoretical and empirical researches.

Previous researches concerning TPB have made much advancement in the process of improving TPB. Firstly, efficacy of variables of TPB predicting exercise intention has been enhanced by extending construction of attitude and subjective norm. Secondly, efficacy of variables of TPB predicting exercise behavior has been enhanced by adding an exercise plan in TPB. However, there are three shortcomings in past studies. Firstly, effective conception in other theories for exercise behavior is ignored. Secondly, improving measurement of exercise behavior is ignored. Thirdly, inner logic relation of social-cognitive variables is ignored.

TAB was constructed through integrating and absorbing conceptions from TPB and other exercise behavior theories which are proven to be effective by concerning empirical researches. There are seven social-cognitive variables: intention, plan, attitude, self-efficacy, subjective norm, subjective resource and knowledge and an exercise behavior variable in TAB. All social-cognitive variables are predictors of exercise behavior, and intention and plan are direct, while the other variables are indirect predictors of exercise behavior; attitude and self-efficacy are direct, and subjective norm, subjective resource and knowledge are indirect predictors of intention and plan. Intention means that the individual desires to implement and insist on an exercise behavior. Plan implies that a person drafted a concrete program to go in for exercise. Attitude is a personal valuation on all kinds of effectsfor go in for exercise behavior, which are divided into cognitive and affective attitude. Self-efficacy refers to a personal belief on implementing his own exercise behavior. Subjective norm means that an individual has a perceived attitude and behavior of significant others on exercise, two parts of which are injunctive and descriptive

norm. Subjective resource intends that the individual thinks he has his own resource to go in for exercise. Knowledge means the individual

knows all kinds of information on the physical and mental effects of exercise. In all, TAB is a flexible model for different groups.

Though these social-cognitive variables are not always effective predictors of behavior, they may play different roles in predicting intention and behavior.

TAB shows more logical variable relation than previous theories of exercise behavior from perspective of mind process.

Keywords: theory of automatic behavior, social-cognitive variables, exercise behavior

Exercise Behaviour and Motivation during Different Stages of Exercise

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Xi'an Jiaotong University

Abstract: Known theories related to the exercise behavior changes are mainly exercise-history model (proposed by Sallis in 1990) and trans-theory model (put forward by Sonstrem in the late 1980s). With Chinese scholars' introduction of the trans-theoretical model, research relevant to the stages of exercise behavior change has become a hot topic in China. To understand the relationships between exercise behavior and exercise motivation, and to provide reference for promoting behavior development of the exerciser, this paper studied exercise behavior and exercise motivation during the different stages of exercise behavior based on the trans-theoretical model of exercise behavior.

A total of 587 intellectuals participated in this study, their age was between 23 and 69 (M = 40.38, SD = 10.098), and included 186 women and 401 men. The instruments used were MPAM-R, the scale of exercise stages and the index of sport population.

Results: (1) Participants in different stages of exercise behavior change differed greatly in exercise time, frequency and number of participating events, and there was no obvious difference in intensity. Those in the maintenance-stage exercised the longest and the most each time per week while those in the action-stage participated in the most number of items. (2) With the process of exercise stages (pre-contemplation stage→contemplation-stage→action-stage), the frequencies were shown to increase continuously, and the greatest change appeared in the transformation from the contemplation-stage to the action-stage. There was no line change tendency on exercise time and the number of items. The greatest change of time appeared in the transformation from the pre-action stage to maintenance-stage. The most marked difference of items emerged with the elevating trend from the pre-contemplation stage to contemplation-stage. (3) There were significant differences among stages in fitness, appearance, enjoyment and competence motivation, but the differences in social motivation are not significant. Participants in the action stage had the strongest exercise motivation. (4) Exercise motivation increased in the first three stages, but decreased in the fourth stage. Exercise motivation changed most during the transformation from the pre-contemplation stage to contemplation-stage.

Keywords: exercise; motivation, behavior stages, trans-theory, sport population

Application and Development of Exercise Motivation Models in China

Shousen Xu, Jingcheng Li
Capital University of Physical Education and Sports

Abstract: The current study aimed to summarize the application and development of many kinds of western exercise motivation models in China, present the Chinese contribution for development of exercise motivation theory, and point out the future research direction.

After searching on China National Knowledge Infrastructure (CNKI), keywords for the exercise motivation model were inputted into the database and 114 literatures were outputted. Using the NoteExpress, all literature regarding exercise motivation model were analyzed and classified according to their name.

Previous studies showed:

(1) The overall orientation. a. Chinese exercise psychologists paid more attention to certain kinds of exercise motivation models, namely the Transtheoretical Model(TTM)(36%), Self-Efficacy Theory(SET) (18%), Theory of Planned Behavior(TPB)(14%), Health Action Process Approach(HAPA)(12%), Health Belief Model(HBM)(11%), and Self-Determination Theory(SDT) (8%). b. Main participants were undergraduate students (60%), middle school students (20%), and teachers in colleges and universities (10%). c. Majority of the studies were model construction (32%), review of research (30%), situation investigation (18%), and scale construction (12%). However, longitudinal studies (4%) and intervention studies (2%) were fewer.

(2) Chinese exercise psychologists' unique contribution. a. The first contribution was introducing western theories into China, revising western measurements, certifying western models, and doing some Chinese culture studies. b. Secondly, the two types of exercise motivation models (continuum theory and stage theory) were developed in China, different from the western four types models. The continuum theory includes HBM, TRA & TPB, SET, SDT, and Protect Motivation Theory (PMT), and the stage theory includes TTM and HAPA. c. Researchers tried to compare and integrate two or more theories, enrich the previous theory, and construct their own theories (e.g.,DuanYanping's Four Steps from Inactivity to Activity (FIT) model, XiongMingsheng's Automatic Behavior Theory, and Chen Shanping's exercise persistence mechanism theory).

(3) Future research directions. a. First, future research should strengthen the study of SDT and integrate all kinds of theories, especially integrating continuum theory based on TPB, and to differentiate the exercise behavior stage of stage theory. b. Second, future studies can emphasize the empirical research and longitudinal study and popularize the idea of connecting quantitative and qualitative research while expanding and improving the theoretical model from a cross-cultural perspective. c. Third, future research will extend the range of participants and fully consider various demographic variables such as gender, age, occupation, and social economic status.

Keywords: exercise behavior, motivation model, Four Steps from Inactivity to Activity (FIT) model, automatic behavior theory, exercise persistence mechanism theory

A Systematic Review of Physical Activity Study Based on the Transtheoreical Model in China from 1998 to 2012

Qi Si, Linzhi Wang
Zhejiang University

Abstract: The Transtheoretical Model (TTM) was first proposed in China in 1998 as a psychological theory that might improve our understanding of and people's involvement in physical activity. Since its initial introduction some 15 years ago, no systematic review has been conducted on the body of work that has been produced, which includes more than 100 published reports. The purpose of this study is to address this gap by systematically reviewing the body of work on TTM and physical activity behavior in China between 1998 and 2012. Studies published between January 1, 1998 and December 31, 2012were located by searching three databases (i.e., CNKI, WANFANG DATA, & VIP). Each of the full texts of the identified papers and the associated reference lists of all relevant publications were retrieved and reviewed (N = 114). Data were coded and analyzed, with the 12 studies that emphasized adolescents' physical

activity behavior being further analyzed using a semi-quantitative summary.

The results showed that: (1) 75.4% of the studies were published after 2007, suggesting that the TTM remains a popular theoretical basis for the study of physical activity in China. (2) Of the 114 studies, 102 were cross-sectional designs, with intervention and/or longitudinal designs only accounting for 10.5% of the published work. (3) Almost half of the studies (46%) were conducted using undergraduate students as the study participants, with subgroups such as the elderly, community residents, people with disabilities, minorities, and peasant-workers being neglected for the most part. (4) Excluding review type works, 85 studies remained and of those only 15 were carried out using all of the core TTM constructs (i.e., processes of change, stages of change, decisional balance, and self-efficacy). Over 54% of these studies were conducted on the basis of the stages of change exclusively. (5) Of the 12 studies that focused on adolescents' physical activity, only one was an intervention design, eight being cross-sectional surveys, three were testing, revising, or reconstructing the measures for adolescents, and only one study was based on all dimensions of the model. All of the studies relied exclusively on self-report measures, with one study providing all and four studies providing some psychometric information about the measurements employed. No objective measurements of physical activity were taken. Variables consistently associated with adolescents' physical activity were gender (male > female), grade in school (inverse) and decisional balance. Future research is needed for focuses on longitudinal study designs (to better understand the temporal sequencing of constructs), diversifying participant recruitment, measurement validation, and studies based on all dimensions of TTM.

Keywords: exercise, psychology, research methodology, youth

European Master's in Sport and Exercise Psychology Programme (EMSEP)

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Abstract: This presentation introduces a European model of training professionals in Sport and Exercise Psychology (SEP), which is based on collaboration between different European universities. The overarching objective is to offer an interdisciplinary and intercultural academic environment, grounded in European traditions of higher education to nurture and stimulate the development of young minds in the field. The European Masters in Sport and Exercise Psychology programme (EMSEP) is an Erasmus Mundus programme offered by a network of four universities: Jyväskylä, Finland (coordinator); Thessaly, Greece; Lund, Sweden; and Leipzig, Germany. Erasmus Mundus is a cooperative graduate study programme sponsored by the European Union. Its goal is to promote a quality offer in higher education with a distinct European added value, to encourage and enable highly qualified students from all over the world to obtain postgraduate qualifications and experience in the EU, and to promote dialogue and understanding between peoples and cultures. The curriculum of the two-year EMSEP course (<https://www.jyu.fi/en/studywithus/programmes/emsep/programme-overview>) comprises contact teaching, information technology-enhanced study, a three month intensive course, a practicum, and a sustained Master's research project. The language of instruction is English. The graduates are awarded a double master's degree from two of the participating countries. The cooperation has been initiated and supported by FEPSAC and the consortium institutions together with eight associate partner universities since 1991. EMSEP is unique as it not only builds on the wealth of expertise accumulated

by the consortium, but because it creates possibilities for new interdisciplinary intersections to occur under a synthesizing umbrella of the course. This kind of articulation is not possible to achieve on a national level alone. Students learn from European and non-European scholars and are confronted with knowledge and expertise from all over the world. During EMSEP, participants learn new issues in SEP, work in multicultural groups, share their free time and live together. This experience increases understanding of international sport and exercise cultures. In the sense of Brockman's third culture (1996) students have already created a globalized culture of SEP, which can be seen in the EMSEP blog and the active participation in the international meetings and activities. This global experience influences the way the graduates will confront people from other nationalities in the future.

Keywords: European master's, training, multiculturalism

From Preparing to Maintaining Health Enhancing Physical Activity

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Abstract: Health-enhancing physical activity (HEPA) is one of the main resources to improve physiological and psychosocial health. The process of progressing from sedentary behavior to habitual HEPA can be understood as a behavior change process, substituting old (sedentary) behaviors and replacing those with new (more active) behaviors. This process may take a long time - sometimes years - but seems to consist of a sequence of discrete, qualitative stages. To promote health-enhancing physical activity in the population, the steps from one stage to the next and the correlates of the behavior change process has to be focused when planning and conducting intervention measures. The very critical steps are the steps from the "Preparing" to "Exploring" and then to the "Maintaining" stage. From a theoretical point of view, physician-based counseling and other point-of-decision counseling situations may help to overcome the preparing to exploring stage; behavior related group activity programs and (professional) social support should be helpful to overcome the exploring to maintaining stage. These intervention measures are important modules in the concept of the German Gymnastic Federation – an organization of five million members – to motivate the adult population in Germany and to gain new members. Consistent with the evidence of empirical studies, it can be concluded that (physician based) counseling can be successful, but is difficult to organize; behavior related activity programs are very time-consuming (and also expensive) in development and institutionalization – but are very effective.

Keywords: health enhancing physical activity, behavior change process, intervention, German gymnastic federation

Exercise for Elderly Cyclists to Improve Traffic Safety and Mobilit

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Abstract: Mobility is an important resource to improve quality of life and to maintain participation in social life. Bicycle usage can contribute to long-lasting and economic mobility of elderly people. Additionally, regular physical activity such as cycling in everyday life has health enhancing effects. Across the lifespan, there are typical degenerative phenomena which reduce the ability to ride a bike safely. Elderly cyclists are especially more affected by severe accident consequences than younger cyclists. Consequently, with increasing age, accident prevention is gaining importance and further

self-efficacy and motivation to cycle sustainably should be promoted. Regarding this, there are already a number of workshops for adult cyclists which train for correct behavior in traffic. However, there is a lack of a specific program to improve the basic motor skills required during cycling.

Therefore, the purpose of the study is to examine the effects of a structured exercise program for the above-mentioned skills and the psychosocial resources (self-efficacy) that are needed to maintain the use of a bicycle.

For this long-term study, 334 participants above sixty years of age from 16 different places are randomly assigned into two groups (intervention and control group). The six-month intervention starting in January 2013 contains a structured and multimodal training to improve physical, coordinate and cognitive skills as well as psychosocial resources. Twice a week, there will be a sixty-minute practice. Data will be collected by means of a bicycle-course, tests of abilities, and a questionnaire concerning activity behavior and psychosocial resources.

An improvement of motor and cognitive skills required for biking not only contributes to a secure cycling-behavior in everyday traffic, but also enhances a physical active way of life and health. Consequently, problems of mobility and security in traffic of elderly people can be prevented.

Keywords: elderly cyclists, exercise program, mobility improvement, psychosocial resources

Self-Efficacy in Young Football Players

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Abstract: The purpose of this paper is to review the concepts of individual self-efficacy, and effectiveness of teamwork (individualism-collectivism) is presented as an explanatory theory of the internal dynamics of the sports teams as different theories are currently in force, especially of sporting cohesion. The Perceived Collective Efficacy Questionnaire (CEC) was used to measure the context of football following the proposals made by Heuzé, Raimbault et al. (2006) for sports like basketball and handball; we used an adapted version of the Collective Efficacy and Teamwork Questionnaire (Tasa, Taggart and Seijts, 2007) and Effectiveness and Behaviour Questionnaire for Teamwork (CETE) to assess the relationship between collective efficacy and the ability to work in teams (balance individualism-collectivism). This study involved 112 participants, all men, including youth, football (soccer) players, divided in five different categories (teams belonging to the same institution) of different competitive level. The average age of the participants was 18.89, with a range of 13-27 years and an SD of 2.77. The results show that both the CEC and CETE questionnaires showed acceptable internal reliability. Also, there was a clear sense of individualism and collectivism among football players evaluated, while there was no direct relationship with the willingness to work together. Therefore, intermediate variables need to be explored to explain this situation better.

Keywords: self-efficacy, collective efficacy, individualism-collectivism, cohesion, teamwork

Psychological Skills Training within

Race Car Drivers

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Abstract: Psychological Skills Training (PST) refers to systematic and consistent practice of mental or psychological skills (Weinberg and Gould, 1995). This presentation shows the intervention with a junior Mexican karting selection (a sample of 31 young Mexican drivers with an average age of 13 years and 7 months, and an experience average of 3 years and 7 months), based on PST and its effectiveness. The topics trained during the annual program (based on 10 sessions, each one during every team gathering once a month in different places in Mexico) were goal setting, arousal regulation, concentration (self-talk and mental plans) from January 10th 2011 to November 24th 2012 (there were 2 generations involved). The three phases of the PST Program referred by Weinberg and Gould, 1995: Education Phase, Acquisition Phase and Practice Phase, were used. Biofeedback was employed at the beginning, during the year and at the end of the program, in order to measure arousal regulation and concentration. The CCOD, the Mexican Sport Commitment Questionnaire (Scanlan, et al., 1993) was applied. The results show that fun is a basic factor at this age; it generates positive thoughts and feelings to stay in the activity. Drivers were able to increase their concentration levels, a group average of 27% higher than at the beginning, being able to memorize tracks and practice them under visualization and finally, athletes reported (in an open questionnaire) better skills for arousal regulation and self-control, improving their in-competition situations.

Keywords: psychological skills training, goal setting, arousal regulation, concentration

Cooperative Games as an Intervention Technique with Beginners in Sports

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Abstract: Youth sport has become a stage where stress and pressures of winning from parents and coaches become the major reasons for youth to drop out of sports programs. The purpose of this presentation is to share the practical experience of an integrative intervention model based on human rights and playing, using ideas developed by Frans Limpens, Richard Pierre, Fergus Hughes, Alejandro Acevedo, Javier Giraldo and Terry Orlick. Against this background, the work is implemented with cooperative games. The new objective is to restore the vision of fun, joy, passion, freedom, creativity, tolerance and learning in sports. In these games, players participate and always win in attitude and cooperation day by day. Following the scheme of Cascon, Francisco Soriano, these games aim to form a group with less inhibitions (ice breaker games) where people know others' names (games presentation), are recognized (knowledge games), and have confidence in themselves (statement games) and everyone else (trust games). The competitive pattern paradigm of "I win you lose" gets replaced using cooperative games instead, which employs different communication channels

(communication games) and teaches how to internalize values and solve conflicts (conflict resolution games). This program enhances cooperation and teamwork and sports enjoyment in different sports teams between 8 to 14 years old.

Keywords: cooperation, children sports, human rights

Sport Commitment in Soccer

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Abstract: Sport commitment can be understood as the personal desire to persist in sports, influenced by many factors at the time, and opposed to sport dropout (Scanlan et al., 1993). The objective of this study is to approximate the basic factors of sports engagement in the area of sport initiation. The CCOD, the Mexican Sport Commitment Questionnaire (Scanlan et al., 1993), has been applied with a sample of 102 young athletes from the city of Toluca, State of Mexico, Mexico (with an average age of 13 years and 4 months), practicing football in a sports training center. A statistical study of reliability and factorial validation of the questionnaire was carried out confirming its psychometric ability. The results show that fun is a basic factor during this age; it generates a bond among the team members and invites them to stay in the sport. The results analyzing the phenomenon of commitment within these initiation ages compared with other results are discussed.

Keywords: sport commitment, sport beginners, soccer

Silent Mourning in Teenage Athletes Living/Interned in a High Performance Centre

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Abstract: Defined as silent grief, a mourner lives in silence for a loss or a sudden change in his/her daily life. When accessing a grant from the Center for Modernization (CTD) or High Performance Centre (CAR), an upgrade or move from amateurism to professionalism generates a change in an athlete's life significantly and is highly stressful. This change in quality, expected from athletes, is often not shown and ignores the question of why there is the change. This paper aims to explain the significant change in quality of the athlete from the perspective of silent grief. Athletes currently between 14 and 22 years of age who are experiencing a developmental stage in sports sociologically, physiologically and psychologically, have shown significant advance compared to other athletes who have not been oriented from the point of view of a silent grief. These three aspects all need to be addressed in order for athletes to succeed in their daily work as biopsychosocial beings in a high performance sports context.

Keywords: silent mourning, stress, young athletes, adaptation

Sport Psychology Consultant: Growing as a Performer, Person, and Self-regulator

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Abstract: Sport psychology consultants face numerous challenges in their work while intensely serving their clients' needs (Poczwadowski & Sherman, 2011). Effective resolutions to these ongoing demands aim at both welfare of the client and the consultant's work-life balance, his or her professional and personal growth, and work enjoyment and satisfaction. In short, managing oneself as the instrument of the intervention is a vital competence and critical component of effective practice (Poczwadowski, Sherman, & Henschen, 1998). In particular, a meta-competence of self-regulation elevates the consultant's self-focused decision-making to an executive role and involves, for example, self-awareness, self-reflection, self-motivation, self-care, self-renewal, work-life balance management, and self-monitoring with following it self-correcting and self-enhancing actions. These self-regulation activities address both the consultant's role as a performer (professional) and "the person in the professional" (personal; Poczwadowski & Aoyagi, 2013). The purpose of this presentation is to give examples from the author's sport psychology practice that aim at describing the performer, person, and self-regulator as interdependently linked aspects of oneself who is engaged in the consultation. In doing so, the following time perspectives will be used: (a) a single session, (b) a complete consultation process, and (c) one's entire career span. Positive ethics (e.g., Aoyagi & Portenga, 2010), practice diversification (Hays, 2006), self-reflection (e.g., Cropley, Miles, Hanton, & Niven, 2007), public presentation preparation and delivery (Brown, 2009), deeply held personal values (e.g., Brown, Pryzwansky, & Schulte, 2011), and one's philosophy on the client development (e.g., Henschen, 2012) are a few examples of tools, competencies, and processes that are useful in the "executive" role behind self-regulation. The presenter will argue for enhancing the consultants' deliberate self-regulation awareness and skills ("the executive" as an overarching function) on the grounds of seemingly being a critical part of professional decision-making (e.g., Martindale & Collins, 2007). The enhanced competence of self-regulation is helpful in successful negotiation of numerous multidimensional challenges in sport psychology practice that involve the client and consultant in the dynamic contexts. As a discussion point and a subject of critical evaluation by the attendees of the presentation, it will be proposed that not only self-regulation is an important tool in promoting effectiveness of sport psychology service delivery, but also adds to the consultant's growth in becoming a better, more compassionate, and more fulfilled person while pursuing of excellence in consulting.

Keywords: sport psychology service delivery, consultant as performer/person

Poster

Methodology

Methodology development

Factorial Validity and Reliability of the Persian Version of Sport Multidimensional Perfectionism Scale-2 among Iranian Athletes

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Abstract: Perfectionism, as a personality characteristic, is considered as an enduring tendency to set exceedingly high standards and struggle to realize them; that may have positive or negative psychological and behavioral impact on athletes, especially competitive ones. The purpose of the present study was to determine validity and reliability of the Persian version of Gotwals & Dun Sport Multidimensional Perfectionism Scale-2 (Sport-MPS-2.2009). To confirm construct validity of the questionnaire, 420 athletes (240 male and 180 female) with different skill levels (novice, non-elite and elite) in 10 different sports (team and individual), were selected on random sampling basis to complete the questionnaire. Using a translation - back translation method, content and face validity of Persian version of questionnaire were confirmed by 3 sport psychologists and 3 English language experts. Confirmatory factor analysis (CFA) based on structural equations was used for construct validity of questionnaire, Cronbach's alpha coefficient was used for validation of internal consistency of questionnaire, and to study temporal reliability of items, intra-class correlation coefficient (ICC) under test-retest method with a 2-week interval was used. The results showed that the first model of sports perfectionism scale-2, does not support the favorable fit and thus does not confirm the validity of the first measurement model (42 items), respectively. However, after eliminating three troublesome items, the second model with 39 items, showed acceptable fit index (RMSEA= 0/06, CFI= 0/91, TLI=0/90) Cronbach's alpha coefficients and intra-class correlation coefficients, indicated acceptable validity and reliability of modified Persian version (39 items) of sport perfectionism scale. Therefore, The Persian version of the sport perfectionism scale (modified model of 39 questions) can be characterized and used as a tool to study and evaluate the personality traits of Iranian athletes.

Keywords: sport perfectionism, construct validity, temporal reliability

Development and Validation of a Sport-Specific Measure of Absorption

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Abstract: The purpose of this study was to develop and cross-validated a new measure of absorption, termed Measures of Absorption in Sport Contexts (MASC). Absorption has been used as an umbrella term to emphasize potential relationships, for instance between performance and flow (Privette, 1983), but no operationalization of the construct has been provided to facilitate research in this area. The objectives of the cross-validation studies were (a) the development of scale items; (b) the assessment of internal consistency and validity of the Measurement of Absorption in Sport Scale (MASC) in the calibration sample (CS); and (c) the examination of generalizability of internal consistency and validity with a separate validation sample (VS). Study 1 (N = 292) included an item development phase and a calibration phase of the initial item pool. We developed the item pool on the original TAS factor and item structures. The MASC items were derived from the original absorption measure and transferred to sport situations, that is, we modified the original items from an everyday context into a sport-specific context. Study 2 (N = 314) consisted of a cross-validation phase, testing internal consistency, construct validity, and external validity. The cross-validation provided evidence that the final model 18-item model and provided a very good fit of the data, $\chi^2(314) = 205.112$, $p < .001$; CFI = .952; TLI = .939; RMSEA = .048 (95% CI: .036-.059); and SRMR = .047. The comparison of the 6-factor model between CS and VS showed no significant differences for factor loadings, $\chi^2(6) = 11.270$; ns, of structural covariances, $\chi^2(21) = 32.120$; ns, whereas significant difference emerged for measurement residuals, $\chi^2(18) = 42.468$; $p < .001$. All variables showed acceptable internal consistency. The majority of correlations were significant at a .01 level, showing the expected positive links between the MASC and the DFS-2. The validation of the MASC can help researchers in the development of theory and research. Absorption would provide a better understanding of the interplay between athletes' affect and performance (Jackson 2000; Privette, 1983). The results indicated that in contrast to conceptual interpretations, absorption should not be viewed as one-dimensional construct. The development of the MASC provides rich opportunities for research that can address theory and enhance practice in sport psychology. The predictive validity of the MASC needs to be examined in more detail for a range of constructs, including flow, confidence, anxiety, and imagery.

Keywords: questionnaire development, absorption, cross-validation.

Coping Inventory for Athletes in Competition Situation: Psychometric Properties

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Abstract: Coping is a multidimensional concept concerning how people face and deal with stressful situations. Researchers have been showing the importance of this conscious effort people employ in order to solve personal and interpersonal problems whilst seeking to master, minimize or tolerate stress or conflict. The Coping Inventory for Athletes in Competition's Situation (CIACS-40) was developed to assess the strength of two of the coping strategies: engagement versus disengagement. The strategies of engagement evaluated by the CIACS-40 are: Direct Actions (DA), Reevaluation (Re), Social Support (SS), and Self Control (SC). The disengagement strategies evaluated are: Inhibition of Action (IA), Distraction (Di), Denial (De), and Aggressive Actions (AA). In a preliminary part of the study, 3 sports psychologists' experts participated in three focus group discussions in order to develop a preliminary pool of items, establishing content and face validity. This final pool of 40 items was administrated in a sample of 192 athletes of both sexes, and ages ranging from 13 to 20 years old, in the south of Brazil. Exploratory factor analysis solution for eight dimensions accounted for 39.8% of the observed variance. The confirmatory factor analysis (GFI = .82; AGFI = .84; $\chi^2/df = 2, 37$; RMS = .09) indicated the theoretical model assessed can be improved in order to attain better fit of data. The Cronbach's alpha coefficients ($.68 \leq \alpha \leq .84$) and the test-retest ($n = 87$) of the inventory with 2-weeks intervals ($.67 \leq ICC \leq .79$) showed good internal consistency and temporal stability. The findings indicate that the CIACS-40 is appropriate to be used for research purposes, but not for evaluations in clinical setting. Further research is needed to improve the construct validity.

Keywords: sport psychology, athletes, engagement and disengagement, coping, psychometrics

Development and Psychometrics Properties of a New Inventory of Motives for Physical Activity and Exercise

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Abstract: As the field of sports psychology flourishes in Brazil, there is a need for the development of valid instruments for the Brazilian culture. The Balbinotti's Inventory of Motives for Physical Activity and Exercise (BIMPAE-132) was developed to assess the strength of each one of the six main motives' dimensions for participating in physical activities and/or exercise (such as aerobics or various team sports) as described in the literature. The six dimensions are: (1) Stress Management (SM), refers to the practice of a physical activity in order to relieve mental tensions and to discharge the pressures of everyday life; (2) Health (He), refers to the practice of a physical activity in order to increase system immunity, be physically healthy, strong, and energetic; (3) Sociability (So), refers to the practice of a physical activity in order to be with friends and meet new people; (4) Competitiveness (Co), refers to the practice of a physical activity in order to compete with others aiming victory, and finally to surpass one's limits; (5) Aesthetics (Ae), refers to the practice of a physical activity in order to be more physically attractive, and to be admired by others; (6) Pleasure (Pi), which refers to the practice of a physical activity in order to have fun and explore the passion of sports. In a preliminary part of the study, 4 experts in the field of physical education and 11 physical activity practitioners participated in five focus groups in order to develop a preliminary 256-item pool of the inventory, and to establish content and face validity. The final pool of 166-items was established by the experts in 2 additional focus groups. This final pool of items was then administrated in a sample of

1.292 physical activity practitioners of both sexes, and ages ranging from 12 to 83 years old, in the south of Brazil. Exploratory factor analysis loaded a 132-item with the six-factor solution ($\lambda > 1.5$) based on the six motives previously described. This factor solution accounted for 59.8% of the observed variance. Confirmatory factor analysis (GFI = .93; AGFI = .94; $\chi^2/df = 1, 29$; RMS = .05) indicated a good fit to the data. Cronbach's Alpha coefficients ($.89 \leq \alpha \leq .94$) and the test-retest reliability indexes ($n = 141$) of the inventory, with 2-weeks intervals ($.78 \leq ICC \leq .87$), showed excellent internal consistency and temporal stability. The findings indicate that the BIMPAE-132 is a valid and reliable instrument to evaluate the six motives for participating in physical activities and exercise.

Keywords: sport psychology, psychometric properties, motives, physical activity and exercise, sports

Cyberbodies: Research Opportunities in Sport Psychology

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Abstract: With the increasing advancement and technology use as a form of human sociability, it is very difficult for people to differentiate the public from the private, the real from the virtual. People seem to have acquired characteristics which have turned computers and Smartphones into extensions of their own lives, leading them to create avatars or cyberbodies, which allow them to exist in the virtual world. Therefore, the aim of this study was to determine which types of body representation (through avatars) were used within a virtual environment of sociability. In order to meet the proposed objectives, we conducted a survey in the virtual environment of sociability Second Life™ during the month of August 2012. We recorded the image of 10 avatars (5 represented by male bodies and 5 by female ones) with the use of a photography tool available in the same game environment. As a way of complementing the research, we conducted a semi-structured interview to identify the reasons that led to the creation of those forms of cyberbodies. The investigated subjects were randomly chosen in the highest circulation environments (identified in the control panel of the game). The interviewees accepted to be part of this research. Subsequently, the analysis of the images was carried out according to the assumptions of sociology and visual content analysis of the interviews. By analyzing the images, we found that all the investigated cyberbodies were designed according to standards desired by our current society, meaning that heavily muscled male bodies and curvy women are considered beautiful. It is also clear, when we analyze the contents of the interviews, that the majority of respondents preferred to design a virtual body similar or very close to their real bodies. Those who did not opt for the body projection in the game chose to create a desired pattern and body characteristics valued by society in which they are embedded. The analysis of the images, in this case specifically with the support of visual sociology, proved to be a very reliable resource to investigate real and desired body patterns of their creators in a virtual environment. This finding may enable important advances in Sport Psychology, mainly as a way of investigating body image disturbs and consequent eating disorders in physically active and / or sports people and athletes that could be studied and even psychologically assisted through games and virtual environments. The cyberbodies can also enable an efficient form of intervention, since professionals interested in working on those disorders can make use of that resource and environment as a treatment to those people, as already occurs in clinical situations.

Keywords: cyberbodies, human development, technologies

On the Classification of NBA Players Based on Their Average Box Scores

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Abstract: The study aims to find underlying abilities represented by box scores (points, field goal attempts, assists, rebounds, and turnovers) such that NBA players can be classified according to their abilities. On a basketball court, players are characterized by his position from formal records of the NBA. However, the commentator and the audience sometimes feels that players assigned to one position behave as if they are in another position. We need an objective method to classify NBA players according to their performance on the court.

Players' average box score statistics in the 2011-12 regular season were calculated and factor analyzed. Players were then cluster analyzed according to their factor scores. Players' average box score statistics from the three previous regular seasons were also analyzed to cross validate our findings.

We determined there are four abilities underlying the statistics in box scores. They are the three-point ability, guarding ability, score-making ability and painted area ability. Based on these, we figured there are six kinds of players. They are : “dominant at mid-far distance” (e.g., LeBron James, Kobe Bryant) , “dominant at painted area” (e.g., Dwight Howard),” secondary at mid-far distance”, “secondary at painted area”, “mediocre players”, and “low efficiency players”. Analyses of box scores of the previous three regular seasons also reached a similar conclusion.

We suggest an empirical method to classify players and their ability in the study. Not too surprisingly, Jeremy Lin, creator of 'Linsanity', was assigned to the “dominant at mid-far distance” group. Interestingly, abilities are not independent. For example, guarding ability and score-making ability is correlated, and so are guarding ability and three-point ability. This may explain why some players can fit into more than one position and why our groupings are not consistent with assigned positions in NBA records. As a side product of our analyses, we also compared the players' ability scores to check if he has progressed in the past few years. We found that Derrick Rose and Kevin Durant greatly improved and Bryant, Dwyane Wade and James all kept high scores. We hope by this method, more insight about players' performances would be revealed and thus know which players have similar abilities, which may interest the scout, the coach and the audience.

Keywords: APBR metrics, basketball statistics, factor analysis, cluster analysis

The Preliminary Compilation and Application of the Physical Education Undergraduate Majors’ Resilience Questionnaire

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Abstract: On the basis of the former researches, this research attempted to compile a scale about resiliency for physical education undergraduate majors. Resiliency refers to the personalities and abilities that individuals possess to maintain physical and psychological health and readily adapt when faced with negative things. Combining the analysis of the former researches and the investigation of an open-ended questionnaire, this study improved

the theoretical hypothesis of the physical education undergraduate majors' resilience questionnaire by having 203 physical education majors as testers. The questionnaire initially contained 43 questions, but after item analysis according to high and low group estimates and five times exploratory factor analysis, 18 questions were deleted. Finally, the revised questionnaire with 25 questions contained six dimensions: self-regulation, openness, adaptability, self-adjustment, ability to mobilize resources and mentality in adverse situation. The range of factor loading was between 0.388 and 0.817. The coefficient of correlation between the total scale and subscale was between 0.564 and 0.738(p<0.01), while the coefficient of correlation between each dimension was between 0.215 and 0.493. The Cronbach's alpha of the total questionnaire was 0.845; the internal consistency reliability of each subscale was 0.747, 0.674, 0.651, 0.554, 0.643 and 0.578, respectively.

Confirmatory factor analysis on 180 physical education majors showed that the structure is acceptable. The application of the questionnaire on these 180 physical education majors indicates that there are significant differences between grades (year); the scores for freshmen were far below those of other grades. With respects to ability to mobilize resources, distinguished differences exist in training programs; football players seem to have better ability to mobilize resources compared to people in other training programs. The research suggests that the self-designed resilience questionnaire for physical education undergraduate majors has acceptable reliability and validity and can be regarded as an effective method to study the resilience of physical education undergraduate majors.

Keywords: resilience, physical education majors, the process of developing a questionnaire

Development of the Resilience Scale for College Athletes

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Abstract: Resilience could be viewed as a measure of stress coping ability, a kind of “rebound ability” when faced with a stressor and/or setback in daily life. Studies on resilience have been the focus in the field of positive psychology. Nowadays, researchers have developed resilience scales for elite athletes, such as the Trait Mental Toughness Inventory for Sport (TMTIS) and the Pre-competition State Mental Toughness Inventory (PSMTI). However, most have ignored one group in particular, that is, college athletes. As athletes who contribute to their colleges, they take part in high intensity training and frequent competitions. Meanwhile, they also have to face the same difficulties as other undergraduates, including keeping up with schoolwork, interpersonal relationships, hunting for jobs and so on. Therefore, it is essential to assess resilience of college athletes and care for their mental health as well. The aim of the present research is to develop the resilience scale specifically for college athletes. The processes of developing the scale are: (1) Based on previous studies, we interviewed 10 college athletes and primarily generated five factors. They are: family support, interpersonal support, affection control, self-cognition and goal-concentration. (2) After investigating 50 college athletes by open-ended questionnaire, 47 items were generated. (3) Two sport psychologists revised the validity and structure of the content of items and made the preliminary scale. (4) Two hundred college athletes completed the 47-item scale and 163 valid scales were collected. Through item discrimination analysis and Exploratory Factor Analysis, the final scale was composed of 11 items classified into 3 factors: self-cognition, social support and affection control, which accounted for 42% of the total variance. The discrimination of all the items was greater than 0.3. (5) One hundred forty college athletes completed the final scale and 114 valid scales were collected. The result of the Confirmatory Factor Analysis was:

chi-square =69.84, df=41, chi-square/df=1.703, GFI=0.897, IFI=0.959, CFI=0.927, TLI=0.902, RMSEA=0.081, RMR=0.072. The Cronbach alpha coefficient of separate factor and the total scale were 0.85, 0.77, 0.60 and 0.86. The BTL-L-YZ 2.0 Scale of Athlete's Willpower was used as an external criterion, and the correlation coefficient was 0.51. Therefore, the Likert-type (1-5 points) resilience scale for college athletes which included 3 factors and 11 items has acceptable structural validity and internal consistency and can be used to evaluate the resilience of college athletes.

Keywords: resilience, development of scale, reliability, validity, college athlete

Qualitative Research (FGI) on the Athletes’ Development Program of the Japan Sailing Federation

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Abstract: In recent years, qualitative research is widely utilized in many different fields, for example sociology, social psychology, medicine, etc. The strengths of qualitative research are the flexibility of modifying questions which depends on the participants' reactions and getting in depth information. This study aimed to explore the needs of sailing, prioritize issues, and find the barriers of executing the athlete's development program of Japan Sailing Federation (JSAF) using Focus Group Interviews (FGI). The main purpose of the group interviews was to find out what the participants thought were the essentials to win at the world level and what the obstacles were to accomplish them.

Participants were organized into four focus groups from the JSAF (Group 1 had four coaches, Group 2 had three athletic trainers, Group 3, had four former Olympians in sailing, and Group 4 had four management staff). Group1 discussed the significance of making the athletes' development program a success at international competitions. They believed that one of the main priorities was a solution for boat class problems, which is caused by differences of allowed boat events between international competitions and domestic competitions. However, parents' and athletes' order of priority was not always the same as the national team's order of priority. Another main issue was coaching development including unification of coaching manuals. Group 2 discussed the significance of making the athletes' development program as an improvement of sailing performance. Enhancement of the support system was the most important priority issue. They saw a lack of information being shared among federation members as a big part of the barrier to success. Group 3 discussed the significance of creating the athletes' development program to help revitalize the sport of sailing in Japan. They indicated that not only a top-down approach but also a bottom-up approach were equally significant, and they shed light on the lack of communication as a barrier to success. Group 4 gave many different targets for achievements significant in developing the athletes' development program because of each participant's inconsistent perspectives. Based on this, their priority issues were also mixed. In conclusion, using a qualitative research approach to extract the field's needs of sailing, priority issues, and barriers for drawing up the athletes' development program, it was possible to get a wide range of information from different viewpoints by each participating group. It also enabled reflection of everyone's opinions on the athletes' development program. Even though FGI qualitative methodology still has some limitations, it can be a very useful tool in organizational sporting situations.

Keywords: qualitative research, focus group interview, athletes' development program

Psychological Fluctuations over Time: Comparison of Four Statistical Operationalizations

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Abstract: A growing body of research actually supports that ecological momentary assessment (EMA) or experience-sampling methods constitute a useful and fruitful approach to study the instability of psychological constructs (Shiffman et al., 2008). We suggest that EMA could be a powerful addition to prevailing cross-sectional research paradigms in current sport psychology. The increasing popularity and potential utility of EMA relies on its ability to provide methods by which researchers can study affect, behavior, or cognition close in time to subjects' experience. The analysis of instability (i.e., dependent fluctuations over time, Ninot et al., 2005), requires new statistical operationalizations that capture both variability and temporal dependency in time series (Jahng et al., 2008). Thus we aim to present and discuss four statistical indices available to this experience-sampling research that explored self-esteem (SE) fluctuations both in healthy and depressed individuals. The sample consisted of 12 participants, including six never depressed controls (ND, Mean age: 37.7 ± 14.4 years) and six currently depressed individuals (CD, Mean age: 38.5 ± 12.7 years) diagnosed by a clinical psychologist and recruited from Nantes Psychiatric University Hospital. All the subjects answered with a computerized device to one SE item (French's RSES) on a 10cm scale, twice a day during a six-month period. For each time series, we computed (1) the within-person variance (WPV), (2) the mean square successive difference (MSSD), (3) the probability of acute change (PAC) and (4) the ARIMA models following Box and Jenkins' (1976) procedure. Independent sample T-tests showed significant differences between the ND and CD groups for WPV (t (10) = 2.38; p = 0.04) and PAC (t (10) = 3.25; p = 0.009). The groups did not differ for MSSD. ARIMA procedures showed that SE series of the ND group were systematically modeled by a moving average process (MA). The SE series of the CD group do not follow similar mathematical processes: Results revealed two autoregressive (AR), three MA and one ARMA models. The results do not confirm that both the MSSD and PAC better capture psychological instability in WPV. In this present case, the MSSD does not appear as a good indicator to discriminate both groups. ARIMA models appear as a complementary analysis to identify more precisely psychological instability. Especially, ARIMA highlights on the nature of temporal dependencies and appear to be a good tool for studying extreme within-subject and between-subject fluctuations over time. They are of interest for fundamental or clinical researches in sport psychology.

Keywords: variability, psychological dynamics, time series analysis

A New Approach to Researching Sport Motivation: a Complex Dynamic Systems Theory

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Abstract: Motivation is a well-researched topic in the field of

sport psychology. After some literature review of sport motivation researches conducted in the past ten years, the author discovered that researchers and psychologists were theoretically inclined to apply the following: Instinct Theory, Hierarchy of Needs, Achievement Motivation Theory, Goal Orientation Theory and Cognitive Expectation Theory. This paper aims at introducing the Complex Dynamic Systems Theory as a new approach to researching sport motivation. Complex Dynamic Systems Theory is a recent theoretical approach for the study of development. In its contemporary formulation, the theory grows directly from advances in understanding complex and nonlinear systems in physics and mathematics, but it can also trace back to a rich and long tradition of systems thinking in biology and psychology. The term “dynamic systems”, in its most generic form, means systems of elements that change over time. Complex Dynamic Systems Theory provides theoretical principles for conceptualizing, operationalizing, and formalizing the complex interrelations of time, substance, and process. It is not only a meta-theory that may be (and has been) applied to different ages, domains and grains of analysis, but also a specific theory of how humans gain knowledge from their everyday actions. It acknowledges the fact that all factors or variables involved in learning and training are interconnected, interact with each other over time, and may affect each other differently over time. The dynamic, nonlinear and open nature of complex systems, together with their tendency toward self-organization and interaction across levels and timescales, requires changes in traditional views of the functions and roles of theory, hypothesis, data and analysis. A number of motivation researches in the field of Applied Linguistics have been done from the perspective of the Complex Dynamic Systems Theory, while this perspective is still brand-new for sport motivation research. By way of reviewing several motivation-related academic papers published in the international core journals in the Applied Linguistics field over the last five years, this paper exemplifies how to apply the Complex Dynamic Systems Theory’s perspective to researching motivation by changing the traditional view and the key aspects of the research. It summarizes four crucial priorities that are particularly associated with these changes: (a) focus on ‘attractors’, (b) focus on context, (c) focus on change rather than variables and (d) focus on qualitative system modeling. Hence, the paper endeavors to provide a feasibly new approach and some useful indications for researchers and psychologists to conduct sport motivation research in the sports coaching and training field.

Keywords: sport motivation, sport motivation research, Complex Dynamic Systems Theory, Applied Linguistics

Test and Revision of BNSS in Junior High School Students’ PE Class in China

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Abstract: The test and development process of the Basic Needs Satisfaction Scale (BNSS) in junior high students’ physical education (PE) class are presented in this study. The BNSS is a domain-specific self-report instrument designed to assess perceptions of the extent to which the innate needs for autonomy, competence, and relatedness (Deci & Ryan, 1985 are satisfied in students’ PE class. The chosen sample population for this research consisted of 930 junior high school students of whom 900 students were measured by the Chinese version of BNSS and 30 students for the inspection of the retest reliability. The results demonstrated an adequate factor structure, internal consistency, retest reliability and structure validity. The item load in each factor was between .462-.795. The internal consistency coefficient in each reliability was between .817—.866. Retest reliability was between .725-.802. Therefore, it was effective to use the Chinese version of the BNSS in assessing basic needs satisfaction in high school students’ PE class in China.

Keywords: basic needs satisfaction, autonomy, competence, relatedness, reliability, validity

Variability and Temporal Instability as Core Dimensions of Depressive Rumination

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Abstract: The present study takes part of a research project that investigates (1) instability of rumination in depressive disorders, and (2) the effects of physical activity programs on rumination instability. Depressive rumination is known to be a serious risk factor for depression which predicts onset, duration and severity of major depressive episodes (Nolen-Hoeksema, 1991). Most empirical studies that consider depressive rumination as a dispositional construct (stable over time) have emphasized benefits of physical activity programs for depressed patients from pre and post-test effects and have underestimated temporal instability that can be a sign of adaptive behaviors. Thus, this current study aims to analyze temporal changes of depressive rumination in healthy and depressive subjects.

The sample consisted of 18 participants: nine never depressed (ND, mean age: 38, 77 ± 15, 4 years) and nine currently depressed individuals (CD, mean age: 43, 88 ± 13, 9 years) who were diagnosed and recruited by a clinical psychologist in Nantes Psychiatric University Hospital. Subjects answered with a computerized device to one item measuring intensity of rumination on a 10cm scale, twice a day for six-months. For each time series, we computed (1) descriptive statistics (mean and standard deviation) and (2) statistical indices that account for temporal changes: (a) the mean square successive difference (MSSD) to 12-hour, 24-hour and one week intervals, and (b) the probability of acute changes (PAC).

Independent sample T-tests showed significant differences between the ND and CD groups for rumination level (t (16) = 7.32; p = 0.000). MSSD was significantly different between the two groups only for 12- and 24-hour intervals (t12h (16) = 3.39; p = 0.003; t24h (16) = 3.28; p = 0.004). PAC was also significantly different between the ND and CD groups (t (16) = 4.34; p = 0.000).

Results mainly showed that MSSD and PAC indices are interesting to assess the instability of rumination as they are discriminant to capture both variability and temporal dependencies of time series. An important issue in longitudinal designs is the selection of an appropriate time interval between measurements (Collins, 2006). Results emphasized that studies based on repeated collection of real-time data and interested in psychological instability do have to consider the 12-hour and 24-hour scale rating and no week interval which involves a loss of clues. These results open avenues for reflections on the nature of ruminative depression and more generally, proposes methodological recommendations when using time-based assessments to follow up physical activity programs.

Keywords: time-based assessments, rumination, psychological dynamics

The Inspiration Underlying Sport Psychology Development from the

Research of Positive Psychology

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Abstract: Positive psychology is a subject about potential and virtue development which initiates the positive side on studying psychology, including psychological quality, value and humanistic care, and using a new view to explain it. Positive psychology emphasizes more on traits and the law on sports, drills and competition. Sport psychology is the main part as positive psychology is one of the ways. This paper combines the traits and basics of positive psychology, analyzing the vital effect positive psychology has on sport psychology, and eventually sharing references regarding research on sport psychology, physical education psychology and exercise psychology. Method: Literature review, summarizing method, logic analysis method

The results show that subjective experience is an external manifestation of human emotions, and positive emotions are embodied if they meet happiness, full satisfaction, optimism and realism. Sports psychology cultivates and shapes athletes and sports enthusiasts’ mental and emotional aspects which are very important. Second, through the study of positive personality traits, we can learn methods to cultivate a positive personality for sports. We can also have a reference value as our country has developed outstanding athletes with effective training. Third, through the study of positive environments to realize positive groups, and through the study of social institutions for the importance of improving personal health (corresponding to the movements from psychology), we can create a positive social environment to promote the healthy development of sports psychology. Fourth, an actively organizing system includes both a large social system (national laws and regulations) and a small system (families, communities, schools, media, etc.). Through creating a harmonious and healthy environment can people in such organization system have strong creative power. For sports psychology, it will play an important role to promote the reasonable construction organization. Suggestions: 1. In sport psychology we should train sports participants’ initiative and subjective well-being, which is based on positive subjective experience of positive psychology, so as to guide participants’ sports emotion better. 2. The similarity of sports psychology and positive psychology is that it is important for sports participants to shape their personality traits. 3. Using the experience of positive environmental theory of positive psychology as a reference, we should focus on the combination of athletes’ personal experience, positive quality, participants’ social relations, cultural norms and family background. 4. Sports psychology should pay attention to the inspiration of participants’ internal motivation. Research from positive emotion, which could maintain optimism and satisfy the requirement of self-fulfillment, should be further studied.

Keywords: literature review method, sum up method, logical analysis

Qualitative Research Methods in Sport and Exercise Psychology

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Abstract: Contemporary aspects of qualitative research methods in sport and exercise psychology are discussed in this review. Qualitative researchers aim to gather an in-depth understanding of human behavior and the reasons that govern such behavior. Qualitative approaches are typically used to explore new phenomena and to capture individuals’ thoughts, feelings, or interpretations of meaning and process in sport education and sport science research

(Flick, 2000; Lamnek’s, 1993a; Silverman, D., 2000). Character as: a focus on natural settings; an interest in meanings, perspectives and understandings; an emphasis on process; a concern with inductive analysis and grounded theory. It is very useful in educational and clinical sport psychology research; we introduce several important method approaches.

Keywords: qualitative research, sport and exercise psychology

Issues, Presence and Integration of Qualitative and Quantitative Studies in Sport Psychology from the Perspective of the Three Wave Scientification of the Social Sciences: A Review of the Articles in JASP, JSEP and TSP in the Past 20 Years

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Abstract: The great achievement which natural science has made has become the paradigm for almost every social science to follow in both research and practice. The scientification of social sciences is divided into three stages: using empirical methods in the basic research field; forming social technology in the applied research field; promoting evidence-based practice in the practical field. The third wave of scientification of the social sciences is in the embryonic stage. From this perspective, this article made a review on qualitative and quantitative articles published in the Journal of Applied Psychology (JASP), Journal of Sport and Exercise (JSEP) and The Sport Psychologist (TSP) from 1990-1999 and 2000-2009, particularly in terms of article volume, data collection and validity testing. It showed that quantitative articles prevailed between 1990-1999 and proportions of quantitative articles in the JASP, JSEP and TSP were more than 83%, 92% and 69% respectively. Major methods of data collection and validity testing of qualitative articles during this period were interviews and peer review, which appeared simple and unsystematic. Between 2000-2009 qualitative articles gradually reversed the once quantitative-dominated trend. The proportions of qualitative articles in the JASP, JSEP and TSP were more than 59%, 15% and 71% respectively, and methods of data collection and validity testing became systematic and multiple. Meanwhile, researchers began to combine qualitative and quantitative methods, called the third paradigm, and there were 10, 5 and 7 articles using this paradigm between 2000-2009 in the JASP, JSEP and TSP respectively. The mixture of qualitative and quantitative articles showed their advantages in triangle rectification, with better issue consideration and deeper inspiration making the researches more validated. However, the third paradigm is still in need of a clearer definition, better process and overall control. The result showed sport psychology researchers are more conscious of the advantages of qualitative methods and quantitative methods and have paid more attention to the practice and application of the third paradigm in the third wave of the scientification of social sciences.

Keywords: qualitative, quantitative, the third paradigm

Methodology problems

The Applicability of Body Image Measures in Chinese Sporting Contexts

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Abstract: Part one of this study was to review the advances on assessments of body image construct which measures various facets of body image functioning in specific contexts. The review elaborates on different definitions of constructs of body image from perceptual and attitudinal components and classifies the different methods that are used to assess body image. The perceptual techniques are mainly used for body size estimation, and the attitudinal techniques include explicit and implicit measurements. Additionally, the development of the personalized Implicit Associative Test is reviewed. Figural stimuli scales and digital and computerized techniques of assessing body image perception and body dissatisfaction are introduced to Chinese scholars. Some methodological concerns should not be ignored in this field, such as avoidance or misusing of measurements and utilization of appropriate measures in specific groups.

Part two was to explore whether implicit body image and explicit body image are differentially susceptible to influence. Both were measured after exposure to images of beauty or androgyny in magazine advertisements, or as a control, advertisements containing no body images. As predicted, female participants' implicit body images were affected by idealized images of beauty or androgyny. These findings support the hypothesis that women may not as easily correct for, or protect against, inappropriate social comparisons and other threats to the self on the implicit level, at least in the domain of attractiveness. As well, implicit body image and explicit body image are different constructs. Moreover, this study suggested priming is susceptible for assessing implicit body image. However, there is no difference of body image between college female students majoring in sport and those majoring in other subjects.

In part three, the aim of the study was to explore the characteristics of children's body image, the associations between body image and eating behavior and physical activity through questionnaires. The findings indicated that food was more attractive to the children with high levels of body dissatisfaction than the ones with body satisfaction.

Keywords: body image, sporting context, implicit association test, priming, figural stimulus scale

A Validation Study of the Physical Self-Description Questionnaire for Children (PSDQ-C)

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Abstract: The Physical Self-Description Questionnaire (PSDQ; Marsh, Richards, Johnson, Roche, & Tremayne, 1994) is one of the most frequently used instruments for the assessment of physical self-concept, designed for adolescents of age 12 years or older. It is a 70-item instrument designed for the measurement of 11 components of physical self-concept. As far as we know, there is no validated version of the PSDQ for children from the age of 10 and older. The aim of this study was to develop a version for children aged between 10 and 12 which also considers the cognitive abilities and language skills of children and is connectable to the PSDQ, allowing for a more differentiated assessment of children's' self-perception of their physical self-concept and on processing issues.

The structure of the PSDQ was maintained for the lower level behavior-related factors (endurance, coordination, strength, flexibility, appearance, sports competence) supplemented by velocity for evaluation purposes. All negatively formulated items and items

which called for a social comparison process were eliminated. The complexity of the written language was adapted and a 4-point rating scale was utilized instead of the original 6-point rating scale. Two studies were conducted: study 1 (n=255, grade 3, girls: 45.5%, Mage=9.27, SD=.54) for an exploratory factor analysis and study 2 (n=349, grade 3; girls: 45.4%, Mage=8.75, SD=.50) for a confirmatory factor analysis. The exploratory factor analysis showed a five factor solution (locomotion, strength, flexibility, appearance, sports competence, α's

between .73 and .82). The CFA showed good model fits for the five factor solution, with one global factor physical self-concept (Study 2: Chi²/df=2.59, CFI=.91, TLI=.88, RMSEA=.04). The standardized factor solutions were between β=.56 and .85. Significant relationships with gender, BMI as well as motor ability tasks confirmed the external validity of the PSDQ-C test scores.

The PSDQ-C for children is especially suitable for intervention purposes and for subsequent studies investigating covariates of physical self-concept, such as gender, BMI, or motor ability. The current studies showed that most of the PSDQ-C scales can be used in primary school (except the coordination scale). Possible advantages, but also limitations, of its applicability are further discussed.

Keywords: physical self-concept, PSDQ-C, validation, primary school

Risk Assessment Method in the Sports Field in China

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Abstract: By the methods of literature and inductive and Pareto analysis, we studied 35 related articles about risk assessment methods in sports which Chinese scholars have published in the CSSCI from 2003 to 2012. The results showed that the method of related research was more singleness domestically recently. The taxis method and AHP were both 22.5%, and the Pareto analysis method and risk matrix were in the second place. The inadequacies were, first of all, the lack of uniform evaluation standards; secondly, the application and mastery of the specific evaluation methods were not accurate, with some documents not going further than introducing the framework, meaning and function of the method. Given this, and based on analysis of the methods of risk assessment and combined with foreign related research, we proposed the general paradigm of risk assessment in sports, and prospected the trend of its development. This was to set up a risk assessment system with the combination of qualitative and quantitative methods, in order to strengthen specification for sports risk assessment methods and provide scientific basis for risk response and to control risk within an acceptable range.

Keywords: sports field, risk, assessment method

Motor Control/Learning

Motor development
The Impact of Proposed Curriculum According to Learning Style Symbolic Balonmojz to Acquire Some Basic Skills Reel table

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Keywords: motor development, mental maturity, affordances

Qualitative Research of Physical Education Teachers' Competence in Middle Schools

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Abstract: Competency is one of the major topics in the study of teachers' professional development in recent years. At present, the single method of questionnaire survey is mainly employed in the research of PE teachers' competency, therefore, other exploration in both theory and practice is urgently needed in China. Using both behavioral event interviews and focus group interviews, the study aims to collect material about competency on the basis of previous researches. To construct a competency model of physical education teachers in middle schools, materials were sorted and analyzed in the way of qualitative research, content dimensions induced and refined, and competency behavior indicators of each event were respectively located.

The researchers transcribed interview recordings and analyzed behavioral event interviews with the aid of Nvivo8 (Interviewees were 18 middle school physical education teachers consisting of 12 males and six females, three teachers (two males, one female) for each grade ranging from the first grade in junior high school to the third grade in senior high school). The focus group interviewees were 36 middle school students, six students (three boys and three girls for each grade ranging from the first grade in junior high school to the third grade in senior high school). After analyzing the results, competency presenting high frequency were selected as content elements. They were then studied by way of cluster analysis and partitioned into competency groups which constituted a competency model of physical education teachers in middle school, together with inferior competency and behavioral indicators.

It turns out that competency of physical education teachers in middle school includes four groups: caring and communication, professional quality, personal traits and professional preference; there were also nine specific competencies: responsibility, professional skills, lifelong learning, confidence, reflection ability, explicit development goals, creativity, attention to details and the ability to motivate. This research was set to probe into the competency of physical education teachers in middle school. It collected data and induced interview materials from the bottom up, and summarizes the content and dimensions of PE teachers' competency. A competency model of physical education teachers in middle school is about to be built to provide the basis for evaluating professional ability and level of PE teachers in middle schools.

Keywords: qualitative research, competency, physical education teacher of middle school

Motor Ability and Cognitive Function in Youth Sport

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Abstract: Recent research has described the relationship between physical activity and cognition both in humans and animals. To date, the research with humans has mostly focused on the effects of cardiovascular exercise on cognitive processes. The present study

aimed to extend recent research by investigating the possibility of differential cognitive function depending on the various motor abilities. We performed several tests to assess motor ability with KOSTASS (Korea Sport Talent Search System). This test examined the ability of instantaneous reaction force, muscular strength, muscular endurance, coordination and flexibility. We also examined cognitive functions by the K-Raven test, the K-Stroop test, and the Trail-Making test. The K-Raven test evaluates a child's important cognitive processes by using non-verbal progressive matrices. The K-Stroop test estimates executive function, especially behavior inhibition, and is taken under the two stimuli incongruent conditions. And the Trail making test evaluates cognitive flexibility and attention control of the executive function, by using digits and letters as stimuli. To analyze the relationships among the variables, 42 participants' data were used. Participants were elementary school students and had regularly participated in youth elite sports programs of Seoul National University.

The results showed that there were positive relationships between motor abilities and cognitive functions. This tendency was strongly expressed in the relationships between coordination performance outcomes (basketball throw, standing long jump and side steps) and the trail making test score. It is not appreciably different from the result of the previous study (Kim et al., 2012) in which we showed the positive relationships between coordination performance (basketball throw) and cognitive function (Raven test). These results reflect that the coordination capacity is highly associated with cognitive abilities. Furthermore, our research suggests that coordination training beyond the simple physical fitness can improve cognitive function of young children who regularly participated in youth sports programs.

Keywords: sport talent, cognitive function, raven test, physical fitness, motor abilities

The Influence of a One-year Intervention on Gross Motor Skill Performance of Korean Children Participating in a Sports Talented Program

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Abstract: To assess motor development is important in planning a physical activity program and in evaluating the efficacy of programs. The purpose of the present study was to evaluate the effects of a one-year intervention program on fundamental motor skills of sports talented children in Korea. Forty-four children were selected by Korea Sport Talent Search System (KOSTASS) for the Sports Talented Program (STP). STP is funded by the Korean government has been established to search for and nurture talented children for elite sports. STP has been planned to provide training sessions for gross motor development and specific sports skills (e.g. swimming, gymnastics, and track and field).

A total of forty-four children participated in the STP and pre and post assessment for one year. For this study, seventeen children were selected for analysis. Others who did not concentrate on the assessment or had muscular injuries were excluded. Children aged 8 to 11 were assessed gross motor skills before and after the one-year intervention period using Test of Gross Motor Development - 2(TGMD-2). All assessment procedures were videotaped and three professionals rated the children's motor performance. The inter-rater reliability among the three evaluators (ICC values from .77 to .97) indicated strong congruent results among the three raters.

The motor development program contained various activities to

enhance gross motor skills. Each session consisted of a 2-hour protocol to enhance motor coordination, muscular strength and endurance. Trained physical activity instructors conducted the program for all participants. The program focused to develop locomotor skills (running, galloping, hopping, leaping, sliding, and horizontal jumping) and object manipulative skills (throwing, catching, striking a stationary ball, rolling, dribbling). The gross motor skill performance was significantly improved after the intervention (p=.001). Total scores of pre and post assessments were 87.0±7.9 and 92.5±4.7, respectively. It seems that the motor development program conducted by trained physical activity instructors could affect development of gross motor skills.

Keywords: gross motor skills, physical activity, intervention

Is Yips a Chronic Form of Choking under Pressure?

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Abstract: Yips is reported to be a multi-aetiological phenomenon that has a psychological, neurological and motor origin. Empirical data supporting the validity of these origins is missing. According to the psychological origin, yips might represent a chronic form of choking under pressure. Choking, explained by the reinvestment theory, appears when the athlete tries to direct the focus of attention inwardly and to consciously control the skill. The present study examined if yips could be alleviated by manipulating the focus of attention, possibly indicating the link between yips and reinvestment and finding empirical support for a psychological origin. In total 19 yips-affected golfers completed the Movement-Specific Reinvestment Scale and putted with the dominant arm in a skill-focus and distraction condition. Yips behavior was assessed by putting performance [% of holed putts] and the inconsistency of the putter rotation at impact [°/ s]. Results revealed no difference between the skill-focus and the distraction condition. A cluster-analysis revealed three groups of participants: The first group exhibited lower reinvestment scores, a better performance and movement controllability in the skill-focus condition; the second group had higher reinvestment values and better movement controllability in the skill-focus condition; and the third group was more consistent in the movement in the distraction condition. In conclusion, different types of attention did not influence the yips possibly due to its different origins. A subgroup of the participants, who profited from distraction, was potentially affected by the psychological-based yips representing a chronic form of choking. Consequently, attentional focus training could be beneficial for these yips-affected golfers. Future research is encouraged to focus on further investigating the validity of the reported yips origins and to test the effectiveness of origin-based interventions.

Keywords: golf, putting, dual-task, kinematics

Testing the General Fitness of Children Using Rasch Measurement to Analyze the Construct Validity of the German Motor Ability Test DMT 6-18

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Abstract: The “German Motor Ability Test” for children (“Deutscher

Motorik Test, DMT 6-18”, Bös et al, 2009) is a motor ability test recommended by the German Society of Sport Science to test the general fitness of children between the ages of 6 to 18. This test battery includes eight tests covering condition and coordination (e.g., side to side jumps, six-minute run), as well as flexibility as part of the passive energetic system. It is a frequently used test, particularly in German primary schools. However, there are only a few studies which investigated the construct validity of this particular motor ability test properly (mostly by means of EFAs).

In this study we used IRT models (Item response theory models, e.g., Strauss, Büsch, & Tenenbaum, 2012), in particular the mixed Rasch model which is a combination of Rasch modeling and latent class analyses. Thus, we investigated whether the data manifests in a one- or two-dimensional structure.

In context with a community based school program (2009/2010), N = 2852 pupils (age M = 9.55 years; range 9-10 years; 50.8% male) had to complete the eight items. We normalized the raw scores by the use of a t-transformation (an area transformation). Detailed analyses based on mixed Rasch modeling shows the best fit indices with ordered threshold parameters within the one class solution (0,09 ≤ Qi ≤ 0,15) and acceptable bootstrapping scores (pCR = .95, pP-χ² = .80), but only if the test-items balancing backwards (coordination) and stand and reach (flexibility) are excluded.

Taken together, our results based on Rasch models provide some empirical evidence that at least at the age of 9 to 10 it is – regarding statistical and methodological issues – possible to conduct a general fitness score covering the active system of coordination and condition, but only by excluding the two inappropriate items. This study also demonstrates the superior capacity of IRT models in the diagnosis of motor abilities as well the options to detect misfitting items.

Keywords: Rasch measurement, item response theory, validity, motor test

Can Knowledge about Motion Style Influence Moving Object Tracking?

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Abstract: In our natural environment, some objects can move upright or inversed. However, others can only move upright. Given knowledge about the motion style is, in principle, available during everyday motion tracking. Its potential contribution to the analysis of target motion is worth careful examination. The present experiment investigates the role of knowledge about motion style in tracking different moving objects. 20 undergraduate and graduate students were paid for their participation in this experiment. We used three types of point-light displays (PLD), including a human figure, car figure and table figure, which were upright or inversed, moving from left to right across the screen in the gray region at a speed of 15°/second. Results (1) The time discrepancy during occlusion phase was higher than that of visible phase. (2) The inversed human PLD resulted in time discrepancy higher than the upright human PLD. (3) Across all trials, marginal difference was found between the inversed car PLD and the upright car PLD. However, no significant difference was found between the inversed table PLD and the upright table PLD. Our prior knowledge about whether an object moves inversed can influence the analysis of target motion signals.

Keywords: motion style, motion tracking, point-light displays, time discrepancy

Consideration and a New Perspective Regarding Primitive Reflexes

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Abstract: This study aims to review the occurring reflex action of newborns to 1 year-olds, explaining the importance of physical exercise prescription of normal motor development by means of measuring infant reflex action.

First, the duration of occurrence or the end of the infant reflex action has personal differences. Therefore, the research aims to clearly verify the duration of the standard and certain reflex action in the case of Korean infants.

Second, the development of a precise measuring tool regarding infant reflex action is urgently needed. The measuring tool which is connected with infants' reflex action will be the basis for the treatment of infant motor developmental disabilities. Furthermore, the tool which measures normal motor development can act as a mediator as well and improve or adjust the disability. In addition, a suitable measuring tool is necessary for standardizing or monitoring the development of Korean infants on account of personal differences, such as the form and the duration of the reflex action.

Finally, systematic rehabilitation treatment is necessary to develop normal reflex action for infants who are expected to or already show a developmental disability. Therefore, new passive motor development such as special infants' massage system and available infants' gymnastics applied in early childhood for children with a developmental disability should be considered to help them develop normally.

Keywords: Reflex action, Infant measuring tool, Infant Rehabilitation treatment

Skill acquisition The Impact of the Use of Constant and Varied Exercise in Learning Some Basic Skills for Female Students in Badminton

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Abstract: The goal of the research to know the impact of the styles of constant and varied exercise in learning some basic skills for female students in badminton, and know the best style in learning some basic skills for female students in badminton. The researcher used the experimental method with the style for both equivalent groups for the suitability of the nature of the problem to be solved, because the most important characteristic of the scientific activity flour is to use the experimental of method. The sample was represented by the female of the students faculty of physical education at the university of Karbala, the second year female students their number was (22) female students. The sample was divided into two experimental groups. The number of each group is (11) students. Pre-testing was conducted to the two groups of the research in some of the skills of badminton and then the learning exercise were applied with the whole style on the first group and the part exercise on the second group, and then the post-test was applied and analyses results. The main conclusion wear that the use of the constant style of exercise had an active role and learning the skill of the long serve and the stroke forehand in badminton, the use of the varied style exercise had an active role in learning the skill of the long serve and the forehand stroke in badminton.

Keywords: constant and carried exercise, badminton

Can Video-Based Methods Improve Australian Football Umpires Decision-Making Skill?

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Abstract: Highly refined perceptual and decision-making skills are fundamental to umpiring in all sports yet there has been little applied research that considers ways to improve umpires perceptual and decision-making skills. Contemporary research indicates that video-based decision-making tests reliably separate highly skilled Australian football umpires from their lesser skilled counterparts. To date however, no studies have considered whether video-based protocols can be used as a training tool to accelerate perceptual-cognitive learning for Australian football umpires. Therefore the aim of this investigation was to examine the effects of a sport-specific video-based training intervention to improve Australian Football umpires' decision-making performance. Sub-elite Australian football umpires (n=52; years umpired 10.5) from metropolitan and regional Victorian (a state in Australia) division one football competitions were allocated to either an intervention (n=21), or control (n=31) group. The intervention group completed a 12 week video-based training program where video clips (n=1025) of player contest scenarios were presented. Participants were asked to apply the rules of the game to correctly identify infringements. The control group completed no training. Decision-making assessment was conducted via an 80 clip video-based decision-making test on three occasions: pre-intervention, post-intervention and following a two week retention period. A 2 (Group) X 3 (Test Session) repeated measures ANOVA was conducted on the test session with results indicating no significant group effects ($F(1, 50) = 0.09$, $p = 0.76$, partial eta squared = 0.002). Nevertheless, decision-making performance significantly increased across the testing session for the intervention group ($F(2, 49) = 6.72$, $p = 0.003$, partial eta squared = 0.215), while no significant Test Session differences ($F(2, 49) = 0.064$, $p = 0.939$, partial eta squared = 0.003) were found for the control group. Furthermore, when participants were separated by previous experience, the less experienced intervention group significantly improved decision-making performance across the training intervention ($F(2, 18) = 4.290$, $p = 0.030$, partial eta squared = 0.323), whilst the less experienced ($F(2, 19) = 0.035$, $p = 0.966$, partial eta squared = 0.004) and experienced ($F(2, 18) = 0.991$, $p = 0.390$, partial eta squared = 0.099) control group showed no significant improvement. The results provide evidence and justification for the use of video-based methods to improve perceptual-cognitive performance. Furthermore, the findings make an important contribution to knowledge by providing initial evidence that video-based decision-making programs can accelerate the decision-making performance of less experienced umpires, without the need for extensive in-game experience.

Keywords: decision-making, perceptual-cognitive training, Australian football, sport officials

Practice Schedule Dependent Disruption of Motor Skill Acquisition with Transcranial Magnetic Stimulation on the Primary Motor Cortex

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Abstract: The effect of contextual interference has been one of the key theories supporting the benefits of practice variability. Although the cognitive-behavioral characteristics and the hypotheses explaining such effects were well investigated, only a few investigations have been performed to identify the neural correlates of contextual interference effect. These relatively recent research efforts, however, draw different theoretical inferences of the contextual interference effect. A functional brain imaging studies showed the evidences supporting the forgetting-reconstruction hypothesis of the contextual interference effect. On the other hand, successful interruption of the contextual interference effect by applying the transcranial magnetic stimulation (TMS) on the primary motor cortex has been reported, suggesting the existence of the elaboration process in between the tasks. Each study, then, exclusively supports either the elaboration or the forgetting-reconstruction theory. However, none of these have evidences for rejecting the other.

In this study, we have consolidated the differences in the experimental paradigms of these studies, and tried to identify the source of the reported discrepancies. In particular, previous studies have set the different time frames as their point of interests. Therefore, we have observed the changes in retention test performances when the TMS was applied at different times. During the motor sequence learning (serial reaction time tasks) single pulse TMS was applied on the primary motor cortex either right after task A (before the presentation of task B: Timing 1) or before task B (right before the movement: Timing 2). Timing 1 is when the elaboration is believed to take place, while the forgetting-reconstruction would only be possible during Timing 2. Therefore, the delivery of TMS on the primary motor cortex would inhibit the learning process if either of these processes is, in fact, in operation. As a result, the effects of TMS were observed mostly in the random practice condition. Right M1 stimulation after the movement completion (Timing 1) disrupted retention only in the random condition. Furthermore, the delivery of TMS as the subsequent stimulus was presented (Timing 2) resulted in more pronounced disruption of retention (again, only during the random condition). The results suggest that previous studies might have reported only a part of the mechanisms triggering the effect of contextual interference, and both elaboration and forgetting-reconstruction hypotheses may be working inclusively for the successful contextual interference effect in random practice conditions. Furthermore, the role of 'active preparation' process seems to be greater for the formation of retention.

Keywords: contextual interference, transcranial magnetic stimulation, motor sequence learning, practice schedule

Effects of Faded-Summary Feedback Schedule on Elderly Motor Skill Learning

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Abstract: The faded-summary feedback schedule was proposed to not only facilitate the error correction function by knowledge of results (KR), but also restrain the drop of retention performance because of the KR dependency-producing function. The effect on the motor skill learning of undergraduates was higher than other schedules: Every, Summary, and Faded feedback schedules (Tajima, 2009). In this schedule, the KR frequency gradually decreases and the summary length of KR gradually increases as the acquisition stage progresses. The present study examined the effect of faded-summary feedback schedule on elderly motor skill learning. Twenty-four elderly persons (ages 61-83 years old) and 60 undergraduates (ages 19-21 years old) were randomly assigned to one of two KR groups: Every KR

and Faded-Summary KR. Participants practiced a 7-m putting task with a blind-screen and then performed no-KR retention tests. The acquisition stage consisted of five blocks (12 trials/blocks) and the 10-min and 24-hr retention tests consisted of one block. The analysis in the acquisition stage indicated that the absolute error (AE) in the 1st block was significantly higher than the other blocks in both KR groups. (Note: Although accuracy was improved in the acquisition stage regardless of the KR group, the influence of aging was confirmed to the acquisition of putting skill that did not need physical strength). The analysis in the 24-hr retention test indicated that the AE in the Faded-Summary group was significantly lower than the Every group in the young group ($p < .01$), and the AE in the young group was significantly lower than the elderly group in the Faded-Summary group ($p < .001$). These results clarified that the faded-summary feedback remarkably decreased the elderly's retention performance. It is concluded that feedback schedule different from young people is necessary for elderly motor skill learning, because the effect of the feedback schedule is affected by aging.

Keywords: motor skill learning, feedback, aging

The Optimal Integration of Analogy and Explicit Learning in Tennis among Teenage Novices

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Abstract: In the dual process theory, Barrett and Engle suggested that a behavior results from the interaction of the implicit process and the explicit process. In motor learning, the synergistic effect of implicit and explicit learning has been confirmed, and the optimal integration of them depends on the task, environment and individual characteristics. Analogy learning has been proven to be a more practical means to implicit learning and widely used in sports. Different integrations of analogy and explicit learning in tennis skill learning were explored in this study in order to find the optimal integration of them to improve the efficiency of motor learning.

The experiment lasted five days (one hour a day), including a pretest, learning phase and post-test. Independent variables were different integrations of analogy and explicit learning. Dependant variables were the accuracy of hitting, gait ratings and the amount of skill-related knowledge. Twenty-eight right-handed adolescents (tennis novices, 13-15 year-old junior high school students) were randomly assigned to Explicit-analogy group (n=11), Analogy-explicit group (n=9) and Synchronized group (n=10) to learn two-handed backhand stroke in blocks. With 20 strokes in the pre-test, they had 20 strokes in retention and transfer tests respectively after two stages with both 140 swings and 140 trials respectively. The experimenter released the ball freely into a circle on the ground. The subject at the midpoint of the base line, hit the bouncing ball to the score zones on the opposite court. Two cameras recorded ball landing points and subjects' gaits.

A one-way ANOVA with repeated measures were selected for analysis of between-subject effects in this study. In the pretest, the dependent measures showed no significant effect on the groups which indicated that the performance of different groups was similar before the experiment. In the retention test, the accuracy of strokes and gait ratings of the Analogy-explicit group were better than either the Explicit-analogy group or Synchronized group with no significant differences between the latter two groups. The amount of knowledge of the Analogy-explicit group was more than that of either Explicit-analogy group or Synchronized group. The results of the accuracy of strokes, the gait ratings and the amount of knowledge in the Transfer Test were almost consistent with those in the retention test.

For adolescent novices, analogy-explicit learning was the optimal

integration of analogy and explicit learning over the other two learning approaches. This verified the dual process theory and inspired us to modify teaching with special requirements for learners in practice.

Keywords: analogy learning, explicit learning, tennis, teenager novice

Vision and Action in Kendo: Experimental Consideration of 'Enzan no Metsuke'

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Abstract: In kendo (Japanese fencing), 'Enzan no Metsuke' is one of the most important 'Waza' (technique) especially for expert Kendo practitioners; it is looking at the opponent with a gaze toward the mountains in the distance, taking in not only his or her face but the whole body. In recent decades, numerous studies of visual search behaviors in sports have been reported. Players' visual search strategies are typically evaluated.

Using eye movement measurements in laboratory or field settings. Although visual search patterns are only a poor indicator of both where a performer's attention is directed and their capability to extract information from where they are looking, the measurement of eye movement behavior helps identify the manner in which players scan the display while performing a particular task. Successful attack of the opponent or reaction to the opponent's attack in Kendo depends not just simply on physiological components, but also on perception-action skills in order to make better predictions about the intended target by observing the opponent's preparatory phase and making a quick and accurate attack on the opponent. However, no studies have have been found which analyzes the behavior of 'Enzan no Metsuke' in kendo. The purpose of this study was to analyze visual search activities of expert kendo practitioners through sparring practices and the three-dimensional body movements of their attacking and defending behavior synchronously.

Visual search behavior was examined using an eye movement registration system (NAC Image Technology Inc., EMR-9) and body movements were measured by a three-dimensional motion capture system (Motion Analysis Corporation, MAC system). The results indicated experts set their "visual pivot" on the opponent's eyes quietly most of the times while facing the opponent, even when the opponent tried to attack with the sword. It seemed to take the information not from the opponent's eyes but from their whole body by utilizing properties of an ambient vision system, meaning experts could see an opening or opportunity in a moment's time and react instantly by using 'Enzan no Metsuke'. It was also found from the results of kinematic motion analysis that experts did not waste motion, making each move from their knees efficiently and stabilizing their upper bodies, therefore allowing them to attack or react quickly and accurately. It is concluded that the concept of 'Enzan no Metsuke' is related to coordination of ambient vision and motor control.

Keywords: eye movements, visual search, motion capture, kendo

Effects of Faked KR on a Temporal Timing Task

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Abstract: The purpose of this study is to investigate the effect of

faked knowledge of result (KR) from either a good trial or a poor trial on the change of learning in temporal timing. Specifically, four groups which consisted of 12 participants per group participated in the pre-exercise phase, acquisition phase, retention test, and two transfer tests for this study. Participants were randomly assigned to one of four groups, which consisted of a group taking a good KR on a good trial (g-g group), a group taking a poor KR on a poor trial (p-p group), a group taking a poor KR on a good trial (p-g group), and a group taking a good KR on a poor trial (g-p group). The task was to press two computer keys in coinciding with the temporal timing on five segments with five different lengths. The feedback provided information concerning either a good or a poor KR on each a good or a poor trial after three trials. The results were as follows. Firstly, in the pre-exercise phase the analysis showed no significant differences on the relative timing error and the absolute timing error among the four groups, indicating that participants had similar timing ability before the acquisition phase. Secondly, in the acquisition phase the relative timing error and the absolute timing error had a tendency to decrease as the practice progressed. Thirdly, in the retention test and two transfer tests the g-g group, g-p group, and p-g group resulted in better relative timing than the p-p group. Those results suggest that KR types can produce a difference in the relative timing of learning.

Keywords: faked knowledge of result, relative timing, absolute timing

Reaction Times and the Relevance of Visual Search Strategies of Basketball Players

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Abstract: An ability to instantaneously make a proper decision is required by athletes in a dynamic environment such as sports. Measuring the reaction time in the area of study on central vision and peripheral vision is understood to be an interpretation of athletes' performance. However it requires the experimental environment to be as close to the real setting as possible. In this study, we set up the trial situation similar to a real field. The purpose of this study was to check reaction time and vergence (viewing distances) by monitoring the relations of the peripheral vision information strategy of the basketball player. Twenty-two basketball players (male, n=11, female, n=11) participated in this experiment. The participants viewed tasks of three patterns by three mobile monitors. Reaction time (key pressing and whole body reaction) and eye movements were measured. As a result of two-way ANOVA, main effects were shown in reaction time. However interaction was not observed. In addition, a significant difference was not observed as a result of review on central vision and peripheral vision based on the viewing distance. Significant variation was indicated in the standard variation under the condition of a two-monitor as a result of comparing the reaction range. The readiness potential until the time immediately before reaction was compared in regards to central vision and peripheral vision. The significant difference was observed and peripheral vision indicated faster reaction. Perception seemed to have occurred with a peripheral vision system in the case of a two-monitor. It is necessary to also review the relationship between the viewing distance and viewing coordinate in the future. In regards to the consciousness of the subjects to the level of difficulty in the experimental task at this time, they tended to feel "easy" in the case of key pressing and "difficult" in the case of systemic reaction to the same task presented. The key pressing task is indeed identical with the whole body reaction task. Thus, the

reaction task under the experimental condition of this study might have been felt more as a training to make decisions in the actual field. It is suggested that it might be necessary to review the scope of peripheral vision and explore the relationship between the presentation position and reaction time, as well as between peripheral vision and psychological influences in the future.

Keywords: central vision, peripheral vision, reaction time, visual search

The Consciousness and Visual Search of Baseball Pitchers during the Pitching Motion

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Abstract: For the present study, an experiment that measured the eye movements of baseball pitchers was conducted to examine what kind of visual search behaviors take place during their pitching motion. The purpose of this study was focused on how they utilize peripheral vision properties to pick up visual information. Members of a professional baseball pitchers' group (n=3) and college student pitchers' group (n=3) participated in this experiment. The subjects pitched a ball in a real situation by throwing five types (1 type was 5 trials) of pitches by 2 patterns (right batter, left batter), and their eye movements were measured. Eye movements of subjects during the preparatory phase of pitching, during which a pitcher should gather visual information from the motion of the batter, were analyzed. After the task, the participants were asked to comment on the "strategy of the course" and "the consciousness of the throw".

As a result, the following characteristic visual search behaviors were identified: Before and after starting their pitching motion, the pitchers placed their line of vision within the area of the batter's box relatively more frequently. In the latter stages of the pitching motion, they placed their line of vision in whatever direction was natural for their eyes to be turned to when delivering a pitch from a set position, and they used their peripheral vision rather than their central vision to capture the target at which they would be throwing the ball (catcher or batter). In addition, experienced pitchers held longer average gaze duration. Both before and after starting the pitching motion, these pitchers showed a higher tendency to place their line of vision in the opposite direction from where they would naturally turn their eyes during the pitching motion. Therefore, experts used a systematic visual search strategy, utilizing peripheral vision properties to evaluate visually the batter's motion efficiently and anticipate the ball's trajectory. Their interview comments revealed the following things: They do not distinguish between left or right batters. The expert grasps much information before throwing. In a real situation, they are conscious of the first base runner (the left side). The expert has abundant experience, having a clearer image of the situation to which to throw. These results suggested that the consciousness of the pitcher influenced visual search.

Keywords: baseball, pitchers, consciousness, visual search

Ecological Constraint on One-Handed Interceptive Action

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Abstract: Interceptive action is one of importance in human

activities and sports performance. Direct perception concepts point out that an individual's action directly picks up body-scaled information and interacts with the environment. Movement is the pattern of coordination and control structure that is constrained by the organism, environment, and task. This study investigated the influence of environmental conditions on hand aperture (HA), velocity of hand aperture (HAV), velocity of ball-hand contact (BHv), and velocity of ball-hand grasping (BGv) with one-handed interceptive action. Participants (23.9 ± 2.8 yrs) were required to intercept five balls of speeds 2.1, 3.2, 4.6, 5.4, and 6.0 m/s with one hand. There were 10 trials for each ball speed, which were arranged with counter-balancing. Four kinematic parameters were collected as dependent variables. Magnetic tracker (240Hz) of Polhemus LIBERTY was used for data capturing and MotionMonitor was used for data analysis. One-way ANOVA with repeated measures on ball speeds, and ES and Bonferroni for Post Hoc test were administered. It was found that (1) the maximal hand apertures in the five ball speeds were significantly different (F (4, 116) = 42.06, p< .05, η² = .14, power = 1.0), HAm1 and HAm2 were less than HAm3, HAm4, and HAm5; (2) the velocities of hand aperture in the five ball speeds were significantly different (F (4, 116) = 44.07, p< .05, η² = .24, power = 1.0), HAv1 was less than HAv2, HAv3, HAv4, and HAv5; (3) the velocities of ball-hand contact in the five ball speeds were significantly different (F (4, 116) = 34.84, p< .05, η² = .13, power = 1.0), BHv1 was less than BHv2, BHv3, BHv4, and BHv5; (4) the velocities of ball-hand grasping in the five ball speeds were significantly different (F (4, 116) = 44.41, p< .05, η² = .37, power = 1.0), BGv1 was less than BGv2, BGv3, BGv4, and BGv5. According to the perspective of affordances, the findings showed that one-handed interceptive action was led by specific information and interacted with the animal-environment system.

Keywords: ecological, direct perception, coordination and control, body-scaled information, affordances

Effectiveness of Feedback Intervention for Taekwondo Beginners Learning Poomsae

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Abstract: The use of feedback strategies is crucial to the effectiveness of motor learning and the changes in motor performance. Visual feedback can facilitate understanding in the complicated motor learning. Purposes: 1. To explore the effectiveness of verbal knowledge of performance (KP) feedback intervention on learning poomsae. 2. To examine the effectiveness of verbal knowledge of performance plus videotape image (KP+V) feedback intervention on learning poomsae. 3. To compare the differences between KP and KP+V feedback interventions on learning poomsae. Methods: Twenty taekwondo beginner students (age: 11.50 ± 1.00 years) from Chia-yi City were randomly assigned to either the KP group or KP + V group and received poomsae lessons twice a week for four weeks. Each lesson lasted for 30 minutes. Tai Chi chapter one skill tests were carried out on the first and last lessons. Independent sample t test, mixed two-way ANOVA, and paired samples t-test were employed to analyze the data and the level of significance was set at α = .05. Results: (1). Poomsae skills were significantly improved in both groups after four weeks teaching with these two feedback strategies. (2). There were significant differences between the KP and KP + V groups in which the KP + V group had better poomsae performance than the KP group. Conclusion: Verbal or video image feedback are useful for learning complicated motor skills, in particular, verbal plus video image feedback are better than only using verbal feedback because movement errors are easier to detect, posture can be self-adjusted, and complicated movement coordination more easily understood, and it was in line with the "information visualization strategy.

Keywords: feedback, taekwondo poomsae, motor skills, information visualization

The Effect of Limited Absolute

Frequency of Self-controlled Feedback on Motor Skill Performance and Learning

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Abstract: The Purpose of this study was to examine the effect of limiting absolute frequency of feedback on motor performance and learning based on the self-controlled feedback approach. Twenty-four adults were recruited as participants in this study and were randomly assigned to the self-controlled feedback (SC) group or limited absolute frequency self-controlled feedback (LSC) group. Participants in the SC group were allowed to request feedback or not after each trial in acquisition whenever they wished; identical feedback scheduling was available for participants in the LSC group but with the limitation of absolute frequency of up to five times per block (10 trials). The experimental task was to produce a hand-grip force on a dynamo-meter as close as possible to 50% of their respective maximum force. The acquisition consisted of 60 trials composed of 6 blocks with 10 trials. The dependent variable absolute error (AE) and variable error (VE) were used to index change of performance as a function of their respective feedback condition. Mixed-design two-way ANOVAs revealed similar motor performance errors between groups in acquisition. The LSC group produced significantly less VE than the SC group did in the transfer test. It is concluded that limited absolute frequency of feedback in acquisition may boost extra performance and learning effect based on self-controlled feedback scheduling.

Keywords: knowledge of results, motor learning, relative force

Effects of Dance-Based Exercise Therapy Program on Balance and Locomotion Performance in a Patient with Cerebellar Ataxia

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Abstract: It has been demonstrated that the cerebellum plays a key role in controlling voluntary movements including body balance and posture. The present study examined the effects of a dance-based exercise therapy program on re-learning balance and locomotion ability in individuals with cerebellar disease. A male patient (39 years old) with severe cerebellar atrophy who shows ataxic movement disorders participated in 1½-hours of adapted tango lessons 3 times a week, completing 24 lessons within 8 weeks. The results indicated that the participant exhibited improvements of normal walking and functional gait ability. More specifically, step width was decreased while step length, single stance time, gait speed and balance time were increased after the intervention. In addition, the participant improved on freezing time, pre-obstacle distance and crossing velocity during the obstacle crossing task. This case study suggests that a dance-based exercise therapy program may positively influence the recovery of gait and balance ability for those who suffer movement disorders due to cerebellar disease.

Keywords: cerebellar atrophy, balance and gait, obstacle crossing, movement disorder, motor control

Advantages of an External Focus of Attention: Availability of Far Target Information during Golf Putting

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Abstract: Previous studies have demonstrated that an external focus of attention can enhance the accuracy in golf putting compared to an internal focus. The benefits of adopting an external focus are attributed to the use of automatic control processes, while an internal focus depends on more consciously effort controlled processes. However, it is not clear that participants in the previous study used only attentional focus or a combination of attentional focus and far target information provided in the peripheral visual field. Therefore, in this study, we examined whether the advantages of an external focus of attention still exists when far target information is not available. Focus of attention and availability of far target information was manipulated within participants (counterbalanced across golfers). Twelve golfers in each condition used a putter to putt a ball as close as possible to a hole, which was located at distances of 1, 2, 3, 4, m from the golfer. The most intriguing finding was that the putting accuracy was highest when participants used the combination of external focus and target information through peripheral vision compared to other conditions; in contrast there was no difference in accuracy between internal and external focus conditions when far target information was not available. These results revealed that online information about far target position and external focus of attention meaningfully affect the quality of golf putting. These findings are discussed relative to theoretical issues in motor learning and practical issues for golf instruction.

Keywords: focus of attention, far target information, golf putting, accuracy

Sensorimotor Knee Position Matching in Response to Proprioceptive Bias

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Abstract: Over the past several decades, studies on human movement have demonstrated neurologic information processing. But recently many studies are based on sensory signals provided to the brain from muscle receptors (proprioceptive sense). Studies of individuals who lack proprioceptive sense (sensory conflict was introduced by vibrating muscle) have taught us important lessons regarding the role of proprioceptive feedback during sensorimotor performance. The purpose of the present study was to determine whether lower limbs' control ability foot placement would be observed when a conflict is created through distortion of the proprioceptive sense. We used a joint position matching task that required participants to reach the right leg to target at a specific left knee angle during muscle vibration (muscle non vib(A)-muscle vib(B)-muscle non vib(A)). Participants could not see their knee. In the B group, a sensory conflict was introduced by vibrating more than group A. We speculate that group A's lack of position matching was due to the artificial muscle spindle activity resulting from vibration which showed profound deficits in motor control. It remains possible to put forward several "best movement practice" suggestions regarding how clinically based proprioceptive function should be performed. This information should allow for enhanced diagnosis of proprioceptive deficits within clinical settings in the future.

Keywords: position matching, proprioceptive, vibration

Body Weight Supported Treadmill

Training (BWSTT) and Overground Training Improves Gait and Balance in Degenerative Cerebellar Disease

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Abstract: The cerebellum is important for balance control, posture stability, and limb coordination. As such, one of the most characteristic and sensitive signs of cerebellar damage is ataxia. Ataxia generally refers to incoordination of movement, especially incoordination of gait. How the cerebellum normally contributes to locomotion behavior is unknown, though recent work suggests that it helps generate appropriate patterns of limb movements, dynamically involving posture and balance, and adjusts foot placement. Many studies have pointed out that people with cerebellar ataxia have impairments that are related to wide-based unsteady gait, increased posture sway, and impaired balance. Many studies reporting these types of disorders are planning to increase their risk of falling.

The 10m walk test, TUG - Time Up & Go, and BBS – Berg Balance Scale are balance and gait ability tests which checks associations with falling. The rehabilitation of gait recovery in rehabilitation goals need to be prioritized for central nervous system impairment of cerebellar ataxia.

Distinctiveness theory applies movement skills training program in order to fit the characteristics of the tasks that need to be configured in rehabilitation programs for patients with central nervous system impairments. According to the reports from previous studies, the primary method for locomotor recovery is possibly through gait-related training. Typical methods for gait-training for patients with cerebellar ataxia are overground walking and BWSTT.

This research looked at how to train patients with degenerative cerebellar ataxia with BWSTT to improve the quality of gait. The purpose of this study was to investigate the effects of BWSTT on balance ability, quality of gait, and health-related quality of life over time for people with degenerative cerebellar ataxia.

Keywords: cerebellum, gait, body weight support, overground training

The Anticipation and Visual Search with Temporal Occlusion Paradigm: Quiet Eye, Expertise, and Advanced Visual Cue of Baseball Batters

Seungmin Lee, Min Young Kim
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Abstract: The purpose of this research was to analyze anticipation and visual search of baseball batters during the viewing period of the pitcher's motion with temporal occlusion paradigm. Six experts and six novices participated in the experiment. While participants viewed a pitcher's pitching videotape applied with temporal occlusion paradigm, their eye movements were measured and analyzed. Anticipation ability was measured from the choice among the three possibilities (straight, curve, slider) and calculated to the percentage of correct choices from 48 trials. The experimental data were analyzed with a two-way ANOVA. The results obtained from this study were as follows: First, experts showed longer quiet eye duration and more efficient visual search strategies than novices. Second, experts showed lower visual search rate. Third, experts showed the fixation location on the pitching arm, hand, and shoulder, while novices showed the fixation location on the upper-body and leg. Lastly,

experts showed more excellent anticipation skill than novices during the third temporal occlusion phase.

Keywords: baseball, quiet eye, visual search, advanced visual cue

The Effects of a Dance Movement Rehabilitation Program on Functional Gait and Balance as Interventional Treatment for a Patient with Cerebellar Degeneration

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Korea University

Abstract: It has been demonstrated that the cerebellum plays a key role in controlling voluntary movements including body balance and posture. The present study examined the effects of a dance-based exercise therapy program on re-learning balance and locomotion ability in individuals with cerebellar disease. A male patient (39 years old) with severe cerebellar atrophy who shows ataxic movement disorders participated in 1½-hours of adapted tango lessons 3 times a week, completing 24 lessons within 8 weeks. The results indicated that the participant exhibited improvements of normal walking and functional gait ability. More specifically, body sway was decreased while walking and standing, single stance time, gait speed and balance time were increased after the intervention. In addition, the participant improved on Activity-Specific Balance Confidence, Falls Efficacy and health-related quality of life. This case study suggests that a dance-based exercise therapy program may positively influence the recovery of gait and balance ability for those who suffer movement disorders due to cerebellar disease.

Keywords: cerebellum, rehabilitation, balance, walking, motor learning

Sport Psychological Skills and Coping Styles of High-Level Wrestling Athletes in Sichuan Province

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Abstract: With the continuous development of wrestling sports and the gradual improvement of wrestling athletes' technical level, it is more and more obvious that psychological sport skills and coping styles could have an influence on the result of a competition; in fact, psychological skills and coping styles are closely connected with whether athletes can have an excellent performance. However, in the practical study, it is rare to come across any related research on how psychological sport skills and coping styles will affect performance in regards to high-level wrestling athletes in Sichuan province. Therefore, this article did a research on high-level wrestling athletes in Sichuan Province with the use of literature, questionnaire survey and mathematical methods.

The results showed that: (1) gender differences exist in the four dimensions of the collective spirit, anxiety, self-confidence, and mental preparation in the sport psychology skills; no gender difference exist in attention and motivation; age differences exist in preparation of psychological skills and the collective spirit; there were no significant differences in sport psychological skills during the training period; sports level differences exist in the collective spirit and self-confidence. (2) no significant difference in gender for the 4 dimensions of coping styles; there was a significant difference during the training period in avoidant coping and centralized treatment of coping style; coping styles in the 4 dimensions had no significant

grade differences in movement. (3) there was a significant correlation between coping styles and psychological sport skills; positive psychological sport skills contributes to the state self-confidence, therefore athletes should have a positive coping style.

Keywords: high-level wrestling athletes, sport psychological skill, coping style

Does a Mental Rotation Task Reflect the Body Schema? A Comparison of Before and After Practice

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Abstract: Mental Rotation (MRo) tasks are to evaluate mental rotation ability. One well-known MRo task is the ability to judge a rotated limb picture as being a right or left hand. This task seems to be a measure of the subject's own Body Schema (BS) because the score depends on the condition of one's own limbs. BS is a continuously updated sensory-motor process that constantly regulates posture. Here, we sought to verify whether an MRo task can be used to measure one's BS system, by examining the relationship between a given motor skill and the usefulness of an MRo.

Fifty-one subjects (24 men, 27 women; age = 18–24) were included in the study. The MRo was the Contact Juggling palm-roll (CJP) task, which requires that two small iron balls be rotated on the palm as quickly as possible. Subjects were divided into three groups: (1) the physical training group (PTG), which performed the CJP task; (2) the image training group (ITG), which imagined performing the CJP task, and (3) the control group (CTG), which completed a puzzle. The subjects performed five practice trials of the 30-second MRo task before and after training. The mean ball speed and the number of ball rotations per second (r.p.s.) of the CJP task were calculated as motor skill scores. The mean reaction time (RT) of the MRo task was calculated as mental rotation ability. We compared ball speed, r.p.s., and RT among groups and over time using a repeated two-way analysis of variance (ANOVA). We examined the relationships among speed, r.p.s., and MRo.

In the PTG and ITG groups, the ball speed and r.p.s scores in the fifth trial were significantly greater than those in the first trial. The RT score of the MRo task after training was significantly lower (faster) than that obtained before training. In the CTG, neither the motor skill score nor the ability of MRo showed a significant difference. There was a significant correlation among variation of speed, r.p.s., and MRo. These results demonstrate that mental rotation ability improves as motor skills improve.

The MRo task has a possibility in measuring variation of limbs condition related to the BS.

Keywords: physical training, mental practice, image training

Special issues
Cultural issues
Saudi Women's Attitudes to Physical Activity: An Interventional Approach to Improving Future Health

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Abstract: The researchers aim to provide evidence to support physical activity initiatives that improve the quality of life of women in Saudi Arabia, a developing country. Saudi Arabia is a religiously conservative society that upholds time-honored traditions. Saudi society works to preserve gender norms; women are customarily at home or in segregated places with outside activities limited. Any changes in the status quo are looked on skeptically. For these reasons, implementing an unexampled physical activity program in female institutions remains challenging despite initial efforts. Women only gyms are available within private sectors, and they are rare and very costly. Nevertheless, there are Saudi women’s advocates who recognize the importance of regular physical exercise in a society where the opportunities are limited. They argue that allowing females to practice sports is a human rights issue that does not contradict Islamic Sharia law. These arguments are based on international standards established by the like of the World Health Organization that are founded on evidence-based research. There are incontrovertible and multifaceted necessities for females to engage in regular physical activity. The research strongly correlates low levels of physical activity with high risk of health conditions and decreased quality of life. Research on Saudi women corroborates a higher incidence of obesity, diabetes, hypercholesterolemia, and osteoporosis to the lack of exercise in Saudi women’s lifestyle. The researchers are using the interventional approach to support efforts that encourage physical activity in Saudi women. The researchers ascertained the attitudes, requirements, practical hindrances, and perceived social impediments with regards to introducing routine exercise through the use of government subsidized facilities. A pilot sample of 80 females was interviewed to secure the validity and reliability of the preliminary instrument. The final version of the instrument consists of (63) items distributed over three sections, in addition to one open question. The final sample consists of 800 females from the four main regions of KSA, ages 15 and up. Highly-rated requirements for suitable sports facility are being free and provide transportation since women in (KSA) are not allowed to drive cars. The results indicate that awareness and positive attitudes toward physical activity exist. Improvement of quality of life can be as simple as lessening the practical impediments. Hopefully, this kind of evidence can better inform decision makers to be more proactive in providing government funded facilities.

Keywords: Saudi physical activity intervention

Cross-Cultural and Gender Differences in Self-Presentational Thinking among British and Slovakian Athletes

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Abstract: This study explored the effects of cultural background and gender on the self-presentational thinking of national league-level team sport athletes from the UK and Slovakia. A total of 76 British and 80 Slovakian participants in basketball, ice hockey, soccer, and volleyball completed the Self-Presentation in Sport Questionnaire (SPSQ; Wilson & Eklund, 1998) and answered follow-up questions on specific self-presentational concerns as well as target people of those concerns. MANOVA results showed a significant main effect on the SPSQ for culture only, indicating that British athletes in general were more concerned than the Slovak cohort about appearing tired, athletically untalented, and incompetent. Content analysis of the follow-up questions further revealed that the British participants

put more emphasis on body image, age, teammate support, and appearing fatigued whereas the Slovakian competitors reported a greater desire to look confident, show a professional attitude, and use appropriate language. Female athletes expressed a greater number of concerns overall and in each nation separately, but cultural differences were found in the gender variable as well. Specifically, British males had more frequent concerns about performing to a required standard than their Slovakian counterparts while Slovak males were more worried about appearing confident. Among females, the Slovak participants were more concerned about presenting an adequate attitude; in contrast, the British females were more worried about body image. Lastly, the British athletes listed teammates and opposing players as the main target people of their self-presentational thinking. In Slovakia, the most common targets were coaches and family and friends. The findings are interpreted in part through the Individualism-Collectivism framework. Slovakia is considered a more collectivistic nation than the UK (Hofstede, 2004), and accordingly, the results may reflect more authoritative coaching styles and more emphasis on traditional and family values (Kolarik, 1993) among the Slovak participants. It is also important to note that the UK results, in addition to patterns associated with individualistic societal values, might be partially attributable to the fact that data were collected a short time before the 2012 London Olympics, when sport and athletes were subject to considerable public focus. The study concludes with practical recommendations for coaching in both nations.

Keywords: self-presentation, cross-cultural comparison, gender differences

Analysis of the Traditional Cultural Psychology and the Reform of China’s Competitive Sports

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Abstract: After China’s competitive sports gained great achievements in the Beijing and London Olympic Games, people began to think seriously about the subsequent issues of reform and development of China’s competitive sports. Seeing reform from the perspective of traditional culture is a new point of view. Culture creates China’s competitive sports, and at the same time, China’s competitive sports is an important aspect in the constitution of Chinese culture.

This study uses the phenomenological method and hermeneutic method of cultural psychology research methods to review and reflect China’s competitive sports from the perspective of cultural psychology. Based on the aspects of Chinese traditional culture psychology of harmony avocation, human relationship, saving face concept, official career concept, compliance with tradition, reverence for gods, power adoration and lacking in self-consciousness etc., this study attempts to analyze the existing drawbacks and shortages in the system, management, training and competition.

The key problems in China’s competitive sports are a lack of respect for the person, equality consciousness, scientific and democratic spirit of humanity, self independent consciousness and innovation awareness. All these problems are related to Chinese traditional culture psychology. It is suggested that more attention should be paid to the reform of the traditional culture psychology at the beginning of the reform process, and this consciousness should be applied into the design and practice of the reform.

This study suggests that in the system design of the reform, people should keep special focus on the remodeling of traditional cultural

psychology and take notice of the enormous inertia and influence of our traditional cultural psychology. It is hoped that this study can provide the necessary theories and mental preparation for the reform of China’s competitive sports.

Keywords: cultural psychology, competitive sports, reform

Necessity and Content System of Sports Team Culture Construction

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Abstract: The Olympic motto of more clean, humanistic and unity expresses a new development concept of the Olympic Movement in the 21st century. But today, in China, self positioning makes dislocation obvious after some athletes get good results and individualism expands rapidly. This change propels us to employ advanced thought and culture to guide athletes to distinguish between all kinds of values urgently and adhere to the correct ones. To strengthen the team culture construction is the soul of boosting team management innovation and the catalyst for promoting team reform and development. In this paper, based on the definition of team culture and its necessity of culture construction, three functions of team culture are elaborated: unity of values, the form of standard and the establishment of the sense of mission. The study also analyzed the content system of the sports culture construction taking the organization culture theory and cultural structure theory as the foundation. Team culture construction is divided into three levels, namely the physical layer, system layer and spirit layer. Sports material culture construction includes sports venues culture, greening and beautification of sports training environment, team communication facilities, restaurants and cultural entertainment environment. Sports system culture construction is made of coaches, athletes and other related personnel in team management, sports training and sports competition and so on. It is the embodiment and the support of a certain value. The content includes four parts, training concept (study hard and train bitterly, realistic science and demands high standards), game idea (tenacious struggle, race out of style, race out of level), management concept (people-oriented, strict management) and development concept (innovation consciousness of continuous breakthrough). Team spirit culture construction refers to the culture of ideology, which is the most dynamic part of team culture construction. The concept of value is the essence and soul of sports culture and the core element. The spirit elements of sports culture construction include five aspects(1) love our motherland, win honor for the country;(2) strengthen the team spirit—strong combat effectiveness;(3) the common goal—world champion;(4) gratitude—God gave you the greatest wealth;(5) speaking the facts, encouraging by using examples.

Keywords: sports team, culture construction, necessity, content system

Comparison of Willpower Development between Chinese and American Adolescents: A Cross-Cultural Study

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Abstract: We utilized the Adolescent Willpower Survey (AWS) to investigate the willpower development among 560 Chinese and American middle school students of age 13-15, with a focus on the comparisons by country, gender and age. Potential causes of the observed differences were explored. The analyses show that (1) there were significant differences between countries regarding adolescent willpower development, with American adolescents exhibiting greater willpower on average compared with Chinese adolescents (p<0.01); specifically, American adolescents had higher qualities in most dimensions of willpower, including consciousness, decisiveness and independence (p<0.01, while Chinese adolescents only showed better self-control (p<0.01). No significant difference was noted for perseverance; (2) gender differences in willpower also existed among adolescents and varied by country. Overall, better self-control, perseverance and decisiveness, as well as higher total willpower scores were observed in girls than in boys (p<0.01; p<0.05). For American adolescents, girls had better performances than boys in the total scores and all dimensions of willpower (consciousness, decisiveness, self-control, independence and perseverance, p<0.01), whereas in Chinese adolescents, we observed no gender differences in either the total scores or any dimensions of willpower. (3) The associations of willpower with age and grade also differed by country. Chinese adolescents tended to have improved consciousness and independence but diminished self-control with increasing age and grade. Such trend was not found in U.S. adolescents. The findings suggest that the development of willpower in 13- to 15-year-old adolescents is different between China and the U.S., which is primarily attributable to the cultural differences between the East and the West.

Keywords: Chinese, Americans, adolescent, willpower

Lie Detectors as an Alternative in Detecting Age Fraud in Indonesian Badminton Players

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Abstract: Badminton is a demanding sport, and one of the mainstays and pride of Indonesia due to its successful achievement for Indonesia. However, behind this pride, the sport is tainted by the actions of a handful of people who justify any means for selfish gain. An example of this is age fraud, rejuvenating an aged athlete so he can play at the bottom and eventually become a champion. PBSI addresses this problem by checking birth records and uses forensic tests to determine the age of the athlete, but this is considered to be not effective because there are still many age violations. This paper expresses the strengths and weaknesses of age detection means and gives feedback on an alternate tool, namely a lie detector, which can break age discrepancy deadlocks. Lie detectors can provide accurate data and reveal the truth from athletes and parents of athletes.

Keywords: lie detector, age fraud, badminton

Domestic Research Review on Sports Star Worship

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Abstract: Star worship is a complex phenomenon. The sport star worship, a subset of celebrity worship, not only embodies the common characteristics of celebrity worship, but also preserves its own peculiarity. Generally speaking, the sports star consists of many core positive moral characteristics, such as "ability", "virtue",

"achievement" and "sports spirit". Compared to other celebrities, athletes can be a better inspiration of positive energy to the whole society as well as to independent individuals, which makes sports star worship a preeminent activity for upward social comparison.

Combining and analyzing the domestic research studies on sports star worship, this article first discriminates the concept of sports star worship, then goes on to discuss three aspects of it: psychological mechanisms, component and impact. Finally, based on a lower proportion of relevant researches and less empirical researches, we outline the future research avenues involving exercise psychology.

Keywords: sports star worship, celebrity worship

Transcultural Aspects of Traumatic Stress in Sport Psychiatry

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Abstract: In spite of the increasing globalization in sport and the growing awareness of mental health problems such as depression and suicidal behavior, transcultural aspects of these mental problems are so far neglected by research and practice. Stressors, reaction patterns, and protective or resilience related factors known to be of relevance must be seen as reflecting culture in competitive athletes. Events creating distress include the athletes own injuries, observing severe accidents, but also team related traumatic events such as harassment or even sexual abuse. The “culture” of the closed environment of athletes can be seen as interacting with cultural factors, such as idioms of distress which might be at least as relevant as PTSD and suicidal ideation in the early recognition and treatment models to be provided. As they are frequently travelling to competitions and work in culturally different environments, trainers and coaches as well as mental health providers have to be aware of the complex setting addressing traumatic stress in athletes.

Keywords: traumatic stress, sport psychiatry, idioms of distress, transculture aspect

Adult Participation of Physical Activity in Germany and China

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Abstract: Participation in physical activity is beneficial for health while sedentary behavior is a major risk factor. By literature review, expert interview, and field observation, this paper compared adult participation in physical activity in Germany and in China, according to age, gender, socio-economic status, locations of physical activity, types of activities and barriers for not being active. Research showed that in general, German adults were more active than Chinese adults, and the tendency for participation along with age growth were completely different. Regarding barriers for not taking part in sport, both German and Chinese people indicated lack of time as the major reason, which may only be a general excuse, but actually a problem of motivation. German people indicated that few friends do sport together and poor health status were other major barriers. Chinese attribute the lack of fields and facilities and being lazy as main barriers for not doing sport. Walking was a popular activity for people in both countries, the same as jogging and cycling. Chinese people were fond of some traditional oriental activities too, such as martial arts, Qigong, rope skipping, shuttlecock kicking and so on. German people preferred aerobic exercises like swimming and general gymnastics. This research is the initial step for the further study on more suitable and effective interventions to improve adult participation in physical

activity in both countries.

Keywords: physical activity, participation, Germany, China

Relationship of Identification and Loyalty among Football Fans

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Abstract: Industries can hardly survive without the patronage of customers; likewise professional sports also needs loyal fans. Fans' identification plays a major role in their continuing support for the team. In regards to fan identification, the author presents a theoretical model of antecedents and consequences of identification in soccer settings according to the history of the CSL and previous researches. Trust and vicarious achievement are modeled as inducing variables of identification whereas loyalty represents the effect of identification. In addition, the study provides more insightful explanations for the influence of identification on loyalty through two levels of identification: team identification and player identification so as to understand the behaviors of CSL fans.

A convenience sampling was chosen--276 participants who were loyal fans and gave support for a certain team in the CSL. We explored the effects of trust and vicarious achievement motives on fans' player identification and team identification. Moreover, the relationship between player identification and team identification was investigated. Structural Equation Modeling (SEM) was applied to test the research hypotheses. The findings are summarized as below:

- (1) Player identification does not relate to fans' loyalty.
- (2) Trust is the most important antecedent of team identification.
- (3) Vicarious achievement is the most important antecedent of player identification.

Keywords: trust, vicarious achievement motive, identification, loyalty

Nature and Freedom of PE Teaching From the Perspectives of PE Teaching Ideology under Chuang-Tzu Philosophy

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Abstract: Chuang Tzu was a famous philosopher in the history of China whose magnificent and grand character unfolded a world of unique thoughts and unconventional ideas to people. After inheriting the thoughts of 'Taosim' put forward by Laotzu, Chuang Tzu raised ideas featuring unique characteristics such as observing morality from 'Taoism', 'human conquering destiny' and 'worshipping the natural realm', etc. Chuang Tzu's thoughts on the regulations of the relationship between the universe, nature and people have deep significance on life and spiritual values of all inclusiveness; they also exert important impacts on many realms of ideologies. Research on the influences of Chuang Tzu's ideas on PE teaching in China is based on the important role Chuang-tzu thoughts play in the theory and practice of modern PE teaching in China, which also provides a broader development space for the development of PE teaching in China.

School PE lessons comprise an important part of PE while PE teaching is an indispensable part in school education. PE teaching is aimed at propagating PE knowledge, technologies and skills, improving students' physiques and nurturing their morality, wills and qualities. At present, studies on PE teaching in China from the perspectives of Chuang-tzu psychological mindsets are scarce.

Therefore, this article adopts the methods of literature overview, experts' interviews and systematic analysis in attempt to explore the modern values of Chuang-tzu mindsets in the development process of PE teaching in China from the unique perspective of life psychology mindsets of Chuang Tzu. In other words, it is to analyze the important significance of natural properties and freedom spirits of PE teaching from 'human conquering destiny and worshipping the mindsets of a free and unfettered realm'. In the mean time, based on various problems faced by PE teaching development in China, it puts forward corresponding coping strategies by borrowing reasonable factors in Chuang-tzu psychological mindsets which are to arrange teaching contents, increase students' contact with human nature and give them a free studying environment, and freely allocate time and opportunities to raise questions and think freely in line with the natural regulations of students' development conditions both mentally and physically.

Keywords: Chuang-tzu philosophy, PE, teaching ideology, nature, freedom

Disabilities issues Sport Motivation and Strategies for Coping with Stress of Wheelchair Basketball Players

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Abstract: The most widely used coping model in sport psychology is based on Lazarus and Folkmans (1984) transaction process perspective. The theoretical framework of this study includes the Self-Determination Theory (Deci & Ryan, 1985, 2000; Ryan & Deci, 2000). The aim of this research is to examine the sport motivation and preferred strategies for coping with stress of wheelchair basketball players (with disabilities) (N = 17) and of basketball players without disabilities (N = 119). We have used the Bulgarian versions of the Sport Motivation Scale (SMS; Pelletier et al., 1995) and the Coping Orientations to Problems Experienced scale – COPE-1 (Carver, at al., 1989). The fourteen strategies have been joined together through factor analysis into three generalized secondary factors: cognitive engagement, emotional engagement, cognitive and emotional disengagement. Results showed that the participants surveyed in the present study scored higher on self-determined types of motivation than non self-determined types of motivation, thus replicating past research with athletes without disabilities. In the group of wheelchair basketball players introjected regulation and intrinsic motivation to know were statistically significantly higher compared to those of the group of basketball players without disabilities, while with amotivation and external motivation the reverse trend was observed. Leading strategies for coping with stress in both groups of subjects involved cognitive engagement strategies. Statistically significant results show that wheelchairs basketball players are more likely to prefer this type of coping strategies compared with the group of basketball players without disabilities.

Keywords: intrinsic and extrinsic motivation, coping strategy

An Exploration to Find out the Relationship of Performance with Anxiety and Sports Confidence of Physically Challenged Swimmers of India

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Abstract: Among all the creatures on earth, man is the most sophisticated and complex to be understood, even by himself. He is continuing his search for knowledge everyday in making rapid progress in all fields of life. One of the most existing fields is sports and games which is making remarkable changes in the concept and knowledge of society. Sports is the only medium which is improving functional quality of life , integrating the surrounding of not only the people with sound mind and body (able bodied) but also of the peoples with disabilities. The high level performance seen in competition is nothing but perfect optimum relationship between psychological preparedness and technical preparation. Psychological variables like anxiety, self confidence, achievement motivation etc. along with other qualities determine the performance of an individual. To determine the relationship of swimming performance with different psychological characteristics of National level physically challenged swimmers. Fifty Three (53) subjects were selected as the subject's age range from 18-25 years for study representing National Paralympics Swimming Championships during 2011-12 in association with Swimming Association of India for Disabled. To define level of competitiveness or performance swimming times were given a score using the method often used in swimming meets to compare results in different events and gender. To determine the relationship of swimming performance (100 m free style) with different psychological characteristics of challenged swimmers, correlation (Pearson's Product Moment) was used at 0.05 level of significance. Significant relationship was found between the Free Style event with SCAT and Sports Confidence. The mean value of SCAT was found to be -.374*and mean value Sports Confidence was .645** in relation to Free Style event.

Keywords: disability, physically challenged, psychological variables

Analysis of Pre-Competition Psychological Preparation for Disabled Chinese Shooters

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Abstract: Twelve Chinese disabled shooting athletes participated and completed two questionnaires, Volitional Quality scale and Athlete Training State scale, one month before the 2008 Paralympics. Contrasting the data to the 375 ordinary athletes' data by using Independent T-test, the result showed that the data from the disabled shooting athletes at volitional total points was higher than that from ordinary athletes significantly, and there was an extremely significant difference on the dimension of independence and toughness; there was also a significant difference on the dimension of decisiveness. This illustrated that disabled shooting athletes were capable of coping with various stresses, overcoming difficulties and injury with great endurance and strength. All these excellent volition traits were the result of their hard work and training. As to the training state, the scores for the factors of good-feeling, self adjustment, mental fatigue and burnout for disabled shooter were higher than that of ordinary athletes, which showed that disabled athletes had better preparation in body and psychology and that they were competent in adjusting themselves. However they had mental fatigue and burnout to some extent, which was related to their closed and monotonous training life. These results not only gave help in exploring psychological characteristics of top disabled shooting athletes, but also provided a foundation on designing psychological training and consultation strategies corresponding to the disabled shooting sport and athletes' characteristics.

Keywords: disabled shooting athletes, Paralympics 2008, psychological preparation

Imagine Your Body without Seeing It:

Physical Self-Concept in Blind People Practicing Sport

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Abstract: Physical Self-concept (PS) has an important role in the context of sport and exercise settings facilitating exercise behaviors and adherence, as well as health related physical fitness. Despite a wide number of studies on multidimensional PS in sport and physical activity contexts, little research has analyzed this construct in people with disabilities, especially people with visual impairments. The present study has a twofold purpose: to analyze the relationships between the dimensions of PS in blind and sighted persons and to analyze the effects of regular physical activity on these dimensions in persons with blindness.

Eighty-five blind (F= 34; Mean age= 34.1, DS= 11.9) and 121 sighted (F= 58; Mean age= 22.1, SD=8.5) subjects completed the short version of the Physical Self-Description Questionnaire (PSDQ-S). Of the overall sample, 151 subjects (60 blind and 91 sighted) practiced

sport regularly (i.e. 2 hours or more per week).

Global Self-Esteem dimension, in blind persons, was correlated only with the specific dimensions of Appearance, Coordination and Flexibility, while in sighted persons it correlated with all other specific dimensions minus Physical Activity. Furthermore, while blind subjects' Global Physical Self was significantly correlated with the dimensions of Appearance, Body Fat, Coordination, Flexibility, Sport Competence and Strength, sighted persons' Global Physical Self was significantly correlated to all specific dimensions of the Physical Self-concept.

A series of ANOVA, which considered as independent variables gender, sport practice (Yes vs. No) and visual status (blindness vs. sighted), showed a significant interaction effect between sport practice and visual status for Appearance (F (1,198) =4.16; p=.043), Strength (F (1,198) =4.01; p=.047), and Global Physical Self (F (1,198) =4.40; p=.037). Furthermore, the ANOVA results showed that, compared to females, males reported significantly higher scores on Endurance (F (1,198) =12.14; p=.005) and Sport competence (F (1,198) =7.17; p=.02) and lower scores on Health (F (1,198) =4.9; p=.006). Additionally, people practicing sport on a regular basis reported significantly higher scores on Physical Activity (F (1,198) =94.38; p (F (1,198) =10.30; p=.002) and Sport Competence (F (1,198) =14.90; p<.001) than did sedentary people. Finally, as compared to sighted persons, blind participants reported higher levels of Flexibility (F (1,198) =5.36; p=.022) and lower levels on Sport Competence (F (1,198) =9.32; p=.003).

The results of the study indicated that blind people's Global Self-Esteem is related less to some of the PS specific dimensions than it is in sighted people. Furthermore, regular physical activity seems to positively influence several dimensions of PS, such as Coordination and Sport Competence, even in blind people.

Keywords: physical self, blindness, sport activity

A Research on the Gait Analysis of Children with Developmental Disabilities

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Abstract: "Physical awkwardness" of developmentally disabled

children, which is seen especially when they change their pace of walking or their balance, is one of the significant features we found through the experience of nursing care. It is difficult for them to walk with a certain rhythm and pace and they tend to easily fall down. Because these children often lose their confidence at the early stage of development, they need special support as soon as possible. Although there have been many studies done on children's gait, few of them have focused on developmentally disabled children. The purpose of this study was to identify features of developmentally disabled children through analyzing children's gait to provide information that would help identify those who need special support. For our research, we selected 30 children from 4 to 6 years old (including 10 with a suspicion of having a developmental disability) from a kindergarten. We asked them to walk naturally along three different lines, (1) 25 cm width x length 3 m, (2) 20 cm x 3 m, (3) 15 cm x 3 m, and observed their gait, focusing on walking speed, number of steps, frequency of swerving away from the lines and their balance during motion. Their gait was recorded by two video cameras. After analysis, the results showed that there were significant features in developmentally disabled children' gait and they are different from those of normal children.

Keywords: analysis system, developmental disabilities, gait, balance, physical awkwardness

Drug control Health Risk Behavior and Parenting Style of College Students

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Abstract: Health risk behaviors are attitudes that contribute to the main causes of morbidity and mortality among young people, normally being established during the childhood and the adolescence, and can persist into adulthood. It is believed that the children perceptions about the educational practices of their parents can influence the adoption of such behaviors. This study aimed to analyze health risk behaviors and parenting styles of college students. The subjects were 403 college students of both sexes, from first to last periods, of the Physical Education course at a university of the state of Paraná-Brazil. The instruments used were the National College Risk Behavior and the Egna Minnen av Barndoms Uppfostran (EMBU – Scale of Memories on Parenting Practices). For data analysis it was used the Kolmogorov-Smirnov and the Mann-Whitney tests, adopting p < 0.05. The results showed that students who have thought or attempted suicide had higher rejection their father (p = 0.001) and mother (p < 0.0001); those students who adopted violent attitudes and sexual risk behaviors were more rejected by father and mother (p = 0.005 and p = 0.002, respectively); students who used marijuana were less overprotected by mother (p = 0.027) and father (p = 0.008) and those less physically active had higher rejection of the father (p = 0.019). It was concluded that students who adopt health risk behaviors perceived themselves more rejected and less overprotected by parents.

Keywords: health risk behavior, parenting styles, students

Effect of Terbutaline (Beta2-agonist) on the Levels of Pre- and Post-Acute Exercise Feelings

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Abstract: Ergogenic effects of Beta2-agonists are believed to be partially due to their stimulating psychotropic effect. However, an unexpected post-effort tranquillizing effect has been found for terbutaline, when this Beta2-agonist was administered orally to athletes at supra-therapeutic doses (8 mg) prior to an exhausting exercise that was carried out at 90% of maximal aerobic power (Sanchez et al., 2013). The aim of the present study was to replicate this effect in a highly demanding muscular exercise that weakly affects the energetic metabolism. Seven healthy and physically active male adults voluntarily participated in two sessions that unfolded one week after the other in random order. In each session, they first completed Gauvin and Rejeski's (1993) Exercise-Induced Feeling Inventory (EFI) which measures positive engagement, revitalization, tranquility, and exhaustion on Likert-type scales ranging from 0 (do not feel) to 4 (feel very strongly). Then, participants ingested either 8 mg of terbutaline or a placebo, depending on the session they were participating in. They then completed the EFI again, two hours after ingestion. One hour later, they performed an effort trial consisting of isometric contractions of the right quadriceps at 50% of maximal voluntary contraction with alternations of 5-s periods of contraction and recovery. Right after this trial, the participants carried out an ultimate completion of the EFI. Separate 2 x 3 (Medication: Terbutaline vs. Placebo x Time of Measurement: Pre-ingestion Rest vs. Post-ingestion Rest vs. Post-effort) analyses of variance was conducted on each dimension of the EFI. Positive engagement was found to be significantly lower in the terbutaline/post-ingestion rest condition than in the other conditions. Revitalization and exhaustion were lower and higher, respectively, right after the trial than at the other moments of measurement. Tranquility was lower in the terbutaline condition than in the placebo condition. In contrast with Sanchez et al.'s (2013) finding, terbutaline affected both positive engagement and tranquility. Therefore, the psychotropic effect of this Beta2-agonist could depend on the general vs. local nature of the exercise.

Keywords: affects, Beta2-agonist, effort, doping, fatigue

Eating disorder issues

A Method for Quantifying Whole Body Shape from Photogrammetric Images: Fourier Descriptors

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Abstract: Studies in the 1940's and 1950's, based on photogrammetric, led to the familiar anthropometric categories of ectomorphs, endomorphs, and mesomorphs to describe whole body physique. Recent studies of body form are either largely descriptive in character or based on indirect measures such as height, weight, BMI, etc. Quantitative assessments of total body images have been rarely attempted because of the lack of available methods. In contrast, the use of Fourier Descriptors (FDs) allows for: [1] a precise quantitative as well as visual description of body outlines, [2] an analysis of shape, an important consideration, without the confounding element of size, [3] an assessment of the always present variability. A particular FD, the Elliptical Fourier function (EFF), was used to describe the body shape of Japanese female college students in frontal and side views (n=144) with a mean age of 19.63±1.15. The mean residual (n=37) between the frontal observed outline and the EFF was 0.96±0.04 pixel units (roughly 0.17±0.01 mm). Using the BMI as the criterion, the comparison of the body shape of the lowest 10th percentile against the highest 90th percentile produced statistically significant resultsusing MANOVA and displayed clear body outline differences. Superimposition procedures included original size and shape data,

shape only data, and Procrustes. Each of these superimposition procedures provides different information. With respect to concerns such as: [1] physical performance in athletes, [2] effects of nutrition and disease on body shape, [3] body image studies, and [4] body shape in health-compromised situations such as Anorexia Nervosa and developmental obesity, EFFs were found to be useful and can provide reference data for future studies.

Keywords: body shape, BMI, Fourier Descriptors

Psychopathological Predictors of Eating Psychopathology in Athletes: A Longitudinal Study

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Abstract: The psychopathological processes of clinical perfectionism, low self-esteem and depression have repeatedly been theoretically and empirically implicated not only in the development of eating disorders but also the maintenance of the disorder. Accordingly, the aim of the current study was to examine the predictive role of clinical perfectionism, self-esteem and depressive symptoms on athletes' eating psychopathology over a 6 month period. One hundred and twenty two athletes completed self-report instruments pertaining to personal standards perfectionism, self-critical perfectionism, self-esteem, depression, and eating psychopathology. Bivariate correlations revealed that only self-critical perfectionism was related to athletes' eating psychopathology. However, after controlling for athletes' initial eating psychopathology, this association was not significant. Thus, suggesting that the factors of clinical perfectionism, low self-esteem and depressive symptoms may not be risk factors for eating disorders in athletes. The findings of the present study hold several potential theoretical implications. Specifically, the findings suggest that such psychopathological factors may not be relevant in the development of eating disorders in athletes, and consequently other factors need to be taken into consideration. The findings also call the need for continued application of more rigorous methodologies to identify risk factors rather than correlates of the disorder.

Keywords: eating psychopathology, psychopathological processes, risk factors, athletes, longitudinal study

Coach-Athlete Attachment and Eating Psychopathology

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Abstract: The relationship formed between the coach and the athlete is proposed to be the most significant relationship in an athlete's life. In line with recent amalgamation of attachment theory and its underlying principles to untangle the influence of the coach-athlete relationship athletes' performance and personal outcomes, the aim of the present study was to examine the link between coach-athlete attachment and eating psychopathology among male and female athletes. Athletes completed self-report instruments pertaining to coach-athlete attachment and eating psychopathology. Results revealed significant associations between insecure attachment style to coaches and increased eating psychopathology in both male and female athletes. Specifically, in female athletes, both anxious and avoidant attachment to the coach was related to increased engagement in restrictive eating, and greater concerns with eating, shape and weight. Moreover, it was found that avoidant attachment to coach was more integrally related to female athletes' eating psychopathology than anxious attachment. In the case of male

athletes, only avoidant attachment to coach was related to their eating psychopathology, with avoidant attached male athletes reporting greater concerns about their shape. The findings of the present study hold several potential theoretical and practical implications. In terms of theoretical implications, the findings further reinforce the significance of integrating the attachment research framework to understand the relational dynamics between the coach and the athletes. The current findings alongside previous findings also indicate that avoidant attached athletes report greater dysfunctionality. Accordingly, the formulation of appropriate training and educational workshops need to be put in place, which aim to address any interpersonal problems that may exist between coaches and athletes, and help them manage their relationships better more effectively in order to maximize more profitable outcomes.

Keywords: eating psychopathology, athletes, attachment orientation, coach

Relationship between Sport Type and Body Image of Female Athletes

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Abstract: Research suggests that sport involvement enhances body image (Robinson & Ferraro). Research also indicates that athletes involved in certain sports, such as gymnastics and distance running, are at risk for body image disturbances (Crissey & Honea, 2006). To better understand this paradox, the body image sport and societal ideals of female distance runners (n = 21) and throwers (n = 18) were assessed. The participants completed the Body Image Rating Scale (BIRS; Fallon & Rozin, 1985), the Body Image States Scale (BISS; Cash, 2002), and the Multidimensional Body Self-Relations Questionnaire- Appearance Scale (MBSRQ-AS; Brown, Cash, & Mikulka, 1990). Once the questionnaires were completed, participants were photographed and completed the Body Form Imaging (BFI; Sands & Maschette, 1999) manipulating their photographic images. We also compared the relative utility of image based assessment tools. Consistent with social comparison theory, distance runners were less satisfied with their bodies than were throwers when considering sport ideals but more satisfied when considering societal attractiveness ideals. However, when considering body image without regard to the different body ideals, distance runners presented a more favorable body image overall than throwers. These results suggest that body image is related to sport type and is not stable and highlight the complex factors affecting the body image of women athletes. With regard to body image measurement, digital body image software may be more sensitive than line drawings in detecting predicted relationships.

Keywords: body image ideal, distance runner, thrower, digital body image software

Effects of Approach and Avoidance Goals on Female Aesthetic Athletes' Disordered Eating Attitudes

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Abstract: The role of achievement goals in the self-regulation of eating attitudes has been examined mainly through correlated studies based on self-reported measures. However, exploring eating attitudes at the behavioral level is ethically problematic and thus requires indirect behavioral measures. Three studies were conducted

in a population at risk of eating disorders to examine the influence of achievement goals as conceptualized by Elliot and McGregor's (2001) framework on: (a) a self-reported measure of the self-regulation of eating attitudes in elite aesthetic female athletes (Study 1) and (b) elite figure skaters (Study 2), as well as (c) a virtual behavioral measure of the self-regulation of eating attitudes in elite figure skaters (Study 3).

The three studies involved a total of 294 elite aesthetic female athletes, and three variables were measured. Achievement goals (Schiano-Lomoriello et al., 2005), and the self-regulation of eating attitudes in sport with a self-reported measure (Scoffier et al., 2010) were considered in the two correlated studies. The experimental study considered the self-regulation of eating attitudes in sport with a virtual behavioral measure (Scoffier et al., 2012).

Mastery-approach goals and performance-avoidance goals were associated with a greater capacity for self-regulation of eating attitudes than were performance-approach goals and mastery-avoidance goals. These associations were observed for both self-reported and behavioral measures, except for performance-approach goals, which were not significantly related to the self-reported measure of the self-regulation of eating attitudes in the figure skater sample.

Achievement goal theory is an important framework for explaining disordered eating in female aesthetic performers. These findings indicate that performance-approach and mastery-avoidance goals may favor the development of eating disorders, whereas performance-avoidance goals may have protective effects. These results should guide interventions aimed at preventing eating disorders in sport while maintaining health with motivational strategies adapted for female athletes.

Keywords: achievement motivation, eating disorders, elite aesthetic sport

Psychosocial Variables and Disordered Eating Attitudes: A Cross-Cultural Comparison between Young Elite Figure Skaters in Canada and France

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Abstract: To examine cultural differences in psychosocial characteristics (i.e., social relationships and physical self-perceptions) and eating attitudes in young elite French and Canadian figure skaters.

Independent groups, with country (Canada vs. France) as the independent variable. A total of 221 elite figure skaters, 101 Canadian (M=15.29; SD=1.14) and 120 French (M=15.89; SD=2.78), voluntarily participated in the study. All were selected according to technical ability (i.e., double axel execution). As they were minors, all parents gave consent. During training camps or sessions, the participants completed a questionnaire, which measured the quality of relationships with significant others, physical self-perceptions, and disordered eating attitudes.

The results indicated higher relationship quality with sport friends, parents, and coaches for Canadian figure skaters. However, French figure skaters showed higher peer social acceptance. The Canadian group reported higher perceived physical ability and appearance and a higher level of disordered eating attitudes than the French

Collegiate Dancers

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Abstract: Elite female athletes and female college students may be at higher risks of eating disorders. The purpose of the present study is to evaluate the prevalence of eating disorders, menstrual status, and body composition (including bone mineral density, i.e. BMD) among female sports art students at a university in Beijing. A total of 103 questionnaires were received from those that were invited to finish the Eating Disorder Inventory (EDI-3), the general fact and menstrual history questionnaires. Their body composition and BMD of the left foot were also measured. The data were analyzed using SPSS 17.0. The results show that the prevalence of eating disorder, menstrual dysfunction and osteopenia are 24%, 25.5% and 4.4%, respectively. The prevalence of amenorrhea is 22.7%, and that with both eating disorder and menstrual dysfunction is 6.8%. Women with either regular menstruation or menstrual dysfunction had no significant difference in eating disorder risk. Eating disorder is associated with a high risk for low BMD, but menstrual dysfunction is not found to significantly increase that risk. (This work is supported by BSU Project 2012 YB019.)

Keywords: female collegiate dancers, eating disorder, menstrual dysfunction, BMD

Effects and Mechanism of Physical Exercise on Disordered Eating Behavior of High School Students

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Abstract: In order to examine the relationship between physical exercise and abnormal eating behavior, and to determine which kinds of physical exercise patterns effectively influence more abnormal eating behavior among high school students, the present research analyzes many studies about the relationship between the two. Some forecasted indexes, e.g. physical self-esteem, depression, anxiety are also found to explain the theoretical hypothesis model. Random sampling was used in Beijing high schools to complete the survey on forecasted index between physical exercise and abnormal eating behavior; multivariate ANOVA was used to undergo the relationship between the two. Results showed that:

1) The effect of exercise capacity on abnormal eating behavior was not obvious, while effects of the duration of physical exercise were obvious, so was the effects of the interaction between exercise capacity and duration.

2) The theoretical hypothesis model of psychological mechanism has been supported by the result of structural equation modeling analysis (GFI= 0.912, AGFI= 0.865, CFI= 0.892, RMSEA= 0.076).
Conclusions:

1) Long-term physical exercise can improve high school students' abnormal eating behavior.

2) With an increase of exercise duration, the role of little and moderate exercise load on abnormal eating behaviors improved; on the contrary, a large exercise load did not improve high school students' abnormal eating behavior. With an increase of exercise duration, moderate exercise loads on the improvement of the abnormal eating behavior were significantly better than exercise load alone.

3) Exercise duration has more important influence on high school

group. For both groups, Pearson's correlations indicated significant positive relationships between coach relationship quality and sport friendship quality, perceived physical ability and parent relationship quality, perceived physical appearance and parent relationship quality, and perceived physical ability and peer social acceptance scores. However, perceived physical ability was negatively related to disordered eating attitudes in the Canadian group, but positively in the French group.

These results could be explained by differences in policies regarding health promotion and the prevention of disordered eating attitudes in sport between the two countries. Training type also differed: training is more collective in France compared to a more individual approach in Canada. The findings suggest that figure skating at the elite level does not in itself predispose an athlete to have an eating disorder. Eating disorder risk appears to result from a combination of cultural values, the elite sporting environment, and intra- and interpersonal variables.

Keywords: cultural differences, eating disorders, France, Canada, figure skating

An Ambivalent Position of Fitness Classes in the Development of Disordered Eating

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Abstract: Literature shows that some sports such as aesthetic sports, sports with weight divisions, endurance sports and sports with vertical moves, are associated with a higher risk of developing disordered eating (i.e., anorexia athletica). Studies on disordered eating in fitness activities are rare. The purpose of this study was to improve the understanding of the role of fitness classes in the development of disordered eating among women. Our investigation was based on questionnaires and semi-structured interviews. In all, 1270 women (Mage = 23.68 years old, SD = 3.04) completed a questionnaire that included the Eating Attitude Test (EAT-26), and questions about weight-loss methods and participation in sports. In addition, 40 women who participated in fitness activities (25 of whom were suffering from eating disorders and 15 of whom were not) were interviewed. The results showed an ambivalent position of fitness sports in the development of disordered eating. On one side, participating in fitness classes, particularly cardio-based fitness classes, may be considered a risk factor for the development of disordered eating, especially among "non-athletic" women: the prevalence of disordered eating among women practicing fitness classes is 10.3 % (EAT-26 score ≥ 20). But on the other side, fitness sports can be beneficial for some women with disordered eating, notably when those practicing: (a) favor merit (allowing themselves to eat before or after sport); are seeking an increase in their sports performance (eating to not regress); (b) want to break-free and re-appropriate their body (notably through aquatic fitness sports); (c) refuse to accept their image as reflected in the mirror. The practice of fitness sports is not a triggering factor of disordered eating and the prevalence of disordered eating is lower than those found in sports considered "at risk" in the development of disordered eating (e.g., dance, gymnastics, judo). Some other non-structured sports (e.g., running, biking, and cycling) seem to be associated with an even higher risk of disordered eating among women.

Keywords: disordered eating, fitness classes, women

A Study of Eating Disorder Risk, Menstrual Status and Body Composition in Chinese Female

students' abnormal eating behavior than that of exercise workload.
4) Physical exercise is not only a direct predictor of abnormal eating behavior, it can also indirectly predict abnormal eating behavior through physical self-esteem, depression, and anxiety.

Keywords: physical exercise, disordered eating behaviors, physical self-esteem, depression, anxiety

Gender issues
Can More Sexism Lead to More Physical Activity in Modern Females?

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Abstract: To adopt and maintain regular physical activity is a challenging health behavior change process. The FIT (Four steps from inactivity to activity) model proposed that there are six stages of change in individual physical activity, including: not considering, considering, preparing, exploring, fluctuating and maintaining. The first three stages are inactivity stages, while the latter three stages are activity stages (Duan Yan-ping et al., 2012).

Glick and Fiske (1996) identified two components of sexism: hostile sexism (HS) and benevolent sexism (BS), both of which justify the male power structure. HS, which is consistent with notions of sexism-as-antipathy, reflects hostility toward women who challenge male power, whereas BS is a subjectively positive orientation toward women.

In this study, we aim to explore the relationship between sexism and stages of physical activity in modern females. We proposed that female students who were in physical activity stages faced higher levels of benevolent sexism than those in physical inactivity stages. This is because young females facing higher levels of benevolent sexism are more likely to follow male standards on females' appearance and have stronger motivation to maintain body shape, which leads to more physical activity.

Two hundred and seventy one female college students (mean age 20.05 years) were recruited for the study. All were students at Huazhong Normal University but originally from different places throughout China. Respondents were either natural or social science majors, and all completed the survey in their classroom. They were administered a measure of physical activity stage based on the FIT model, benevolent sexism (12 items), hostile sexism (12 items) and demographic information.

Two unpaired-sample T tests were conducted to confirm expectations. As predicted, female students who were in physical activity stages were less deviated from benevolent sexism than those in physical inactivity stages (M = 3.81 VS M = 3.95), t (269) = 2.192, P = .03). The difference between these two clusters of stages on hostile sexism was not significant, t (269) = -.198, P = .84.

Female students who were in physical activity stages had higher levels of benevolent sexism than those in physical inactivity stages.

Keywords: FIT model, benevolent sexism, hostile sexism

Research on Sex Role Features of Top Speed Skaters and Short-track Speed Skaters

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Abstract: Gender roles are opinions or beliefs about males or females which are recognized in the social culture. This paper reveals the features of gender roles and the reasons for forming them from top speed skaters (70% expert athletes and 30% first-grade athletes) and short-track speed skaters (55% expert athletes and 45% first-grade athletes) by using a questionnaire survey (Bem Sex-Role Inventory-2003 Chinese version). Results show that: (1) There is no significant difference in sex role for male speed skaters and short-track speed skaters; the male speed skaters mainly focus on masculinity (50%) and androgyny (45%) as do male short-track speed skaters but respectively at 42% and 58%. (2) There is no significant variation in sex role for female speed skaters and short-track speed skaters as well; masculinity, femininity and androgyny account for 20%, 30% and 40% respectively for female speed skaters, but 20%, 40% and 40% for female short-track speed skaters. (3) There is no significant difference in sex role for expert speed skaters and short-track speed skaters: androgyny is 50%, femininity is 37.5%, and masculinity is 12.5% with the undifferentiated at 0%. Research results also demonstrate that the sex role of speed skaters and short-track speed skaters no matter male or female mainly shows features of androgyny, which may be the result of features of sport events, drill circumstances and competition rules or others. As both belong to speed events, the brave and indomitable psychological traits are requisite for speed skaters and short-track speed skaters, while having an earnest, careful, patient and friendly personality will be essential for promoting athletes to grow and make progress; the environment is an important factor for one's traits of character. Coaches are of vital importance for athletes who live with the team for a long time. Therefore, the expectation of coaches on androgyny of athletes would be an immediate cause for their sex role. In addition, the research revealed that there is no significant difference in sex role for top athletes in speed skating (a restrained event) and short-track speed skating (an open event), which manifests that the cultivation of sex role for athletes in training is similar in different types of speed events.

Keywords: sex role features, speed skaters, short-track speed skaters

Comparison of Sport Perfectionism Dimensions of Handball Players

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Abstract: Up until now, many psychological variables have been identified which affect the success and failure of athletes. One of the variables of interest to psychologists nowadays is perfectionism. Perfectionism is the stable tendency of an individual to set perfect and unreachable standards and attempts to reach them; this behavior has positive and negative influences especially on competitive athletes. Some researchers argue that adaptive perfectionism is the facilitator of sports performance although others believe that perfectionism is an inconvenient feature which interferes with sport performance. According to these two conflicting views, the way which perfectionism affects sport performance has always been controversial. Therefore the aim of this study was to compare the dimensions of perfectionism in male and female national handball players who were invited to pre-season training.

Method: Subjects of this study were 30 female and 22 male members of the handball national team attending the pre-season training. (Mean age = 19.18 ± 1.24). For assessing the range of perfectionism we used the Sport Multidimensional Perfectionism Questionnaire-2 (Dunn et al 2006) with 4 subscales and 27 questions. Reliability and validity of this scale was successfully proved in previous studies. After gathering the information, the SPSS-16 and t-test statistical method was used for analyses with p< 0.05 significance level.

Results: Findings of the present research revealed that male athletes have significantly higher perfectionism in all subscales: personal standards, concern over mistakes, perceived parental pressure and perceived coach pressure compared to female athletes. In general, elite male handball players have greater perfectionism than elite female handball players.

Conclusion: The results revealed that male handball players had higher sport perfectionism in comparison with females. In previous studies, Camadan (2010) stated females' perceived parental pressure subscale was higher and significantly different compared with males, which is inconsistent with our study. Many research's results showed that features such as perfectionism were the main determinants of feedback, trends and behavior and will have different influences on performance and progress of a perfectionist person. Perfectionism is a key feature in elite athletes and has a motivational effect which encourages people and leads them towards their goals and perfection. Previous researchers investigated perfectionism and sport performance in student-athletes. From the investigations of this study, the research deduces that attempts to reach excessively high performance standards will not only improve sport performance but also be influential on competition.

Keywords: perfectionism, handball, sport psychology

The Effect of Social Comparison on Negative Physical Self of Females

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Abstract: Social comparison is one of the most important methods of individual self evaluation. Different directions of social comparison will cause different effects on self-evaluation. This research aimed to study the effects of different direction of social comparison on women with different BMI indexes with negative physical self. Pictures of female models and obese women were used to trigger the participants' different direction of social comparison; the participants then completed the negative physical self scale (NPSS). A total of 62 female college students took part in the experiment. They were divided into thin, normal and overweight groups according to their BMI index. The general dimension and fatness dimension of the scale were analyzed. The results were that social comparison effects were significant on the general dimensions of the female college students' negative physical self, and upward comparison scored significantly higher than the downward comparison. Study participants from different BMI groups scored significantly on the fatness dimension; further analysis showed that the thin group scored lower than the normal group, while the overweight group scored the highest. Social comparison is one of the influential factors of negative physical self.

Keywords: negative physical self, social comparison, general dimension, fatness dimension

Sport and exercise Psychology
Burn out and overtraining
A Meta-Analysis on the Relationships between the Basic Psychological Needs and Burnout among Athletes

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Abstract: This study aimed to investigate the relationships between the three basic psychological needs and burnout among athletes using a meta-analytic approach. A systematic literature search was conducted using three groups of keywords (i.e., burnout,

sport, and motivation) in five electronic databases. Three inclusion criteria were used to include the searched studies. Seven studies met the inclusion criteria. The meta-analytic results showed that there were negative correlations between the three basic psychological needs and burnout (r = -.64 to -.22; small to large effects). In addition, compared with the other two burnout constructs (accomplishment and devaluation), exhaustion showed smaller correlations with the three basic psychological needs, which could be due to the limitations of the burnout measurement. The basic psychological needs can be used to explain athlete burnout. Future studies need to examine whether there are limitations of the current burnout measurements. Practitioners should use intervention programs to increase athletes' three basic psychological needs and thus to prevent or avoid burnout.

Keywords: motivation, sport, burnout, review

Is Resilience Associated with High School Athletes' Burnout and Awareness of Self-growth?

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Abstract: This study developed an Athletic Resilience Scale (ARS), an Athletic Burnout Scale (ABS), and an Athletic Awareness of Self-growth Scale (AASS) and examined the relationship among resilience (measured by the ARS), burnout (measured by the ABS), and the awareness of self-growth (measured by the AASS) for high school students who participate in athletic club activities. A total of 301 high school athletes (male = 196, female = 105; mean age = 16.06, SD = 0.66) participated in this study. They completed a questionnaire that included questions on socio-demographics, resilience (40), burnout (24), and awareness of self-growth (10). Exploratory factor analysis, confirmatory factor analysis, and reliability analysis were conducted to develop the ARS, ABS, and AASS. Stepwise multiple regression analysis was conducted to examine the relationship among resilience, burnout, and the awareness of self-growth measured by the ARS, ABS, and AASS, respectively. Exploratory factor analysis identified an eight-factor model ("Emotional Support from Teammates," "Emotional and Information Support from Athletic Club Adviser," "Atmosphere of Athletic Club Activities," "Emotional and Instrumental Support from Family," "Complete Athletics Practice Environment," "Self-examination of Performance," "Psychological Control," and "Challenge and Motivation for Athletic Club Activities") with 24 items for the ARS, a six-factor model ("Emotional Exhaustion by Athletics Practice," "Lack of Personal Accomplishment in Athletic Club Activities," "Emotional Exhaustion of Athletic Teammates," "Participation in Avoidance of Athletic Club Activities," "Physical Exhaustion by Athletics Practice," and "Devaluation of Athletic Club Activities") with 18 items for the ABS, and a one-factor model (Awareness of Self-growth for High School Athletes) with eight items for the AASS. Confirmatory factor analysis and reliability analysis confirmed that the three scales had acceptable fit indices of structural validities and Cronbach's alpha coefficient reliabilities. Stepwise multiple regression analysis indicated a significantly negative association between the ARS and ABS subscales, and a significantly positive association between the ARS and AASS subscales. These results indicate that the ARS, ABS, and AASS can reliably assess high school athletes' resilience, burnout, and awareness of self-growth, respectively. The results of stepwise multiple regression analysis showed that resilience of high school athletes negatively influences burnout and positively influences their awareness of self-growth. Thus, increasing resilience is a possible solution for psychological maladjustment of high school athletes. This necessitates further research to examine the process of the influence of resilience on burnout in a longitudinal setting and develop resilience training for high school athletes.

Keywords: resilience, burnout, awareness of self-growth, high school athletes

Recovery-Stress Balance: The Key Element for Optimal Performance

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Abstract: According to Kellman (2002), in sports, the connection between the current recovery-stress and performance in training achievement is obvious. One way an athlete can achieve their optimal performance is by optimally balance their training or competition stress with an adequate recovery. Top performances are only achieved by athletes who can recover fast during training process and deal optimally with the changes between stress, recovery, and upcoming stress (Kellmann & Kallus, 2001). The aim of this research was to identify recovery-stress level of Malaysian National Rifle athletes during an international competition. Participants in this study were seven National Rifle athlete (male, n=3, female, n=4) aged Mean = 24.86 (SD: 3.8914) during the ISSF World Cup, Munich 2012. The participants responded to Recovery-Stress Questionnaire for Athletes (Kellmann & Kallus, 2001) after three days the competition began. Result shows individual profiles of stress and recovery between higher versus lower performance levels. The result of one athlete who reached the highest performance (in qualifying round) among the group showed recovery-stress profiles within the tolerance range. However, one male athlete reported high level of General Stress (Emotional Stress, Social Stress, and Conflict Pressure) performed less than his previous optimal performance. Female athletes in the group reported high level of General Recovery and Sport Specific Stress. Of particular interest, was the best performance female athlete in this study showed optimal profile of stress and recovery level, except for the Sleep Quality in General Recovery Subscale. The athlete's medical condition (the 2nd trimester pregnancy) could have contributed to the lack of sleep quality. Sleep disturbance and fatigue are common complaints among pregnant women and have been well documented in a few previous researches (Lee and Gay, 2004). High level of stress and under-recovery may be harmful to performance. One way to achieve optimal performance is to balance the training/competition stress with an adequate recovery.

Keywords: recovery, stress, shooting

Elite Shooter Recovered from Burnout: A Single Case Study

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Abstract: A top athlete's life is sometimes like a “spinning wheel” with training, competition, sponsor activities, maintaining a blog, media interviews and pressure from coaches and teammates. If the athletes situation is to stressful and demanding with insufficient recovery it may end in burnout. Athlete burnout definition is based on the most common definition of occupational burnout and is defined by three core components: emotional/physical exhaustion, reduced sense of athletic accomplishment and sport devaluation. Mindfulness, awareness and attention in present moment, and Qigong, a Chinese meditation technique used to managing stress and strength life-force, correlates negatively with burnout. The aim of this study is to describe a recovery intervention with Qigong and Mindfulness. The participant is an international female top athlete in shooting. She shows symptoms from all burnout core components as; fever and flu symptoms, stomach- and headache, negative mood and affect, extreme fatigue and exhaustion, and declining sport results. During 20 weeks participant practice mindfulness based awareness and

attention in present moment and two Qigong techniques; meridian relaxation (body scanning) and emotional qigong. Exercise behavior, level of stress, energy, primordial force (athletes definition), and concentration was measured weekly, and the Athlete Burnout Questionnaire was used retrospectively a year after the intervention started. The participant recovered from exhaustion and burnout to a functional competitive level, and reestablished well-being. She practiced Qigong 12 times per week on average the first six weeks, and thereafter five times per week. After six weeks energy, primordial force and ability to stay concentrated was stabilized on a relatively high level. Stress level was held low during intervention. According to Athlete Burnout Questionnaire; emotional and physical exhaustion, and athletic accomplishment was recovered, but sport devaluation was not fully recovered. Mindfulness and Qigong exercise correlates negatively with burnout. The exercise quality aspect, ability to stay concentrated during exercise, influence health improvements more than exercise frequency does. Coaches may include awareness practice and recovery time in their programs to promote sport performance and prevent athlete burnout, and then point out exercise quality. To be concluded: Mindfulness and Qigong techniques may be useful in the recovery from athlete burnout.

Keywords: athletes, burnout, mindfulness, stress, qigong

An Investigation of the Recovery-Stress State of Malaysia Combat Sports’ Athletes

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National Sport Institute of Malaysia

Abstract: The objective of this study was to examine which combat sport has highest stress and recovery level during Malaysia National Games. Participant (N=393) from five combat sports (boxing n=47; karate-do n=74; pencak silat n=89; taekwondo n=127; and wushu n=56) volunteered to participate in the study. The ages ranged from 10-21 years (M= 18.4, SD =1.945). Athletes completed the Recovery-Stress Questionnaire (RESTQ-52 Sport). The RESTQ-52 Sport by Kellmann and Kallus (2001) measures in the four major subscales (e.g. General Stress, General Recovery, Sport-specific Stress and Sport-specific Recovery). SPSS software version 21 was used analyze data. Statistical technique used is Analysis of Variance (ANOVA) and multiple comparisons (Tukey Test). P-value

- Result revealed differences between:
- 1) boxing and karate-do in conflict/pressure (p= 0.020), social recovery (p=0.019), being in shape (p= 0.019) and self-efficacy (p=0.032);
 - 2) boxing and pencak silat in social recovery (p= 0.009);
 - 3) boxing and taekwondo in social stress (p=0.045), injury (p=0.014) and social recovery (p=0.001);
 - 4) boxing and wushu in general stress (p= 0.047), conflict/pressure (p=0.003), social recovery (p=0.001); being in shape (p= 0.009) and self-efficacy (p= 0.030);
 - 5) karate-do and pencak silat in self-efficacy (p=0.033) and self-regulation (p=0.003);
 - 6) karate-do and taekwondo in physical recovery (p= 0.013), being in shape (p= 0.019), self-efficacy (p=0.003) and self-regulation (p=0.043);
 - 7) wushu and pencak silat in general stress (p=0.010), self-efficacy (p=0.033) and self-regulation (p=0.005);
 - 8) wushu and taekwondo were significantly in being in shape

(p=0.009) and self efficacy (p= 0.004).

The biggest difference in stress and recovery for combat sport is boxing. Boxing have more stress level maybe because of longer duration matches. Karate-do is lower level of recovery (physical recovery, being in shape, self-efficacy and self-regulation) compared to taekwondo maybe due to more awareness about the recovery process. Combat sport athletes have to focus on stress (general stress, social stress, conflict/ pressure and injury) and recovery (social recovery, physical recovery, being in shape, self-efficacy and self-regulation) in order for athletes able to manage their recovery-stress level before during or after competition. As conclusion, boxing athletes’ have highest stress level and lowest recovery level of all combat sports.

Keywords: recovery-stress, combat sports

Personality Traits and Exercise Dependence: Exploring the Role of Narcissism and Perfectionism

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Abstract: Despite the research currently available on exercise dependence, there are limited investigations that have examined the relationship between personality traits and exercise dependence. The purpose of the present study was to examine the relationship between exercise dependence, narcissism, and perfectionism. Ninety regular exercisers were recruited from various gyms, fitness centers and sporting events to complete the Narcissistic Personality Inventory (NPI), the Multidimensional Perfectionism Scale (MPS), and the Exercise Dependence Scale-Revised (EDS-R) either online or in person. Exercise dependence was positively related to narcissism, self-orientated perfectionism, and socially prescribed perfectionism. A subsequent hierarchical regression analysis revealed that a combination of narcissism and self-orientated perfectionism uniquely predicted a greater degree of exercise dependence. These findings indicate that both narcissism and perfectionism may be important antecedents of exercise dependence, and that a combination of these personality traits is associated with exercise dependence. Future research should continue to uncover personality traits that further expand on the personality profile of individuals with exercise dependence.

Keywords: egotism; exercise addiction; physical activity

Burnout and Dropout among Rowers: A Self-Determination Approach

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Abstract: Sport is a context characterized by high competitive pressure which can lead to burnout and dropout. Burnout is a multidimensional concept characterized by increased emotional and physical exhaustion, a sense of depersonalization and a reduced performance accomplishment. Self-determination theory considers that reasons for participation in sport fall in a continuum of varying levels of autonomy; hence, the purpose of this study is to compare current and former rowers (dropouts) in levels of self-determination, and predict burnout.

One hundred competitive rowers (50 current, and 50 dropouts, mean age = 20, SD = 2) completed the Sport Motivation Scale, and the Athletic Burnout Inventory. A discriminant analysis was conducted to compare current athletes from dropouts based on the self-determination motivation variables. The function generated was

significant, L = .412, c2 (7, N = 100) = 83.83, p < 001, indicating that its predictors significantly differentiated between current rowers and dropouts, canonical R2 = .59. The correlation between variables and the discriminant function revealed that amotivation (r = .89), intrinsic motivation to experience stimulation (r = -.47), intrinsic motivation to accomplish (r = -.44), and external regulation (r = .33) were the variables that loaded more highly on the function. Original classification results revealed that 83% of the respondents were correctly classified. Burnout was predicted by amotivation (β = .67, p < .001), external regulation (β = .22, p < .001), and intrinsic motivation to experience stimulation (β = -.18, p < .05), R2 = .705. The dimensions of burnout were independently predicted: Reduced accomplishment was significantly predicted by amotivation (β = .49, p < .001), and intrinsic motivation to experience stimulation (β = -.21, p < .05), R2 = .384; Physical/emotional exhaustion was significantly predicted by amotivation (β = .33, p < .01), external regulation (β = .25, p < .05), R2 = .371; Devaluation was significantly predicted by amotivation (β = .54, p < .001), external regulation (β = .22, p < .001), intrinsic motivation to experience stimulation (β = -.30, p < .05), external regulation (β = .16, p < .01) and introjected regulation (β = .14, p < .05), R2 = .718.

Different self-determination motivation variables predicted more strongly burnout in dropouts than in current athletes. Empowering athletes to experience control over their sport experience, and promoting enjoyment is likely to lead to increased sense of self-determination and prevent dropout among rowers.

Keywords: autonomy, burnout, motivation, rowing, sport

Direction and Intensity of State Anxiety as Predictors of Burnout among Nigerian Athletes

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Abstract: The need to professionalize has resulted in increased amount of stress athletes experienced (Coakley, 2007; Ipinmoroti, 2005; Wiggins & Bruster, 1996, Jones, Swain & cale, 1990). This has generated more interest among researchers in sport psychology to investigate the relationship between burnout and perception of anxiety (Wiggins, Cremades, Wiggins, Lai, & Deiters, 2005). The purpose of the current study was to find out whether direction and intensity of State Anxiety will predict burnout among Nigerian athletes. The sample comprised 91 athletes camped in preparation for the national sports festival who volunteered to participate in the study. Two main instruments were used for the purpose of data collection. Anxiety Inventory. The CSAI – 2D is a combination of Competitive State Anxiety Inventory – 2 (CSAI - 2) developed by Martens et al, (1990) and Athletes Burnout Questionnaire (ABQ) developed by Jones and Swain (1992). The descriptive statistics of frequency counts, mean and standard deviation were used in analyzing the demographic information while the Pearson Product Moment correlation was used to determine the relationship among the dependent variables (i.e. - six CSAI – 2D subscales and three ABQ subscales).

The multiple regression with three blocks was conducted to predict each of the burnout subscales (RA, E, and D) from anxiety intensity direction while controlling for gender and type of sport. There was positive relationship among the three subscales of ABQ. Negative correlation was found between SAD and RA, SCD and RA. Gender was a significant predictor of RA and D while both type of sports and gender were significant predictor of E. Coaches should ensure that the training environment is such that will be similar to the one available during competition. Team handlers should work closely with athletes in setting realistic goals as well as how best to achieve such goals.

Keywords: State Anxiety Direction (SAD), State Anxiety Intensity (SAI), burnout, reduced accomplishment, emotional/physical exhaustion

Are We Really Measuring Coach Burnout?

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Abstract: Freudenberger and Maslach were first to describe burnout in the scientific literature. Both focused on the close and potentially taxing interpersonal relationship between provider and recipient, and argued that it may be a potent risk factor for burnout. This also influenced the development of instruments measuring burnout. For example the Maslach Burnout Inventory (MBI) containing three sub-scales: Emotional exhaustion, Depersonalization/cynicism, and Personal accomplishment/professional efficacy. Within sport, burnout-research has included both athletes and coaches. However, in contrast to athlete-focused research, coach-focused research has seldom touched on measurement issues. A web-search revealed 30 peer-reviewed journal articles focusing on coach burnout. Of these, 27 reported using MBI. In 20 of the 27 studies, a coach modified Original version was used. In six of the 27, a coach-modified Educator's version was used. In one study, a coach-adapted version of the Athlete Burnout Questionnaire was used instead of the MBI. This almost exclusive use of MBI in coach-burnout research is problematic, not the least because MBI was developed for health-care professionals working in a very different context to sport. One risk of using instruments developed for one context in another is that reliability and validity may suffer. Scrutinizing the 27 studies confirm that unexpected results were indeed encountered; one of the most problematic aspect is that some authors discuss team performance related issues as viable explanations for burnout. The Professional efficacy/personal accomplishment subscale is closely related to team performance because coach performance will most likely suffer when scores on this subscale rises; at the same time, when the team is struggling this may also affect the coach negatively resulting in rising sub-scale scores. That is, mounting coach burnout can be viewed either as the factor causing reduced performance or as a consequence of an underperforming team. It is problematic to define coach burnout as a three dimensional concept if performance issues are seen as causes of burnout because of this overlap. Until a coach-validated burnout instrument is developed, we suggest that researchers use context-free scales. Presently, the Oldenburg Burnout Inventory and a two dimensional version of the MBI General Survey meet this criterion.

Keywords: burnout, elite, coaches, Maslach Burnout Inventory, assessment

Overtraining, Under-recovery and Burnout among Student Rugby Players: a Mixed Methods Approach

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Abstract: Overtraining and/or burnout are believed to be the negative byproduct(s) of a long-term imbalance between the total stressors and total recovery efforts. Such an overload of the athlete's maximum stress tolerance is the combined effect of physiological, psychological and/or social stressors and includes both sport related and non-sport factors. A group of 41 semi-professional student rugby players (mean age: 22.26 ± 1.39 years at T1) from a leading tertiary institution in South Africa completed the Recovery-Stress

Questionnaire repeatedly (seven test points in total) during a season. At the end of the season six final year students from this group (mean age: 23.42 ± 1.15 years at T1) were purposefully sampled by the coach and interviewed by the author. A semi-structured interview script was developed from existing literature and consisted of open-ended questions regarding the player's understanding and possible experience of overtraining, under-recovery and/or burnout during the preceding season. Furthermore, Kenttä and Hassmén's (1998) conceptual model on overtraining and recovery was used as the theoretical framework against which the participants were asked to elaborate on the various physiological, psychological and/or social stressors they experienced, as well as on the recovery activities which they implemented and found to be effective. The quantitative data revealed significant changes in the various subscale scores at different time intervals. The analysis of the data transcripts provided an in-depth and context-rich understanding of the contributing stressors and preferred recovery activities implemented by these players. It is argued that valuable information would have been overlooked if the more conventional psycho-social monitoring methods (i.e., the use of pen and paper type questionnaires) were implemented in isolation. The effectiveness of player management strategies and periodized training programs aimed at reducing the onset and development of overtraining and/or burnout and achieving optimal performance could be enhanced by a mixed-methods approach (i.e., combining quantitative and qualitative information) in order to identify and solve potential problems quickly and effectively.

Keywords: monitoring, Recovery-Stress Questionnaire, interviews

A Review on Methods of Athlete Burnout

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Abstract: Athlete burnout is a maladaptive outcome that is hypothesized to negatively affect performance, underpin psychological and physical ill-being, and contribute to dropout from sport. This study reviews the progress in research of athlete burnout from the perspective of methodology and puts forward the future research direction.

Athlete burnout researches in the past 30 years are reviewed from three aspects: (a) empirical and review studies; (b) cross-sectional and longitudinal studies; and (c) qualitative and quantitative studies.

Results: (a) Although the burnout-in-sport literature has seen a steady growth over the last 30 years, the empirical base remains relatively weak. Current empirical studies focus on the measurement tools and related variables. The studies on prevention and intervention with burnout are relatively rare. (b) Burnout is a dynamic development process, rather than a static and sustainable process. There is an increasing body of cross-sectional studies rather than longitudinal studies. However, cross-sectional studies are not sensitive to the detection of changes and potential dynamic structure. The existing discrepancies between the empirical studies may be related to the widely used cross-sectional studies. (c) The combination of qualitative and quantitative studies is scarce. Most of the quantitative studies used questionnaire measurement, which can easily lead to common method bias. The qualitative and quantitative methods have different advantages in investigating athlete burnout. The combination of the two would further advance our theoretical understanding beyond what previous studies have achieved.

In sum, athlete burnout research has made great progress in the past 30 years. However, there are two major obstacles in further investigation: (a) lack of uniform definitions and (b) lack of effective measurement tools. Not only more basic research, but also more applied research will be needed in the future. A variety

of research methods should be used in athlete burnout research more systematically. With the development of positive psychology, researchers should pay more attention to overcoming burnout and increasing athletes' positive emotion.

Keywords: athlete, burnout, sport psychology

Does Alexithymia Affect Athletic Burnout Through Maladjustment?

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Abstract: Studies on sport psychology have reported that burnout among athletes has assumed serious proportions (Gustafsson et al., 2011). This problem is a risk factor in dropping out of sports and suicide. Thus, there is a growing need to explore empirical methods toward the prevention of burnout. Burnout is a state that develops over an extended period with several outcomes for the athlete (Gustafsson et al., 2011). One of the factors that influence the burnout process is personality traits.

Prior studies reveal that alexithymia is a personality trait characterized by 1) difficulty in identifying one's own feelings, 2) difficulty in describing one's own feelings, and 3) externally oriented thinking. Lumley et al (1996) suggests that alexithymia leads to illness behaviors through cognitive and social mechanisms. Moreover, some previous studies have concluded that alexithymia is associated with maladjustment, and thus, burnout, clearly indicating that alexithymic characteristics might be one of the risk factors. However, these studies have not been sufficiently investigated on its impact in the field of sports psychology. Therefore, the aims of this study is to validate a hypothetical model based on Lumley et al.'s (1996), which investigates the relationship among alexithymia, maladjustment, and burnout in university athletes.

Participants in this study include 259 university athletes (male = 102, female = 157, mean age = 19.8, SD = 1.1). Participants were provided with a questionnaire that was divided into four sections: 1) Sport Alexithymia Scale (SAS; Amemiya & Shimizu, 2010), 2) Adjustment Scale for College Club Activities (ASCA; Amemiya & Shimizu, 2010), and 3) Burnout Scale for Athletes (BOSA; Amemiya & Shimizu, 2011). The survey was conducted between October and December 2010. In addition, covariance structure analysis was conducted to illustrate the relationships among SAS, ASCA, and BOSA.

The covariance structure analysis revealed that SAS and ASCA had significant direct associations with BOSA, and SAS had a significant indirect association with BOSA, with ASCA as the mediator variable. The findings of this study support our hypothesis, based on Lumley et al.'s (1996) model. In addition, it indicates that alexithymia is one of the risk factors for maladjustment and burnout in athletes. Thus, alexithymia in athletes needs to be further examined and intervened on using this structural model as a basis. In addition, appropriate methods to prevent burnout through alexithymia and maladjustment must be developed in future research

Keywords: alexithymia, burnout, maladjustment, university athletes, college club activities

The Relationship between Athlete Burnout and Potential Early Signs in Japanese Soccer Players

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Abstract: Athlete burnout is defined as a syndrome of physical/emotional exhaustion, sport devaluation and reduced athletic accomplishments (Raedeke, 1997), and it is one of the corrosive psychosocial syndromes for athletes. A burnout research focused on cultural comparison between English and Japanese soccer players highlighted the significant level of burnout prevalence among collegiate Japanese athletes (Tabei et al., 2012). There has been a number of burnout research examining causes of the syndrome, however, causal relationships between burnout and its antecedents among Japanese athletes still remain unclear. This study therefore investigated the associations between potential early signs and burnout dimensions measured simultaneously, and between potential early signs measured at the beginning of the season and burnout dimensions measured at the end of the season.

The sample comprised of 228 collegiate male soccer players (M=18.6 years, SD=±2.1) from Japan. They completed Japanese versions of two quantitative questionnaires: Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001) to measure burnout dimensions and Potential Early Signs of athlete burnout (PES; Cresswell & Eklund, 2004) to measure five early signs: money hassles, sport-related hassles, social support, competence, and control items. Cut-off points set by ABQ Manual and Hodge et al. (2008) were adopted to identify the burnout prevalence.

The results exhibited Japanese soccer players scoring significantly higher values in reduced accomplishments compared to previous studies. In addition, 20% of players scored above the cut-off points. The fact that around one in five Japanese athletes may be at risk of experiencing burnout implies the importance of burnout research that focuses on proactive approaches to the burnout. In terms of causal relationships, multiple regression analysis indicated significant positive relationships between perceived sport-related hassles measured at the beginning of the season and burnout dimensions measured at the end of the season, whereas perceived social support, competence and control illustrated negative relationships. In opposition to previous studies, money hassles showed no significant associations with burnout dimensions. Taking these results into account, sport practitioners such as soccer coaches should provide the environment that helps athletes cope with hassles, as well as help them gain adequate social support, perceived control and confidence in competence. Furthermore, it seems vital to understand the risks behind ignoring these potential early signs. In conclusion, this study provided the considerable significance of potential early signs on athlete burnout. Future studies should examine the process of how the perception of potential early signs leads to burnout.

Keywords: stress, performance, football, sport

Athlete Burnout: Overtraining or Self-determination

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Abstract: There are two main theoretical perspectives to explain athlete burnout: overtraining (Smith, 1986; Silva, 1990) and self-determination (Deci&Ryan, 1985). With the development of increasing knowledge of human beings, the reasons of burnout may become more complicated. In today's national teams, however, a reasonable theory has not been decided yet. The article collected a number of papers in this area and listed the relevant empirical researches of these two theories. According to them, the author summarized the conclusion that athlete burnout is caused by overtraining in the period of early training, and is more likely the result of a lack in autonomy after athletes becoming skilled in their events. Besides, athlete burnout is a dynamic process; its three typical symptoms are different at different stages.

Keywords: burnout, overtraining, self-determination

Effects of Music and Noise on Cognitive Function during Mental Fatigue: An ERP Study

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Abstract: Recent development of event-related potentials (ERP) technology provides a new way to look at how our brains perform cognitive processes. Much data supports the idea that mental fatigue affects cognitive performance. Taken all together, we applied ERP to investigate a long standing question of whether music or noise can really affect mental fatigue. Our whole experiment procedure was divided into fatigue-induced phase and ERP-record phase. The experiment phase alternated between 20 minutes induced phase and 15 minutes record phase. Forty-five participants began with a record phase and then had another two induced phases and two record phases. All the participants were randomly assigned to different groups, either sound hearing (music or noise) during the induced phases or were part of the "control" group that heard nothing. At the same time, they were required to continuously perform a Go/No Go task. All the three groups did their Go/No Go task without sound and had their ERP data recorded in the record phases. In the end, our results suggest that the presence of music improves attentional/effortful control of response selection, and that this effect mitigates the deterioration of cognitive-motor performance during mental fatigue. But the presence of noise did exactly the opposite.

Keywords: event-related potentials, Go/No Go task, music, noise

Relationship between Athlete Burnout and Depression among Japanese University Athletes

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Abstract: Athlete burnout has been associated with overtraining, career transition, and depression. It has also been theorized that certain psychological disorders and mental illness are first presented as athlete burnout. Previous Japanese studies on this topic have focused on "Typus Melancholicus," or melancholic personality type (TM), a personality state predisposed to depression (Nakagomi and Kishi, 1991). Some researchers tried to clarify the pathogenesis and measures to prevent athlete burnout by examining the mechanism by which endogenous depression occurs. However, the distinction between athlete burnout and depression remains unclear and therefore athlete burnout is difficult to understand. Therefore, the purpose of this study was to analyze the relationship between athlete burnout and depression by examining risk factors in an attempt to clarify the difference between the two states. Participants were 516 Japanese university athletes (335 males, 181 females, M = 19.9, SD = 1.29) from 13 different sports; mean continuous competitive sports participation = 10.0 (SD = 4.10) years. We used the Depression Related Personality Trait Inventory (DRP; Miguchi et al., 1990), Daily and Competitive Stressor Scale (DCSS; Oka et al., 1998), Athlete Burnout Questionnaire (ABQ; Raedeke and Smith, 2001), and Self-rating Depression Scale (SDS; Zung, 1965). We found that stress cognition, athlete burnout, and depression were correlated from a cross-sectional perspective. It was confirmed that under this perspective, TM might be a suppressive factor in depression. However, when subjects were divided into two groups (non-TM and

TM), in non-TM athletes, a few stressors were related to athlete burnout and depression. Meanwhile, in TM athletes, stressors were significantly related to athlete burnout and depression. Based on our results, we conclude the following: (1) since athlete burnout and depression were indistinguishable with the cross-sectional perspective, they should not be analyzed using a cross-sectional approach; (2) since the relationships between stress cognition, athlete burnout, and depression differ by the degree of TM, this should be examined longitudinally, accounting for TM status.

Keywords: athlete burnout, depression, melancholic personality type (TM)

The Influence of Ego-depletion on Risky Behavior in the Field of Sports

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Abstract: There has been more research on the topic of ego-depletion among athletes recently. As mentioned in Baumeister's self-control strength model, any efforts to control thinking, mood or behavior changes, all need self-control. However, self control is a limited resource—once used, it may lead to reduction or failure in subsequent tasks, hence the term ego-depletion. For example, athletes might change their regular game mode in order to either preserve strength or surmount to anxiety, tension and other undesirable moods in an intense competitive atmosphere. As a result, this behavior would affect their performance in the competition. At present, sports psychologists focus on the influencing factors, prevention and compensation of ego-depletion. One meaningful direction among them is how to deal with practical difficulties by combining ego-depletion with a certain problem, such as the research of ego-depletion and athletes' performance in some sports situations. Athletes often engage in risky actions, such as aggressive behaviors in a football match or other behaviors needing risky decisions. Relevant documents show that different risky actions will have different influences on athletes. Therefore, the research into the relationship between ego-depletion and risky behavior is very meaningful. This paper will talk about it according to other related researches.

First of all, the paper makes a summary on the involved problems of ego-depletion, including the definition, interpretation from the self-control strength model, main application, compensation and experimental research paradigm of ego-depletion. Secondly, it concludes and defines these risky behaviors in sports, including the definition, classification, experimental research paradigm, and relevant theories. Risky behavior is divided into two categories. The unhealthy behavior, which can satisfy instant abreaction, is called the emotional risky behavior; the rational risky behavior, the one about rational balancing process, involves responsibility and rational sense. Finally, the paper summarizes the relationship between ego-depletion and risky behavior on the basis of different theories. According to the self-control strength model, when athletes excessively control themselves and deplete resources, it will become harder for them to control their actions. Therefore ego-depletion will increase emotional risk ---a typical behavior which needs self control. According to the "risk as feelings" model raised by Loewenstein, when ego-depletion occurs, people have no spare resources to judge and weigh various situations, and as a result they will tend to choose safer options. At that time ego-depletion will reduce the rational risky behavior.

Keywords: ego-depletion, risk-taking, athlete

A Mental Fatigue Measurement System for Tablet PC

Jie Ren, Wei Guo
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Abstract: Mental fatigue is a common feature both in sport training and daily life, so there is a pressing need to find a reliable and valid way in the academic and application area to measure the nature, severity and impact of mental fatigue. Our study built a practical measurement system to test mental fatigue quickly and conveniently. This system was based on the research of other existing studies. The whole system comprises of two parts. The first part is questionnaires on fatigue which have already been used widely, such as ABQ (Athlete Burnout Questionnaire), POMS (Profile of Mood State), VAS (Visual Analogue Scale), RPE (Rating of Perceived Exertion). Compared with the traditional questionnaires, the system is faster in generating a results report, and this report is further analyzed in combination with the results of the other part of the system. The second part is the mental tasks which are comprised of several cognition tests: TMT (Trail Making Test), PVT (Psychomotor Vigilance Task) and Test of Emotion Comprehension. The most significant feature is that the system is based on the tablet PC; a single subject can be tested in less than 20 minutes. Twelve volunteer participants aged 20–24 years (mean 22.6 years) underwent 26 hours of supervised wakefulness before an 8-hour recovery sleep opportunity. Participants were tested using the 20-minute fatigue measurement system at 4, 8, 18 and 24 hours of wakefulness. Extended wakefulness caused significant decrements in cognition test performances and high levels of fatigue self-evaluation. These results confirm that the mental fatigue measurement system has good reliability and validity.

Keywords: mental fatigue, measurement system, tablet PC

Athletes' Response Monitoring Under Mental Fatigue Circumstances

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Abstract: In order to investigate whether the degradation of athletes' behavior on correct rate and post-error adjustment under mental fatigue circumstances occur, this study carried out three experiments to explore cause-effect relationships of mental fatigue and response monitoring with mental fatigue as the independent variable, and subjective feelings (difficulty, effort level, degree of fatigue), operational performances (correct rate, reaction time), heart rate variability (frequency domain) and event related potentials (error related negativity, ERN) as dependent variables.

Experiment 1: From the result of subjective feelings, the pretest showed no statistically significant differences compared with after the first 15-minutes. From the result of operational performances, Flanker task can evoke errors satisfied the ERN experiment. From the result of subjective feelings, operational performances, and frequency domain three type indexes, there were directional changes during six separate tasks.

Experiment 2: For continuous task, from the result of three type indexes, the fourth 15-minutes compared with the first 15-minutes showed statistically significant differences. The following 15-minutes (experiencing music intervention, the last 15-minutes), the three types indexes occur transitions, but they are indistinctive.

Experiment 3: From the result of operational performances and from the result of three type indexes, the fourth 15-minutes compared with the first 15-minutes showed statistically significant differences. From the result of ERN, the amplitude of the first 15-minutes is bigger than the amplitude of the last 15-minutes; the amplitude of the last 15-minutes is bigger than the amplitude of the fourth 15-minutes. The main conclusions of this article are as follow:The Flanker task is

valid; it evokes both mental fatigue and ERN. The continuous tasks can evoke mental fatigue more successfully than the separate tasks. To a certain degree, music intervention can recover mental fatigue. Frequency domain indexes of heart rate variability can reflect the degree of mental fatigue, but the observation level is limited. ERN is a sensitive index in assessing mental fatigue of university students majoring in physical education. Mental fatigue weakens response monitoring capabilities.

Keywords: mental fatigue, athletes, response monitoring, Flanker task, error-related negativity

A Qualitative Analysis of Mental Fatigue in Elite Chinese Athletes

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Beijing Sport University

Abstract: Mental fatigue is a precursor to burnout which has a significant impact on athletic performance and achievements. This study was aimed to explore the characteristics, impact factors, coping strategies and coping resources of athletes' mental fatigue. Four in-service national athletes were interviewed with semi-structured interviews online. The results showed that, different from the popular conceptualization of burnout in sports psychology, mental fatigue gradually develops and displays different characteristics at different stages which include negative cognition and emotion, mobilization dysfunctions, external behavioral responses and physical reactions. It is determined by many factors including endogenous stresses and exogenous stresses. Several coping strategies, such as cognitive regulation, venting, behavioral regulation and seeking for social support are used to cope with mental fatigue by the athletes. Early diagnosis is critical as an intervention for preventing mental fatigue. If mental fatigue is not well controlled, it may eventually develop into burnout.

Keywords: mental fatigue, athlete, burnout, qualitative

Specific Characteristics in Emotional Reaction of Athletes with Burnout: An ERP Study

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Abstract: The purpose of this study was to determine whether there are significant differences in emotional reaction tasks and cognitive reaction tasks. This research used the revised Chinese edition---MBI-GS scale to select the experimental group with the highest score segment and the control group with the lowest score segment. The emotional pictures from the International Affective Picture System and no emotional pictures were all selected by evaluation of undergraduate students. All pictures presented using the probability of perception paradigm, and data from both behavior experiments and ERPs were collected. The results of emotional reaction were that the numbers of the judgments on emotional pictures had a significant difference (p<0.05) in the experimental group while no significant difference (p>0.05) in the control group. Meanwhile, the results of ERPs showed that on the left/central/right parietal, the average amplitude of LPP (400-600ms) induced by emotional pictures had significant differences (p<0.05) in the control group while no significant difference (p>0.05) in the experiment group. However, in cognitive reaction tasks, there were no significant differences between the experimental group and the control group both in emotional reaction tasks and in cognitive reaction tasks. The conclusion suggests that specific characteristics are in emotional reaction tasks under athlete burnout. The characteristics of athlete

burnout are that athlete burnout induces the emotional context insensitivity to correspond to present on the left/central/right parietal that the average amplitude of LPP (400-600ms) induced by emotional pictures has no significant difference ($p>0.05$).

Keywords: athlete burnout, emotional reaction, cognitive reaction, ERP

Burnout Prevalence and Process of Collegiate Student-Athletes in Taiwan

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Abstract: Athlete burnout has been defined as a multi-dimensional phenomenon for athletes with physical and emotional exhaustion, sport devaluation and lack of sense of achievement (Raedeke, 1997). The multi-dimensional phenomenon has been supported by many studies, however there is very limited research on the evolution of athlete burnout. In this paper, we first investigated the burnout prevalence among collegiate student-athletes in Taiwan to get a general idea of the current situation. After the investigation, we then went into the main purpose of the paper, to explore the burnout process by interviewing student-athletes who were identified as burned out. In the first stage, 234 collegiate student-athletes (age = 20.5 ± 1.33) were sampled by two-stage cluster sampling to complete the Athlete Burnout Questionnaire Chinese version (ABQ-C) anonymously. In the second stage, we identified nine student-athletes with burnout by ABQ-C among an additional 108 student-athletes. Five among them agreed to participate in the semi-structure interview to deepen our understanding of the process in athlete burnout. Grounded theory was used in the analysis of the qualitative data. The investigating result showed that the prevalence of burnout among collegiate student-athletes in Taiwan was 8.8%. In the qualitative findings, the athlete burnout process was represented by the core category confirming of sporting ability and by 5 recursive subcategories, including enterprising, doubting, resisting, despairing, and accepting. The burnout process was interpreted using existing theoretical explanations and the findings provide direction for counselors working with student-athletes.

Keywords: burnout, counseling, process, student-athlete

Stress and Burnout: Social Support as a Moderate among Collegiate Athletes in China

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Abstract: Athletes have to be ready to face all kinds of stress. The athletes suffering from severe stress can lead to burnout (Stress Model), but high social support for athletes may not cause burnout as opposed to low social support for athletes facing the same stressful situation (buffering hypothesis). Therefore, the aim of this study was to examine social support's moderation effects between college athletes' stress and burnout. A statistical analysis was conducted drawing on data from a survey of college athletes ($n=235$) at Shenyang Sport University. Stress was measured using the Athlete Stress Scale, social support was measured using the Perceived Social Support Scale, and burnout was measured using the Athlete Burnout Questionnaire. Relevance analyses showed the dimensions of college athletes' stress were positively correlated with the three dimensions of college athletes' burnout while social support was negatively correlated with the three dimensions of college athletes' burnout. Regression analyses showed the dimensions of college

athletes' stress positively predicted emotion/physical exhaustion and sport devaluation and dimensions of college athletes' burnout, while social support negatively predicted emotion/ physical exhaustion and sport devaluation dimensions of college athletes' burnout. Social support was the moderation variable between college athletes' stress and burnout; athletes with high social support would suffer less burnout than the ones with lower social support.

Keywords: college athletes, stress, burnout, social support

The Effect of Social Support on Physical Educators Burnout - The Mediating Role of Self-Esteem

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Abstract: There is limited understanding of how specific components of social support are associated with physical educators' burnout and the mechanisms that might mediate this relationship. Therefore, the aim of the present study was to examine if the components of social support were associated with burnout in physical educators and whether self-esteem mediated the effects of social support on burnout. Design: Cross-sectional. Physical educators in Guangdong province of China, $N=151$; $M=33.16$ years, completed the self-reported questionnaire assessing their perception of social support, self-esteem and burnout. The relevant analysis, regression analysis and 3-steps testing for the mediate-effect verification were used to analyze the data.

The study found that the degree of usage of support can predict physical educators' emotional exhaustion and reduced professional efficacy; whole social support can predict physical educators' cynicism. Self-esteem plays a partial mediating role between degree of usage of support and emotional exhaustion, and a full mediating role between degrees of usage of support and reduced professional efficacy. Social support has a positive role in reducing physical educators' burnout, and self-esteem is seen to be a mechanism that explains the relationship between social support and burnout.

Keywords: social support, physical educator, burnout, self-esteem

Career development and career Transitions in sport

Predictors of Teaching Styles: Enjoyment, Skill Development, Social Aspects, and Motivation

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Abstract: The purpose of this study was to investigate which teaching styles student physical education instructors use, and whether motivation, enjoyment, motor skill development, or social factors are relevant in choosing reproductive or productive styles. Many sport and physical education curricula require students to teach in school contexts. Student teachers need to operate in and adapt to this teaching environment and make decisions about their teaching styles. The teaching styles framework outlines ten different teaching styles that include teacher-centered to student-centered styles, which lie along a continuum between reproductive and productive styles

(Mosston & Ashworth, 1985, 2002). The sample consisted of 151 student teachers (males = 104; females = 47) between the age of 17 and 30 years ($M = 19.23$; $SD = 1.92$). The majority of participants had coaching experience ($n = 115$; 76.7%). For this study, students completed a questionnaire that was based on description and examples of teaching styles, which was developed by Curtner-Smith, Todorovich, McCaughtry, and Lacon (2001). Participants reported on a) how often they would use each style in class and whether the teaching approaches bear general benefits that facilitate b) skill development, c) social interactions, d) fun and e) motivation. These questions were adopted from Jaakkola and Watt (2011). Multiple regression analysis included one criterion variable (a: how often do you use each style) four predictor variables (b, c, d, e). The analysis was run for the reproductive styles and productive styles. Four predictors explained 41% (adjusted R^2) of the variance in use of reproductive styles. Significant predictors were skill development, $b = .386$; $p < .001$, and motivation, $b = .305$; $p < .01$. For use of productive styles, the set of predictor variables accounted for 62% (adjusted R^2) of the variance in the criterion variable. Skill development ($b = .389$; $p < .001$), motivation ($b = .235$; $p < .05$), and fun ($b = .322$; $p < .001$) were significant predictors of use of reproductive styles. In conclusion, student instructors generally prefer choosing teaching styles that facilitate skill development and motivation in pupils. Fun has been found to be an important variable for the choice of productive styles only. Student instructors might recognize the importance allowing pupils to make their own decisions that help facilitate their enjoyment in the session. Interestingly, social interactions did not emerge as a significant predictor for the use of either reproductive or productive styles.

Keywords: student instructors, teaching styles, predictors

Frequency of Using Teaching Styles between Novice and Experienced Student Instructors Stefan Koehn, Andrea Cameron University of Abertay Dundee, Division of Sport and Exercise Science

Abstract: The purpose of this study was to examine the student instructors' teaching styles, based on Mosston and Ashworth's (2002) teaching framework, in a physical education context. The teaching styles framework outlines ten different teaching styles that include teacher-centered to student-centered styles, which lie along a continuum between reproductive and productive styles (Mosston & Ashworth, 2002). Little is known about the extent to which teachers use different styles in their daily instructional practices and how they perceive benefits of the styles for their students (Kulinna & Cothran, 2003). Previous results showed that teachers preferred using teacher-centred styles. For instance, practice, reciprocal, and inclusion styles were reported to be perceived as most beneficial, and the self-teaching and learner-initiated styles as the least beneficial for students (Cothran et al., 2005). For this study students completed a questionnaire that was based on description and examples of teaching styles, which was developed by Curtner-Smith, Todorovich, McCaughtry, and Lacon (2001). In addition, adopted questions from Jaakkola and Watt (2001) asked participants about a) how often they would use each style in class and whether the teaching approaches bear general benefits that facilitate b) skill development, c) social interactions, d) fun and e) motivation. The sample consisted of 70 first-year students with no school teaching experience and 79 second-year university students, who have been on school placements. First-year student reported they would use practice ($M = 3.56$) and reciprocal styles ($M = 3.49$) most frequently. Second-year students indicated that in PE classes practice ($M = 3.77$) and reciprocal ($M = 3.44$) styles have been used most often in PE classes.

Independent t-tests showed no significant differences between novice and experienced student PE instructors and use of teaching styles and their perceptions of skill development. Significant differences were found for practice style, indicating that experienced student teachers, in contrast to novices, would use this style more frequently to facilitate social interactions, it is more fun, and more motivating. In conclusion, novice and experience student instructors rate similarly on frequent use of teaching styles, but experienced teachers perceive that practice styles has various benefits not supported by novice student instructors. The results have practical relevance as the choice of teaching style can have a potentially positive effect on pupils' motivation and fun in class.

Keywords: teaching styles, novices, comparison

Effects of Coaching Leadership Styles on Teaching Styles in Student Instructors

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Abstract: Effective leadership is an important aspect in various instructional situations. Leadership in the sport and educational literature has been identified as essential for coaches and physical education (PE) teachers (Chelladurai & Carron, 1983; Silva Gimbert, & Nolan, 2000). In a study with educators who fulfill the dual role of coaches and PE teachers, Hardin (1999) found that coach-teachers displayed different pedagogical characteristics in teaching and coaching, and that coach-teachers applied instructions more frequently in a coaching than in a PE teaching context. Before gaining field experience, pre-service PE teachers generally have developed leadership behaviors in a sport and coaching context. The purpose of this study was to examine the influence of leadership styles on pre-service student instructors' use of Mosston and Ashworth's (2002) in anticipation of their early field experience. The sample consisted of 70 University sport and exercise students, who completed the Leadership Styles in Sport (LSS; Chelladurai & Saleh, 1980) and a teaching style questionnaire (Mosston & Ashworth, 2002) based on sport-specific examples (Curtner-Smith, Todorovich, McCaughtry, & Lacon, 2001), including command, practice, reciprocal, self-check, inclusion, guided discovery, divergent discovery, and learner initiated teaching styles. Participants reported on how often they would use each style in class before they went on field experience. The mean age of the sample (males = 46; females = 24) was 18.57 years ($SD = 1.74$). All participants had previous coaching experience for an average of 1.87 years ($SD = 1.88$). Multiple regressions with teaching styles as criterion variables and leadership styles (democratic behavior, autocratic behavior, instruction, social support, and positive feedback) as predictor variables showed no significant predictions for command, practice, and guided discovery styles. The most frequent significant leadership styles' predictor was instructions for reciprocal ($b = .384$; $p < .01$), self-check ($b = .299$; $p < .05$), divergent discovery ($b = .372$; $p < .01$), and learner initiated ($b = .312$; $p < .05$) styles. In addition, social support was a significant predictor of inclusion style, $b = .233$, $p < .05$. In conclusion, two leadership styles that are commonly used in sports coaching were reported to be used in a teaching context. Practitioners and educators in PE should take student instructors' previous experience into consideration when designing the curriculum for ongoing PE teachers. Particularly, previous experiences in leadership styles, acquired in a coaching context, would provide valuable experiences for the PE context.

Keywords: leadership, democratic behavior, autocratic behavior

Athletic and Student Identities of Swedish Adolescent Student-Athletes: Mixed-Method Exploration

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Abstract: The overall aim of the project was to explore Swedish adolescent student-athletes' transition to, and adaptation at, national elite sport schools (NESS) based on the holistic lifespan perspective (Wylleman & Lavallee, 2004) and career transition framework (Stambulova, 2003). Transitional variables (e.g., demands, coping strategies, personal and environmental resources,) covering student-athletes' sport, studies, and private life were studied in line with their athletic and student identities. This presentation will particularly focus on how student-athletes' dual career experiences affect their athletic and student identities during their first year at NESS. Participants (main sample) were first year student-athletes of 15-16 years old representing different sports and 33 NESS across the country. A longitudinal mixed-method research design was implemented with the first quantitative measurement conducted in autumn (n = 261), and the second measurement in spring (n = 250). Athletic and student identities were measured using the Athletic Identity Measurement Scale (AIMS; Brewer, Van Raalte, & Linder, 1993) and the Student Identity Measurement Scale (SIMS; Engström & Stambulova, 2010). Additionally, in-depth interviews were conducted with 10 participants from the main sample two times during the year (autumn and spring). Interview guides were structured in three parts exploring student-athletes' near past (e.g., previous experiences of combining sport, studies and private life or the dual career experiences between the two interviews), present status in the transition (e.g., demands, coping strategies, perception of themselves as students and athletes), and future expectations. The results of both quantitative and qualitative exploration of the student-athletes' identity issue can be summarized as follows: (1) no significant changes were found in athletic and student identities between the two quantitative measurements, however, athletic identity was significantly higher than student identity in both measurements, (2) interviews confirmed that student-athletes perceived themselves to have higher athletic than student identity but also that inter-individual variations in their perceptions existed, (3) there were intra-individual differences in how student-athletes perceived their self-identities between the first and the second interview, (4) there was a clear message from the interviews that searching for an optimal balance between student and athlete roles and also between athletic and student identities was perceived as a key issue in adjusting to the dual career at NESS. The participants' narratives will be used to illustrate the complexity of student-athletes' perception of their athletic and student identities.

Keywords: dual career, identity, longitudinal mix-method design, student-athlete

The Limiting Factors to Applied Sport Psychology in Iranian Youth Elite Athletes

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Abstract: The aim of this study was to explore limiting factors for use of sport psychology services in young Iranian elite athletes. The questionnaire adapted from Pain et al., (2004) which revealed 10 barriers was administrated to 80 elite youth athletes (male= 40 & female= 40) under 20 age who played in international and national level at volleyball, basketball, taekwondo and football teams. Results showed lack of sport experience and knowledge in sport psychologists and lack of sport psychology knowledge in athletes are the most meaningful barriers for sport psychologists' to enter the young sport teams. Also, time constraints, role clarity of Sport Psychology Consultant (SPC), limitation of finance, unfamiliarity of athletes with the services of sports psychologists, SPC integration

(problems in fitting with team and players), inefficiency of psychologist, negative perception of coaches and athletes and inefficiency of psychologist are other limiting factors to use of sport psychology services in youth Iranian athletes. Findings revealed that lack of knowledge and experience about sport psychology are most important barrier against its application in youth sports. One can argue that lack of effective experiences by sports psychologists may lead to insufficient contribution of psychology to performance of Iranian sport teams.

Keywords: applied sport psychology, barriers, youth sport teams, elite athletes.

‘The engine just started coughing!’ – Exploring Endurance Athletes’ Experience of Aging

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Abstract: This research examines male endurance athletes' experience of aging and/or reaching the limits of athletic development. More specifically, the current study aimed to explore how meanings attached to these experiences are connected with athletes' career decision-making and possible athletic retirement. Within athletic career research, aging is conceptualized as a normative factor of athletic retirement and it is related to the discontinuation of competitive sport involvement. The dominant cultural narrative of aging in most Western societies is one of decline and loss of control over the physical body. The experience can thus become a special challenge for athletes who assign great importance to their physical abilities.

The participants of this study were 10 Finnish runners and/or orienteers aged between 25 and 62 with the mean age of 37.4. From the participants, two believed they were still developing, three were uncertain, and five asserted that their peak years were behind them. The sample therefore allowed exploring both anticipation as well as retrospection of encountering the limits of athletic development. The life story interviews were first analyzed with a thematic analysis in order to identify the central themes and secondly with a narrative analysis of structure and form.

The analysis revealed four major storylines related to aging: 'It's meaningless to compete any more', 'Now I'll only do it for myself', 'Now it is about belonging and having fun', and 'Running is part of my being'. Some athletes found ways to resist the dominant narrative of decline. They found positive aspects in their later years, such as lack of competitive anxiety, finding perspective and increased enjoyment in running. Through awareness of alternative narratives, sport psychology consultants may be able to help their clients explore new meanings in the potentially challenging experiences of aging and athletic retirement.

Keywords: Aging, athletic career, endurance sport, existential psychology, narrative

Progress of the Developmental Process and Sports Accomplishments of Collegiate Athletes

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Abstract: The purpose of the study was : (a) to determine the process of sports talent development, i.e. stages of development and turning points in careers; (b) to investigate the relationships between

the level of achievements and the course of developmental process; (c) to examine the relationships between the level of achievements and life satisfaction. Research on sport expertise reveals that elite athletes' development is a long-lasting process that is based on focused, conscious and systematic work (Ericsson et al., 1993). It can be divided into several stages that are typified by a variety of challenges and threats (Durand-Bush & Salmela, 2002). Periods of relative stability and balance are separated by crises and circumstances which may have a significant effect on the course of a career and even discontinue it prematurely (Burton et al., 2006). Thus, it seems important to examine the opinions of athletes who represent different levels of achievements, to know the circumstances which have a substantial impact on the course of their sporting careers, and to determine their level of satisfaction while functioning in- and out-of-sport. Collegiate athletes (N=64; 42 males and 22 females; age M=23.09) representing individual Olympic disciplines took part in the research. The research was retrospective in character. The mixed strategies (qualitative and quantitative) were used in the analysis of results (Gibbs, 2011). Main phases, pace of development and types of turning points were distinguished. The research revealed factors which were connected with an increased risk of premature resignation from sports, and differences in the course of the developmental process in the distinguished groups. In the lower-achievements subgroup, the stage of improving skills was shorter (p=0.046) and participation in competition at the highest level started earlier (p=0.042). The results have practical applications as they can help explain what kinds of experiences are favorable to the optimum development of collegiate athletes.

Keywords: sports career, sports talent development, sports accomplishments, collegiate athletes

Research on Decision-Making Types and Index Evaluation of Chinese Elite Athletes' Retirement

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Abstract: This research intends to measure the reason for decommissioning decision of 232 retired athletes through the Chinese version of Athletes' Retirement Decision Inventory and analyzes the type of decommissioning decision of Chinese retired athletes; compare the difference of life satisfaction of athletes with different types of decommissioning decisions; establish the evaluation standard for decision type; provide screening indexes for psychological assistance training groupings of retired athletes; and provide empirical basis for establishing corresponding packaged training courses.

This research used the questionnaire survey Athletes' Retirement Decision Inventory (ARDI) with 232 retired athletes in Beijing and Tianjin, and used SPSS 17.0 statistical software to analyze the data. Results and analysis: (1) Decommissioning decision feature Q cluster analysis: 232 athletes were divided into three classes according to scores of four factor features: "general type", "excellent type" and "good type"; (2) Influence of decommissioning decision type on life satisfaction: Athletes with different types of decision are different in the retired life satisfaction. Multiple comparative results show that "general type" decommissioning decision has the lowest score of satisfaction, significantly lower than the "excellent type" and "good type". "General type" is the most pessimistic and passive decommissioning decision type, which has the lowest score of life satisfaction. Athletes with this type require external support and assistance most; (3) Discriminate analysis on decommissioning decision of retired athletes: The discriminate formula is determined on the basis of Q clustering analysis. The discriminate function is effective and can well distinguish three groups of athletes of decommissioning decision. The discriminate formula is: Y1=-0.650A-0.555B+0.796C+1.838D-6.957;

Y2=-0.339A+0.907B+1.422C+0.193D-7.743. The computed result of class-center discriminate function is as follows: general type within Y1=1.568 Y2=-2.437; excellent type within Y1=-1.350 Y2=-0.002; good type within Y1=1.546 Y2=0.459. Both discriminate formula and class-center discriminate correspondence values can be used as the evaluation standard for decommissioning decision of retired athletes. Conclusions: (1) Athletes with "general type" decommissioning decision have a higher score in push and anti-pull, exceeding the intermediate level of three scores. Athletes with "excellent type" decommissioning decision have a higher score in pull and anti-push, also exceeding the intermediate level of three scores. Athletes with "good type" decommissioning decision have a higher score in pull, anti-push and anti-pull, also exceeding the intermediate level of three scores. (2) Athletes with different types of decisions are different in the retired life satisfaction. "General type" decommissioning decision has the lowest score of satisfaction. Athletes with this type require external support and assistance most. (3) Both discriminate formula and class-center discriminate correspondence values can be used as the evaluation standard for decommissioning decision of retired athletes.

Keywords: retirement, athletes, retirement decision, evaluating index

Athletes’ Retirement Decision Inventory: Chinese Version Revised and Verified

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Abstract: Reasons for retirement have a very important effect on athletes' transition after retirement. Currently there is no inventory to identify athletes' retirement decisions in China, therefore the present study asked the original author's (Anna) permission to translate the ARDI into Chinese, revised the Chinese version, and verified the applicability of ARDI under Chinese cultural background, providing a research instrument for Chinese athletes' retirement.

Four steps were carried out in the revision: 1.Choose 195 athletes who were retired from Beijing and Tianjin. 2. The second roll number of participants was 232 after revising the inventory.3.The research instrument was the Athletes'Retirement Decision Inventory. 4.Used SPSS17.0 and LISEL8.70 statistics. Results and analysis: The validity and reliability of the first measure: 1. During item analysis, 6 items could not identify the response level of different participants and therefore were deleted. 2.Cronbach's a coefficient of verse-pull and pull was 0.873 and 0.849, interior consistency was high, Cronbach's a coefficient of push and verse-push was 0.637 and 0.700, interior consistency was good.3. Used main component analysis to draw out the public factor, as a result, 4 factors can explain 61.38% total variations of variance, and the result supported the primary inventory's theory compositions and structures. The validity and reliability after revision: 4.During item analysis, 33 items could identify the response level of different participants after revision. 1. During exploratory factor analysis, 4 factors' cumulative explains variance is 65.410%, better than 61.38% of the first measure inventory. During confirmatory factor analysis, sample data had a significant x2 value:x2=2175.556,p<0.001,x2/df=2.85,GFI,AGFI,CFI,NFI approach or exceed 0.9,meaning that after revision, the model matching of the inventory was good and stability was higher. During the school scale associated validity: three retirement decision factors were related with life satisfaction, pull and verse-push positively correlated with life satisfaction, "verse-pull" was negatively correlated with life satisfaction. 3. Cronbach's a coefficient of four dimensions attaching to a good standard, stability was better after revision. During the test-retest reliability: the correlation coefficient of two tests of every subscale and total scale were all beyond 0.70,

reaching the significant level.

After revising and verifying the Athletes' Retirement Decision Inventory, it has good validity and reliability, and can therefore be used as a measure tool for athletes' retirement decision process under the background of Chinese culture.

Keywords: athlete, retirement decision, inventory, revise, versify

A Multi-Group Analysis of Career Decision-Making Self-Efficacy of Sport and Physical Education College Students in China

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Abstract: Purpose: This study examined the applicability of the questionnaire for testing career decision-making self-efficacy (CDMSE) for students in sport and physical education (P.E.) colleges to assess the sampled students' perceived levels of career decision-making self-efficacy, and to determine whether demographic variables such as their college majors and grades were influential factors in the CDMSE scores. Methods: Confirmatory factor analyses (CFA) and Cronbach α coefficients were used to examine the factorial validity and internal consistency reliability of the CDMSE questionnaire for students in sport and P.E. colleges (N=1,740). Based on measurement invariance testing, followed by multi-group comparisons, the mean differences in CDMSE scores were determined across grade groups and college major groups. An independent sample t-test was used to analyze the differences in CDMSE scores between students in the specialized, sport and P.E. colleges compared to general college students. Results: The fit indices of a second-order CDMSE structure model were acceptable. Factor loadings of items in the CDMSE questionnaire were statistically significant. Internal consistency reliability of sub-scales was acceptable. The perceived level of CDMSE among sport and P.E. college seniors in the current testing was significantly lower than that of general college seniors, who were tested nine years ago, but was at the same level with that of general college seniors who were in the other current tests. Both the formal identity and factorial invariant were clearly supported across groups. There were no differences in CDMSE scores among different majors. Of significance, however, was that sport and P.E. college seniors had lower CDMSE scores than their lower grade/year school mates. Conclusions: The CDMSE questionnaire was provided with the reliability, validity and applicability of measurement across groups in sport and physical education colleges. College majors were not influential factors in variance of CDMSE, however, the seniors perceived lower self-efficacy in career decision-making than lower year school mates. The perceived level of CDMSE among students in specialized colleges as well as in general colleges is decreasing probably because the whole career situation in China today is getting worse.

Keywords: sport and physical education college, career decision-making self-efficacy, measurement invariance, multi-group comparison

Roles and Influences of Olympic Entourages in Athletes' Preparation for Career Transition Out of Sport

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Abstract: The aims of the present study were to (a) examine roles and influences of Olympic athletes' entourages (e.g., coaches, spouse, friends) in the latter stages of their sporting careers, in terms of helping them to prepare for career transitions; and (b) identify similarities and differences of athletes' experiences between the Republic of Ireland and South Korea. Both Olympians (n=4) and their entourages (n=7) from the Republic of Ireland and South Korea were invited to participate in the study. The data were collected through individual interviews and analyzed via thematic analysis. The findings indicated that athletes generally had a low degree of readiness for retirement and had relatively small social support networks. Athletes believed that their closeness to others play important roles in developing their readiness for retirement. In the process of post-sport life adjustment, the current study also revealed that there were some differences between athletes' expected and received support. In addition, the findings indicated that the Republic of Ireland and South Korea had different sport contexts and the existence of the athlete support program influenced Irish athletes' career transition experiences. Examining the interactions between athletes and entourages and athletes from different sports and cultures are recommended for further research.

Keywords: athletes' closeness to others, cross-cultural comparison, readiness for retirement

Relationships between Korean Olympic Athletes' Athletic Identity, Resources, and Difficulties in Career Transition Adjustment: Active Athletes' Perspective

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2. Kookmin University, South Korea

Abstract: The purpose of the present study was to examine relationships between athletic identity, resources related to transitions, and the quality of career transition adjustment of Korean Olympic athletes. Data were collected from active Korean elite athletes (N=106; Mean Age= 25.74; 45 males & 61 females) who participated in the 2012 London Olympic Games after they completed three different questionnaires (i.e., Athletic Identity Measurement Scale [AIMS], Transition Coping Questionnaire [TCQ] and the Korean Athlete Lifestyle Assessment Needs in Career and Education [KALANCE] Scale). A Pearson correlation and multiple regressions were used to analyze the data to identify relationships between the degrees of their athletic identity, resources related to transitions, and expected difficulties of career transition adjustment. The results revealed that athletes' resources, including situation of their transitions and coping strategies, had a positive influence on the quality of their expected career transition adjustment. A degree of Olympic athletes' athletic identity also had a positive relationship with the quality of expected career transition adjustment, which is different from previous research findings. The current study was the first study to examine variables related to expectations of active Korean Olympic athletes' transition difficulties. It also paved the way for future research directions, such as the need for examining better ways to develop athletes' readiness for retirement while they are actively competing.

Keywords: coping for transitions, retirement from sport, the quality of career transitions

Adaptive Mental Training for Retired Elite Athletes

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Abstract: Athletes' retirement is a difficult issue. After each Olympic Games and National Games, a large number of elite athletes retire. Whether retired athletes tend to new social roles and adapt to them smoothly or not has important influence on their lifelong development and our sports system. In this research we implemented adaptive mental training for retired athletes, and helped them accomplish role transition and provided guarantee for their lifelong development. The 23 participants from Shandong province who retired after the 11th National Games came were selected. Their levels were higher than the National Games or National championships, and they were trained for more than five years. We investigated why they retired, how their mental state was, etc. We employed the Life-span Development Intervention (LDI) strategy on the retired athletes to do adaptive mental training one by one. The training lasted eight weeks, once a week, 45 minutes each time. The training included goal setting training, implementing enhancing strategies, support strategies, counseling strategies, and strengthening their coping capacity. We helped retired athletes draw up retired plans, cultivate good retired mentality and consciousness, learn how to use the social support system and coping strategies such as pouring, cognition reconstruction, imagery, positive self-dialogue, thought blocking, relaxation training, etc. The investigation showed that the external reason why athletes decided to retire lies mainly with our sports system, and the internal reasons include age, injury, burnout, education, etc. Aging caused physical decline and therefore a lack of motivation to continue. Personal life issues also contributed to the decision making. After the athletes retired, the main psychological problems they encountered included frustration, maladjustment, anxiety, and having a lack of goals. The main reasons included poor life and professional skills, economic pressure, difficulty in adapting to new social roles, interpersonal conflicts, etc. LDI was a useful mental training strategy for retired athletes.

Keywords: retirement, mental training, coping strategies, cognition reconstruction

Voluntary and Involuntary Career Termination: Is There Any Difference between The Two?

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Abstract: Nowadays, athletic retirement is viewed not only as a single event but as a transitional process involving: (a) the pre-conditions of retirement (b) the transitional period and (c) the consequences of the transition. The adjustment process and the quality of life after career termination seem to be easier and better when athletes retire on their own choice (voluntarily) and have a multiple defined identity. The aim of this study was to investigate differences between voluntary and involuntary transition and its consequences in the adjustment time and quality of life for elite Greek athletes. The participants were 115 former Greek athletes aged 25-45 years old (M = 37.01, SD = 5.12) who were selected by name, and forty of them (n1= 40, 34, 8%) were Olympic, World or European medalists (purposeful sampling). The Greek versions of the "Retirement from Sports Survey" and the Social Desirability Inventory were used for collecting the data. Descriptive statistics, independent sample t-test and chi square test were used for the statistical analysis. Results showed that athletes who had a voluntary career termination reported more positive and less negative emotions during the transition time than those who didn't retire by their own choice (involuntary). Additionally, they needed less time for the transition, had less perceived difficulties during transition time, felt more satisfied from life and have better quality of life. Moreover, athletes who had a voluntary career termination changed their "athletic identity" easier than those who retired involuntary. From the results of this research it can be concluded that voluntary retirement and career

termination leads to a smoother and better transition, moderates the relationship between athletic identity and sport career transition and also leads to a better quality of life. The results of this survey confirm the view of Alfermann and Gross (1997) for the freedom of choice in sports career termination. Additionally, attribution of control seems to improve coping with the transition to a post career, a result that is corroborated by other data.

Keywords: career transition, voluntary, athletic identity

Decision-Making Process to Go Back to Elite Sport after Pregnancy

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Abstract: Taking a break from one's sport career for a while due to a pregnancy does no more appear as an exception in elite sport. Nevertheless it is not uncommon that elite female athletes go back to elite sport after becoming a mother. Thus, while some athletes decide from the start that pregnancy will only constitute a bracket within their sport career, others tend to plan their definitive retirement from sports, at first, then subsequently make the decision to go back to elite sport after their child is born. To better understand the process of deciding whether to go back to elite sport or not, an exploratory qualitative study was carried out through in-depth interviews with four elite female athletes aged twenty eight to forty five years. At the time of the interviews, they had already given birth to one or two children during the course of their sports career. An interview guide was elaborated asking participants to tell in detail the route of their lives during their sports career. In regards to maternity life events, and more specifically factors of influence in the decision to go back to elite sport, the "push pull anti-push anti-pull" model often used in decision-making studies which focuses on life change events (e.g., Mullet, Dej, Lemaire, Raiff, & Bathorpe, 2000; Shultz, Morton, & Wercherle, 1998) was used. The deductive analysis of the gathered data emphasized two categories of factors in the decision process for going back to elite sport: (a) push factors (e.g., feeling of physical lack, family model, poor sports results of the new current leader), (b) pull factors (e.g., wishing to participate once again in the Olympics, feeling able to improve one's best, feeling a challenge to go back to elite sport as a mother). Results of the present study were also congruent with previous research (e.g., Kardel, 2005) regarding essential conditions for facilitating the coming back of female athletes to elite sport after pregnancy, among which a suited physical preparation (i.e., to keep as much as possible athletic fitness without any risk to the fetus) during and just after the pregnancy, a suited diet to avoid gaining too much weight, as well as a personal will to go back to elite sport (e.g. personal challenge, self-determination).

Keywords: elite female athletes, decision making, maternity

The Prediction of Coach-Athlete Relationship on High School Student Athletes' Career Self-Efficacy and Career Maturity

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Abstract: The purpose of this study was to examine the relationship of student-athletes' coach-athlete relationship, career decision-making self-efficacy, and career maturity. In addition, the mediation effect of career decision-making self-efficacy on the relationship between coach-athlete relationship and career maturity was further examined. Method: Student-athletes (N = 183) were recruited from high school athletic classes in northern Taiwan. All participants were asked to

complete a multi-section questionnaire to assess the main variables of the study. Results: The results of the Pearson correlation indicated that both coach-athlete relationship and career decision-making self-efficacy were positively correlated with career maturity. Regarding the mediation effect of career decision-making self-efficacy on the relationship between coach-athlete relationship and career maturity, the results indicated that coach-athlete relationship could significantly predict career decision-making self-efficacy and then predict career maturity. That is, the relationship between coach-athlete relationship and career maturity was mediated by career decision-making self-efficacy. Conclusions: Overall, the findings from the study highlighted that the integration of coach-athlete relationship and self-efficacy theory can improve the understanding of student-athletes' career decision-making process.

Keywords: career development, decision making, closeness, commitment, complementary

The Process of Psychological Adaptation of Excellent Football Players Transitioning to Become Coaches

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Abstract: Re-employment of retired athletes has been a hot issue. This paper is intended to study the psychological adaptation process of athletes becoming coaches. Four football players/coaches from China Super League clubs were selected as the subjects, and qualitative research paradigm of the interpretive phenomenology combined with case study as research design were adopted in this paper. Study results show that the participants experienced four phases: retiring phase, accepting phase, adapting phase and developing phase. The retiring phase begins when an athlete starts to face retirement issues. In this study, the participants in this phase did not have a good retirement plan. After entering a short period in the accepting phase, they embarked on a coaching position with passive psychological character. In the adapting phase, athletes' adaptive behaviors occurred spontaneously. As in the developing phase, the participants reached a higher level of recognition about the profession of coaches, and they began to pursue the coaching career with all-rounded improvement and development. Therefore, the results of the study suggest that football players should start early in making clear plans about their career and develop a good professional awareness.

Keywords: football player, retire, transition, coach, psychological adaptation, interpretive phenomenology

Taking the First Step toward a New Career: A Case Study Showing How Counseling Helped a Student to Adapt to Campus Life after Quitting His Life as a Student Athlete

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Abstract: The purpose of this study is to show how the process of psychology counseling helped a student to adapt better to school campus life after quitting his life as a student athlete, and how the sports psychology counselor assisted him in solving the problems he encountered at school. This research reveals how valuable the role of that sports psychology counselor was in helping the student adapt to his school environment after relinquishing his former and current

status as a student athlete.

The client featured in the study was a junior who quit bowling, having attained a high level of skill in that discipline. He started his new career with less motivation to continue with the sport. However, he found it difficult to adapt to the school atmosphere, and had problems integrating successfully with the other members of his school, having spent so much of his time exercising since he was a child. The client needed counseling for his problems, which included lack of self-confidence, issues with relationships, and inactivity in class. He was exposed to a total of seven counseling sessions, and was assessed by means of a psychology questionnaire and a client's diary, both designed to reveal his mental state. Moreover, his behavior fluctuations in class were measured on three occasions using a micro camera. After finishing the counseling sessions, he was debriefed on the full process.

The study yielded the following results: First, the client's questionnaire results, interviews, and diary showed that the sports psychology counseling had a positive effect on his adaptation to school life and on his emotions after giving up his former athletic career; second, psychology training in positive self-talking and self-approbation improved the client's self-confidence; third, his interpersonal problems were solved by requesting him to pay compliments to people five times every day; lastly, his attitude in class was monitored by behavior observation, which showed that he went from being inactive and disinterested to taking an active part in class.

Keywords: sports psychology counselor, campus life, quit, student athlete

The Questionnaire of P.E. Teachers in Primary and Secondary Schools Recruitment Based on the Competence Model

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Abstract: The questionnaire of P.E. teachers in primary and secondary schools recruitment based on the competency model, which underlies the competency model of P.E. teachers in primary and secondary schools, was developed through the method of Delphi and investigation. We surveyed 432 P.E. major interns in primary and secondary schools. By means of exploratory factor analysis, we selected 20 indexes among five dimensions, which are professional ethics, professional quality, performance direction, organization adjustment and student concept. The five-factor structure model was proved after the confirmation of factor analysis. It shows that the questionnaire consisting of 20 indexes among five dimensions has both favorable content validity as well as construct validity.

Keywords: P.E. teachers in primary and secondary schools, competency model, recruitment, questionnaire

Cognition in sport Decrease of Depth Perception Error Due to Change the Color of the Shuttle in Fatigue Conditions

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Abstract: Depth Perception (DP) plays an important role in many of the motor skills such as badminton and hitting that deal to

estimation and moving objects. Furthermore, a variety of different colors according to the features of the human visual system, create difference DP. Based on, the goal of present research was investigating the effect of ball's color on female students DP in fatigue conditions. Population of present research consist of all girls of physical education college who select badminton unit in second semester in 89-90 (75 student) from whom 39 (Meanage=21) was participated voluntarily. First DP test was taken then divided into 3 homogenous groups selectively. All groups play badminton. After making sure of being tired or fatigue (by measuring heart beat and rate of acid lactic) their DP was measured and after this stage, athletes were divided to one control group (with white ball) and two experimental group (with phosphoric and blue ball) and play badminton again. Finally, their DP was measured for third time after playing and reaching to fatigue. Repeated Measure ANOVA (RMA) and One-way ANOVA used for investigating and analysis of data, (P<0/05). Findings of present research showed that although there was no significant difference in error of DP between groups but phosphoric color makes significant reduction in errors of athletes' DP. So, by knowing that fatigue limits DP, we suggest that coaches of badminton can use balls with warm color in final part of their class for reducing error in DP and appropriate performance of athletes.

Keywords: depth perception, fatigue, colure, female student, badminton

Transient Attention in Martial Arts Athletes Skilled vs. Novices Event-Related Potentials

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Abstract: Different studies have found that sport practice produce changes on cognitive processes and brain activity. Event-related potentials (ERPs) studies on attention have found differences in terms of sport expertise. The aim of this study was to identify differences in behavioral performance and ERPs between martial arts athletes skilled and novices while performing a task of transient attention. Eleven skilled and ten novices' martial arts athletes were involved in this study. Cue Continuous Performance Task was performed with three conditions: Target (target stimulus preceded by signal), non-Target (any stimulus except target and signal) and False Signal (any stimulus non-Target preceded by signal), and both behavioral and electrophysiological data were analyzed. Behavioral results showed no significant differences between groups, but electrophysiological data showed significant differences in Condition (Target and non-Target) x Group interaction that indicated larger amplitude of P100, P200 and P300 components and of later positivity (between 600 to 1000 ms) in novices athletes compared to skilled athletes. A similar effect occurred in the Condition (False Signal and non-Target) x Electrode x Group interaction, in which novices athletes showed higher amplitude of P100 component, and Condition x Group interaction in later positivity (between 600 to 800 ms) than skilled athletes. Amplitude maps of such effects showed a more posterior reduced activation of all components in skilled compared to novices. Results suggest a better cue facilitation and economical that is more efficient information process in skilled than novices, which may reflect a more efficient neural response during attention processes related to the sport expertise.

Keywords: transient attention, sport, martial arts, expertise, ERPs

A Source of Choking under Pressure: The Ironic Effect of Self-Talk in a Hand Motion Steadiness Task

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Abstract: The purpose of the study was to investigate how attentional focus affects hand motion steadiness when participants are under different pressure levels. In addition, a secondary purpose was to explore the accuracy of skin conductance level (SCL) in measuring one's pressure level. This study followed the theoretical guidance of ironic process theory. This theory proposes that performers choke when trying to suppress certain improper thoughts during performance and that mental load facilitates choking by consuming attentional resources for thought-suppression. Undergraduate college students (40 males, 40 females) were recruited to perform a hand motion steadiness task for 2 blocks (i.e., baseline and test) of 10 trials. The order of the blocks was counterbalanced within 4 subgroups classified by 2 between-participant factors (i.e., Pressure, Attentional Focus). The pressure level was manipulated by whether participants were notified about time constraints (which were not real and not actually applied) in their performance and the attentional focus factor whether participants were instructed to do a task-focused self-talk ("Go Steady") or suppressive self-talk ("Don't Shake") immediately before they initiated the task. Participants' SCL readings and ratings of pressure level were obtained for both blocks. Results revealed that the ironic process did lead participants rehearsing suppressive self-talk ("Don't Shake") to choke regardless of the pressure level. Besides, SCL seems to be more of an indicator for one's activation-arousal level than perceived pressure level. Finally, an interesting gender difference emerged as females had a more steady performance across experimental conditions than did males. These findings had both theoretical and practical ramifications. First, the role of mental load conceptualized by ironic processing theory may be questionable. Second, performers could forestall one sort of choking by developing a good habit of attentional focus from the start of training. Third, researchers need to pay attention to the biofeedback indicators when choosing them for investigations and the same indicator could measure different sports psychology constructs in varied situations. Lastly, the findings provide support for the initial evidence of females' superior hand motion steadiness across conditions over males.

Keywords: choking under pressure, ironic process

Effect of Conscious Motor Processing and Working Memory Capacity in a Bimanual Movement Task

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Abstract: Bimanual coordination of movements is a highly automated task which requires little conscious control or memory resources. Inhibiting automated movement patterns, however, is effortful. We were interested in the interaction between individual propensity for conscious monitoring and control of movements (i.e., movement specific reinvestment) and working memory capacity when people are required to use executive supervision to control performance of a normally automated task. We asked participants to perform a bimanual movement task using an anti-phase coordination pattern. Participants moved their index fingers in rhythm with a metronome during a baseline condition and a visual search distraction condition. In the baseline condition, participants were instructed to prevent a transition from the anti-phase to an in-phase movement pattern as the rhythm of the metronome increased. In the distraction

condition, participants searched pictures for matching elements while performing the bimanual movement task. We also assessed participants' movement specific reinvestment scores and their working memory capacity.

Our results indicate that participants with low scores on the Movement Specific Reinvestment Scale performed better than participants with high scores. This is not surprising given that the automated nature of the bimanual movement task, which was unlikely to have been supported by declarative knowledge that could be accessed by conscious control mechanisms. People with high verbal working memory capacity, however, performed better than people with low working memory capacity, suggesting that they had greater ability to maintain rehearsal of the instructions to override the normal in-phase coordination pattern. In line with previous work in the field of cognitive psychology, we also found higher visual working memory capacity to be detrimental to performance of the primary and secondary task in the dual task distraction condition, which suggests that superior working memory capacity is associated with decreased performance in some circumstances.

Keywords: conscious motor processing, working memory, bimanual movement task

Fighting Fair? Investigating Bias in Fencing in a Naturalistic Decision-making Paradigm

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Abstract: Fair play is a vital concept in sport, and the role of the referee is paramount. Borysiuk and Waskiewicz (2008) report that consistent training can reduce the time of required for decision-making by speeding perceptual processing. Therefore, with increasing experience, refereeing skills may be enhanced and refereeing accuracy improved. However, referees are required to judge athletes competing at high levels, many of whom may be well-known and who may have ignited media interest. Lehman and Reifman (1987) documented a preferential bias towards ‘star players’ in basketball. It is possible that such a preferential bias may differentially affect officials’ decision-making, dependent on level of refereeing expertise. The aim of this study was to investigate whether fencing officials of varying levels of experience were susceptible to preferential bias and whether this bias adversely influenced decision-making accuracy ‘Star player’ primes were developed and validated in a pilot study with 61 national and international Sabre-fencing officials. Eighty-five additional Sabre referees of local, regional, national and international experience were asked to referee real-life video clips of competitive European fencing bouts in a naturalistic decision-making paradigm. A within-subjects design was used to assess the effect of star primes on referee judgments of neutral fencing moves known as simultaneous. Results demonstrated that star priming did significantly induce inaccuracies in decision-making, when compared against neutral primes (p the star status primes altered judgments for all referees, regardless of experience. Level of refereeing experience did, however, significantly affect overall accuracy under all conditions (pp Participants of international level, despite being most accurate in their decision-making, only attained moderate levels of accuracy. This study provided insight into fencing officials’ decision-making when subjected to bias. High-levels of officiating experience do seem to enhance judgment and decision-making capacity in fencing, but bias is evenly distributed among referees. Preferential bias was moderate in this sample, yet it remained detrimental to decision-making by decreasing accuracy. This study demonstrated the importance of enhancing accurate refereeing through training and officiating experience, and changes to standard training practices may be needed. Results showed that experience cannot completely isolate referees from environmental influences and insulating judging

staff from exposure to public pressure during competition should be paramount.

Keywords: bias, fencing, refereeing, stereotypes

The Comparison of Critical Thinking and Problem Solving Disposition of Athletes

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Abstract: Critical thinking is defined that the intellectually disciplined process of actively and skillfully, conceptualizing, applying, analyzing, synthesizing, and evaluating information. Problem solving is cognitive processing directed at achieving a goal when no solution method is obvious to the problem solver. Critical thinking skills and problem solving disposition allow athletes to perform at their best when they are under intense pressure. When these are most efficient, athletic performance improves and is maintained at a high level even during times intense pressure. Based on this information, the purpose of the present research was to compare perceived problem solving skills and critical thinking disposition of athletes who practice team and individual sports. For this purpose, 432 athletes who comprise of 261 males (60.4%) and 171 females (39.6%) participated to the research. 215 (49.8) athletes were from team sports and 217 (50.2%) of them were from individual sports. Mean age of the participants was 20.53±3.85 and mean sport experience was 9.47±4.22. Problem Solving Inventory (PSI) and California Critical Thinking Disposition Inventory were used for data collection. Data was analyzed by SPSS. As a result of the analysis of data, it was found out that there was not a significant difference between males and females for critical thinking disposition (p>0.05) whereas a significant difference was found for problem solving skill according to gender (p<0.05). Another result of the study indicated that there was not any significant difference for critical thinking and problem solving skills according to sport type (p>0.05).

As a conclusion, the most important result of the study is that male athletes' problem solving disposition is higher than female athletes'. The reason of this result could stem from the cultural factors of the country in which the study was conducted.

Keywords: problem solving disposition, critical thinking skill, athlete

The Relationship of Perfectionism with Anxiety and Self-Esteem in Athletes

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Abstract: Researchers have focused on perfectionism in the last decades and this resulted in an enhanced understanding of the term of perfectionism. All athletes have a desire to be successful and obtain a perfect outcome in highly competitive environment of sports. When the athletes perceive that the outcome will not meet their previously set goals, some negative thoughts may occur. Perfectionism refers to setting high standards, worrying about not meeting these standards and not being satisfied by achieved goals. It also contains some elements of orderliness. Setting high standards is mostly positive for athletes, because it could motivate athletes for more effort and for a better performance. However, setting standards which are too high, worrying about not being able to achieve them and dissatisfaction with most of the achieved performances

appear to be negative and could be classified as consequences of maladaptive perfectionism. The aim of this research was to examine the relationship among perfectionism, trait anxiety and self-esteem. 180 athletes (xage: 21.28±1.99; xexperience: 8.38±4) voluntarily participated to the study. Data was collected by Almost Perfect Scale-R, Rosenberg Self Esteem Scale and Trait Anxiety Inventory (STAI). Almost Perfect Scale-R has three dimensions which are standard and order, concern for not reaching standards and dissatisfaction with success. Data was analyzed by SPSS 17 program and descriptive statistics, Pearson's correlation and regression analysis were applied. Level of significance was determined to be 0.05. Results showed that trait anxiety was significantly correlated with standard and order (r= - 0.157, p<0.05), concern for not reaching standards (r=0.431, p<0.05) and dissatisfaction with success (r=0.229, p<0.05). Self-esteem also appeared to be significantly correlating with standard and order (r=0.276, p<0.05), concern for not reaching standards (r=-0.332, p<0.05). Moreover, multiple regression analyses indicated that “standard and order” and “concern for not reaching standards” which function as predicting variables, predicted 22% variance in trait anxiety and 20% variance in self-esteem. It was initially thought that maladaptive perfectionism may negatively affect some psychological aspects. Results showed that perfectionism of athletes was related to their anxiety and self-esteem. Sports coaches and sports psychologists should approach athletes in a way that prevents athletes to adopt maladaptive perfectionism.

Keywords: perfectionism, anxiety, self-esteem, athletes

Choking Under Pressure in Golf: The Relationship of Anxiety and Perfectionism to Putting Performance

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Abstract: The detrimental effects of anxiety on performance in sport are often conceptualized as paradoxical performance or choking under pressure. Perfectionism has been identified as a factor that can affect performance. The present study was designed to examine a particular form of choking in golf putting known as the ‘yips’. The yips are characterized by the experience of uncontrolled jerks, spasms or tremors when executing a precise and well practiced movement. This study examined the effects of anxiety and perfectionism on putting performance and their relationship to the yips. Two hundred and eighty amateur golfers completed an online questionnaire consisting of the Sport Anxiety Scale-2, Multidimensional Inventory of Perfectionism in Sport, ratings of physical and psychological aspects of putting performance, and demographic information. Results indicate that 73 (26.1%) of the participants have experienced the putting yips when executing a putting stroke in golf. A series of hierarchical linear regression analyses supported the hypotheses that participants high in anxiety would report significantly greater disruptions in putting performance as would participants high in the perfectionism sub-scale of Negative Reactions to Imperfection (NRI). The best predictors of poorer putting performance were anxiety and NRI that together accounted for 34% of the explained variance. A series of hierarchical logistic regression analyses did not support the hypothesis that golfers who suffer from the putting yips report higher levels of anxiety and higher levels of the perfectionism sub-scale of NRI.

Keywords: anxiety, perfectionism, choking and the Yips

Organizational Stressors, Appraisals, Coping, and Performance in Field Hockey Players

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Abstract: Framed by transactional stress theory, this study aimed to explore the associations between significant components of the organizational stress process in sport performers. Specifically, this study explored the organizational stressors encountered, the situational properties of these stressors, the transactional alternatives experienced, the coping strategies used, athletes' short-term perceived coping effectiveness, and the subjective performance outcomes associated with the performers’ stress experiences. Ten high level field hockey players were interviewed using a semi-structured interview guide. In order to establish a clear skill level for the participants, a high level athlete was defined as an individual currently competing in the English national field hockey league who had a minimum of five years competitive experience at this level. The interview guide was designed to collect both qualitative and quantitative data. All of the interviews were conducted face-to-face and lasted between 49 and 89 minutes (Mlength = 68, SD = 13). The data relating to organizational stressors and coping strategies were initially analyzed using inductive content analysis to systematically understand the data collected from the participants. The data relating to stressors and coping strategies were then deductively analyzed to confirm the appropriateness of the themes and general dimensions based on previous stress and coping research. The data referring to situational properties of stressors were deductively grouped as one of seven properties. Appraisals were deductively categorized as threat, challenge, harm/loss, irrelevant, or benign-positive and the performance outcome data were grouped as positive, negative, or neutral. Mean coping effectiveness scores were calculated for each coping strategy. A variety of organizational stressors were reported by the players, which were underpinned by five of the seven situational properties. The appraisal experienced was linked to the situational property of the stressor encountered. Positive performance outcomes were most likely when the stressor was appraised as a challenge and, thus, the appraisal made appears to have a pivotal influence on performance outcomes. Problem solving was the most commonly reported family of coping. The coping strategies that were perceived to be highly effective were not necessarily associated with positive performance outcomes. Practitioners should emphasize the link between challenge appraisals and positive performance outcomes and encourage athletes to make positive appraisals of the stressors encountered. This study emphasizes the complex and idiographic nature of organizational stress transactions and suggests that careful consideration should be given to the associations between different components of athletes' stressful experiences.

Keywords: cognition, transactional alternatives, interviews, coping effectiveness, sport

Self-Evaluation of Affective and Behavioral Responses to a Physical Task

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Abstract: Previous research showed that individuals are prone to evaluate in relative terms when an attribute is vague or complex in order to make the value of the target attribute more comprehensible and subsequently easier to evaluate (e.g., Hsee, 2000; Mussweiler, 2003). Studies distinguished between prediction (hypothetical) and the real experience evaluation suggesting that individuals are more prone to evaluate in relative terms during the prediction when the bodily feedback is absent and the accessibility of alternatives is higher (Hsee, Yang, Li, & Shen, 2009). Despite the importance of self-evaluation in sport there is a gap in the literature on how individuals evaluate their responses - implicitly assuming that the self-evaluation

of affective and behavioral responses to a physical task occurs in absolute terms and is based on the task characteristics exclusively. A study of Ekkekakis (2003) found that affective responses to exercise at the level below Ventilation threshold (VT) were mainly generated through cognitive appraisal, which among others was influenced by social context. Nevertheless, until now there is no research in sport that would investigate whether and to what extent the social context affects one's self-evaluation when the bodily feedback is available. The purpose of this study was to explore the forms of self-evaluation, which athletes adopt during the prediction and the real experience of a physical task. Participants were 181 basketball players with mean age 19.61 (\pm 5.72) years and mean competitive experience 7.16 (\pm 5.13) years who took part in a field experiment with a between-subject design. Results showed support for relativism during both the predicted and the real experience evaluation with particularly strong effect during the real experience. Findings implied that athletes have high susceptibility to the environmental cues when asked for their evaluation of affective and behavioral responses. Importantly, the comparisons which emerged from the relative evaluation had a negative impact on self-evaluation suggesting that minimizing the differences in a training context leads to improved team's experience.

Keywords: self-evaluation, relativism, affective, behavioral responses, field experiment

Attentional styles in soccer players

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Abstract: In the last 20 years an increasing number of researches connected with the style of attention have been conducted in different sports, including soccer. The successful performance of motor actions could not be possible without the active participation of the attention. In order for the soccer player to handle the constantly changing conditions and situation on the pitch, the good footballer has to orient himself very quickly and accurately in the particular situation, to make the correct decisions and to convert them fast into adequate motor actions. The effectiveness of these processes depends to a great extent on attention's abilities to focus. A great part of the researches confirm substantial differences in favor of the professional athletes compared to the amateur players with respect to the way in which concentration skills and attention allocation are demonstrated (Mahoney, Gabriel, and Perkins, 1987). Better abilities to switch from active focus to decreased attention are present in more prepared athletes during training sessions or competitions. With the progression of a sport career, a more individualized style of attention and diverse style of concentration to internal and external stimuli are differentiated. It is assumed that concentration is not a talent but a skill which is a subject to development and training. (B. Beswisk, 2001). In more qualified athletes there are more distinct ways of attentional focus and coping with distracting stimuli and fatigue. It is found in soccer players, regardless of their qualification level, that with the progression of age, competition and training experience, they have developed improved skills to switch their attention from one situation to another. The goal of this research is to establish the attentional skills in soccer players and to examine possible relationships with age, sport experience and qualifications. For the realization of the research goal we have used Test of soccer attentional style (TSAS) – A. Craig Fisher and Adrian H. Taylor (1980). Subject of the study are 110 athletes from amateur and professional football. The results show that the leading attentional focuses in the subject players are broad internal and broad external focus. Overloaded internal focus and overloaded external focus of attention have the lowest values.

Key words: attentional style, attentional focus, soccer, qualification level

Relationships between Imagery Types, Anxiety Interpretations, and Performance Perceptions in Team Competition

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Abstract: The purpose of this study was to examine the relationship between imagery, anxiety, and performance perceptions in competition. Imagery has been proposed to be an effective way for athletes to deal with anxiety symptoms (Jones, 1995). Athletes using motivational general-mastery to facilitate confidence levels and motivation general-arousal predicted cognitive anxiety intensity (Vadocz, Hall, & Moritz, 1997). The investigation of the relation between imagery, anxiety, and performance is important for practitioners and coaches to develop intervention strategies that enhance athletes' confidence and channel anxiety interpretations in order to increase performance. The sample consisted of 143 athletes (nfemales = 44; nmales = 99) between 14 and 28 years of age ($M = 18.61$; $SD = 2.63$). On average, participants have been involved in their sport for 9.38 years ($SD = 4.06$), in competition for 7.67 years ($SD = 3.56$), and their mean training duration was 5.13 hours per week ($SD = 2.56$). Participants completed the Sport Imagery Questionnaire (SIQ; Hall, Mack, Paivio, & Hausenblas, 1998) and the Competitive State Anxiety Inventory-2d (CSAI-2d; Jones & Swain, 1992). Participants also completed one item on which they rated their personal performance (0 = very poor; 10 = very strong) in the last competition match, $M = 6.16$, $SD = 1.94$. Regression analysis with performance perceptions as criterion variable showed that from the intensity scales only state confidence was a significant predictor, $b = .265$; $p < .01$. For the direction scales, state confidence ($b = .311$; $p < .01$) and cognitive anxiety ($b = .273$; $p < .05$) significantly predicted performance perceptions. Imagery types were significant predictors of state confidence intensity (motivation specific: $b = .355$; $p < .001$) and direction (motivation specific: $b = .276$; $p < .01$; motivational general-mastery: $b = .244$; $p < .05$), but not for cognitive anxiety direction. The tested model showed that motivation specific and motivational general-mastery predicted confidence and cognitive anxiety, which, in turn, predict subjective performance. The results are relevant for future intervention using imagery to improve confidence and anxiety interpretations.

Keywords: anxiety, imagery, performance

Child Athletes' Use of Imagery and Experience of State Anxiety during Football Competition

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Abstract: The purpose of this study was to examine the relationship between imagery and state anxiety in younger athletes who participate in a football competition. Children face many demands in competition which can affect their performance and psychological development. It is critical to identify and appreciate what young performers understand about psychological skills to teach them effectively (McCarthy, et al. 2010). Munroe-Chandler Hall, Fishburne, and Strachan (2007) reported that athletes as young as seven years of age use imagery frequently. Hardy, Jones, and Gould's (1996) hypothesized that confidence has a protective function against debilitating anxiety effects. Several studies provided support for this contention using adult athletes (Hanton, Mellalieu, & Hall, 2004; Jones & Hanton, 2001). Assessing the relationship between imagery, anxiety and confidence is important as using imagery is one way to enhance self-confidence in competition (Hall, Munroe-Chandler, & Fishburne, 2009). The sample consisted of 57 male junior football players between the age of 7 and 12 ($M = 8.65$; $SD = 1.08$). Participants completed the children's version of the Sport Imagery Questionnaire (SIQ-C; Hall, Munroe-Chandler, Fishburne, & Hall, 2009) and the Competitive State Anxiety Inventory-2C (CSAI-2C; Stadulis, MacCracken, Eidson, & Severance, 2002). In addition to CSAI-2C intensity, we included a directional scale for cognitive

anxiety, somatic anxiety, and state confidence, similar to the one applied by Jones and Swain (1992) for the CSAI-2. Results showed acceptable Cronbach alpha values of .70 and above for a most subscales, except for cognitive general and motivational specific imagery, and the anxiety intensity subscales. Significant correlations were found between all three anxiety direction subscales and motivational general-arousal and motivational general-mastery, respectively. No significant correlations emerged between imagery types and anxiety intensity subscales. Previous research found issues with the reliability of measures designed for the use with child athletes (Strachan & Munroe-Chandler, 2006). This finding has been confirmed with the current study. Interestingly, the direction scales of the CSAI-2C showed the strongest Cronbach alpha values of all applied subscales. The correlations between imagery types and anxiety measures were moderate-to-strong for MG-A and MG-M with directional measures of cognitive anxiety, somatic anxiety, and confidence. These findings are valuable for practitioners and sport psychologist, who aim to improve confidence and anxiety interpretation through the application of imagery.

Keywords: child athletes, anxiety, imagery

Simple Reaction Time Applied for Selecting Young Talents in Tennis

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Abstract: The present study aimed at presenting the importance of simple reaction times, both cognitive and motor, in selecting potential talents in tennis players. Two hundred and forty young people participated in the study, from six to thirteen years old, of both sexes. The volunteers were subjected and approved during the first phase of the study, with a skill test specific for the modality (ITN). In the second phase, a test of simple reaction time was applied, stratifying the results by cognitive and motor time. It was used the ANCOVA test in order to identify differences for ITN, assuming the reaction time as an independent variable and the age as a covariate. Results show differences for ITN among the groups of cognitive reaction time adjusted for age ($p=0,04$) and there was no difference by observing the comparison among the results of motor reaction time ($p=0,162$). It is concluded that the cognitive reaction time is an important variable in the process for identifying talents in tennis.

Keywords: tennis players, talent detection, cognitive evaluation, decision making

A Qualitative Analysis of Goal Construals in Sport

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Abstract: Effects of goal-setting on performance have been well-examined in organizational settings, though questions remain unanswered regarding both the effectiveness of goal-setting in a sport context as well as underlying factors that explain ambiguities in obtained results. One prominent criticism of goal-to-performance research is an "omission in studying naturally set goals", as the goal content is often supplied by the researcher. We conducted phenomenological, semi-structured interviews with 20 varsity athletes from various sports (martial arts, table tennis, track-and-field sports) to add to the body of goal-setting research by providing information about the cognitive processes behind athletes naturally set goals. Led by concepts based on Construal Level Theory, we perceive a

thematic clustering by task demands (dynamic vs. stable task context, e.g. table tennis point vs. long jump), as various tasks require a processing of either more proximal or distant stimuli. In line with previous research in CLT, these functional cues appear to shape evaluations on different levels of abstraction, i.e. goals on either a low or high construal level. Depending on their task context, athletes also perceive either low or high construal as more motivating and helpful. Furthermore the time distance dimension shapes goal construal as CLT would suggest, with athletes creating mental representations of their goals on different levels of abstraction, dependent on and influenced by the distance relation to their goal. This research opens a new avenue for cognitive research in goal setting; a CLT perspective might provide insight on how cognitive construal's of super-ordinate and subordinate goals impact subsequent performance.

Keywords: construal level theory, goal setting, qualitative research, cognition

Intuitional Decision-Making during the Judgment of Drop Point from Backcourt for Different Level Badminton Players: Analysis of Eye Movement Characteristics

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Abstract: Intuitive decision in sport refers to a type of rapid, direct and probable decision conducted by an individual in some complicated sport situation (i.e. fast-paced, tough time pressure) and with uncertain results. Badminton is an ideal sport for studying intuitive decision-making and an effective visual search model. High level athletes in intuitive sport situations were analyzed by using eye movement technology, which can provide a reference frame in training of improving veracity of drop point judgment for badminton players, as well as offer a referential approach in training novice players how to think.

Competition video of backcourt birdies (lob, drop shot, killing the birdie) of high level badminton players was recorded, and the methods of time and space blocking-up were adopted at the same time. The video materials were comprised of 30 video clips; 15 professional badminton athletes and 15 amateur players participated in the experiment and were asked to judge the drop point of a backcourt bird. The data was recorded and analyzed using the Eye-Trace 6 system and E-Prime 2.0, and an independent sample T-test was taken to analyze the difference of visual search characteristic between the two groups.

In the situation of drop point judgment of a backcourt bird, there is no significant difference between the two groups in reaction time, but in judgment accuracy, professional players gained higher score than amateur players. From the aspects of visual search in time characteristic, and in accordance with fixation times from high to low in the looking zone, professional players kept an eye on pace, body, and racket face in turn, while amateur players kept an eye on racket face, badminton, and arm successively. Moreover the gaze duration time at each fixation point of professional players was less than that of amateur players significantly, which illustrates that working speed of visual cognition for professional players is quicker than that of amateurs; the professional group was capable of contributing gaze time to different parts of the opponent's body effectively, and then form rapid and accurate visual search patterns. From the aspects of visual search in spatial characteristic, compared with zero coordinates, the horizontal and vertical ordinate of each gaze point for the professional group was less than that of amateurs, and saccadic distance for the professional group was also less than that of amateurs significantly. Moreover, the professional group

contributed gaze time mainly to torso, footwork, and racket face, while amateurs contributed gaze time mainly to bird, arm and racket face, illustrating that the visual search of professional players was under the guidance of sport experience, and their distribution of gaze point was rather disciplinary. They formed an effective visual search model from footwork to body to bird shot that they were able to search the opponent visually from all angles. However, the visual search area of amateurs was just around the touch spot of the racket to bird; their sight line only followed the bird's air position, so it seemed that the distribution of fixation point of amateur players was scattered and disordered.

Keywords: badminton players, drop point judgment, intuitive decision-making, eye movement characteristic

The Effects of Aerobic Exercise Intervention on Switching Tasks in Executive Function of Cognition: An Event-Related Potential Study

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Abstract: Cross-sectional evidence has suggested that high levels of cardiovascular fitness is correlated with higher efficiency in speed of information processing, especially among tasks that require great engagement of attention effort. However, less is known about whether intervention of short-term cardiovascular exercise can lead to better cognitive processing with less attention; cost revealing in psychophysiological responses and mean reaction time warrants further examination. Therefore, the purpose of the present study was to examine the effects of a 10-week cycling exercise on changes of cognitive function and cardiovascular fitness. Thirty 20-28 year old college students were recruited and randomized into experimental and control groups. Prior to the formal experiment, the participants were examined with a 3-minute step test for cardiovascular fitness, and the mean of recovery heart rate after 3 minutes rest was calculated; numeral switch task was applied for examining cognitive function in ERP P300 component and ratio of attention switching cost (switching minus non-switching). The results showed that: 1. Cardiovascular fitness test data indicated no difference between the two groups in the pre-test but the experimental group was better than the control group in the post-test (F (1, 28) =34.73, p= .00). 2. In switch task, P300 latency was faster in the experimental group than the control group (F (1, 28) =5.71, p= .02), P300 amplitude was no different between the two groups. 3. Reaction time had interaction between the two groups (F(1,28)=9.27, p= .01) in the number distinguishing task and post-hoc data revealed the experimental group was faster than the control group in the post-test; no difference between the two groups in the even/odd distinguishing task. There is a main effect (F(1,28))=15.20, p= .00) in the switch task and post-hoc data revealed the experimental group was faster than the control group in the post-test; no difference between the two groups in switch cost (F (1, 28)=0.53, p= .47). Conclusion: Results of the current study support the hypothesis that 10 weeks of aerobic cycling exercise intervention had improved effects on cardiovascular fitness, the stimulus of the evaluation stage in information processing and reaction time.

Keywords: cycling exercise, event-related potential, cardiovascular fitness, cognitive function

Golf Exercises Improve Mental Rotation Performance in Stroke Patients

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Abstract: It has been shown that physical activity programs can improve cognitive and motor performance after a stroke (Cumming, Tyedin, Churiloy, Morris, & Bernhardt, 2011). The main goal of this study is to investigate the effect of a specific co-coordinative training, golf-training, in stroke patients regarding aspects of their cognitive, emotional, and physical performance.

Fourteen patients, matched by date of stroke and age, were separated into two groups. Each group either received golf training (EG) or attended a social communication meeting (CG). All participants completed assessment tests before and after the experimental period: cognitive tests measuring attention (Go-No-Go task), visual-spatial memory (Block-Tapping task) and mental rotation performance (MRT); a balance test (Berg Balance Scale); and an emotional well-being test (CES-D-Scale). Both groups met for one hour sessions, twice a week, for ten weeks. The golf group completed putting exercises, games, and hand-eye coordination tasks. The social community group engaged in discussion and group reading.

The analyses of variance showed a significant improvement from the pre- to the post test for both groups for the CES-Score, F (1, 12) =5.46, p =.31, the block tapping test, F (1, 12) =5.14, p=.05, η^2 =.26, and the balance test, F (1, 12)=7.8, p =.39. Most interesting, in the MRT-test, we found a main effect for the pre-post-test factor, F (1, 12) =10.93, p =.47 and for group, F (1, 12) =5.88, p =.33 but also an interaction between both factors, F (1, 12) =7.93, p =.39. The improvement for the EG (d=0.79) was higher than the improvement for the CG (d=0.17).

The significant improvement in mental rotation performance (the ability to imagine an object rotated from his original position) after golf exercises suggests that golf-training can improve visual imagery ability in stroke patients. Furthermore, it is in line with a study of Jäncke, Koenecke, Hoppe, Rominger, and Hänggi (2009) who showed that skilled golfers had higher grey matter volumes in the intraparietal sulcus, a brain area which is also activated during a mental rotation task.

Keywords: cognition in sport, mental rotation, stroke, golf exercises

The Relationship between Motor Performance and Mental Rotation in Children with Developmental Dyslexia

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Abstract: This study investigates the relationship between motor performance and visual-spatial ability, specifically mental rotation (MR), in children with developmental dyslexia. Some studies show dyslexic children to be impaired both in MR (Rüsseler, Scholz, Jordan, & Quaiser-Pohl, 2005) and in motor performance (Nicolson & Fawcett, 1999). According to the functional deficit hypothesis (Lachmann, 2002) we expected dyslexic children to show specific deficits regarding the stimulus "letters".

Fourteen dyslexic children (mean age=9.14, SD=0.86) and fourteen normal reading children (mean age=9.35, SD=0.93) solved a chronometric mental rotation test. Mental rotation is the process of imagining how an object would look when rotated away from its original upright position (Shepard & Metzler, 1971). Two stimuli were presented simultaneously and the children had to decide if the right stimulus, which was rotated in the picture plane, was the same or a mirror version of the left stimulus. To assess motor skills we tested manual dexterity, ball skills and balance using the M-ABC (Petermann,

Bös, & Kastner, 2009). We grouped the children based on high scores (high group: mean age=9.40, SD=0.84) and low scores (low group: mean age=9.17, SD=0.92). The independent variables were: "stimuli" (letters, objects and objects that look like letters), "group" (dyslexic children, normal reading children) and "motor skills" (high, low). Reaction time and mental rotation speed were the dependent variables.

For the MR test we found that dyslexic children show both slower reaction times (F (1, 27) =9.358, η^2 =.281) and a slower mental rotation speed for only the stimulus "letters" (F (1, 27) =8.021, η^2 =.250). There was also a main effect of "motor skills" (F (1, 27) =4.617, p<.05, η^2 =.161) in which children with "low" skills took longer to solve "objects" than children with "high" skills. M-ABC results showed a marginally significant group effect of "manual dexterity"; dyslexic children had a poor performance compared to non-dyslexics. Additionally, there was a significant negative correlation between reaction time for "objects" and "ball skills" (r=-.477, p<.05) in the experimental group.

The MR results confirm the functional coordination hypothesis: dyslexic children showed impairments only for the "letters" stimuli. Deficits of dyslexic children in "manual dexterity" could be explained by cerebellar deficits found in dyslexia (Nicolson et al., 1999). The negative correlation between motor performance and MR suggests that children who took longer to solve the MR task also have lower scores in the motor test, which confirms the hypothesized relationship. Consistent with this result is the main effect of "motor skills".

Keywords: Motor performance of dyslexic children

The Characterization of Superior Perceptual Anticipation in Deceptive Basketball Movements

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Abstract: The ability to anticipate an opponent's behavior has proved a reliable discriminator of athletes and novice performers in many reactive sports including badminton, soccer, tennis and basketball. However, there are a number of equivocal issues this study aims to investigate, such as whether the superior anticipation of the athletes exists in simple percipience tasks or realistic stimuli anticipation tasks; the feature of athletes' underlying process in anticipation; and the event related potential (ERP) effects of superior action anticipation in athletes.

Experiment 1 was to explore the mechanism of athletes' underlying process of the anticipating task. The subjects were asked to anticipate the realistic stimuli of different temporal occlusions. And then uniting the accuracy ratings and self-confidence ratings with the distribution of solution probabilities of the perceptual anticipation task were analyzed. The accuracy rate of athletes in deceptive movement was significantly lower than that in no-deceptive, normal, movement; Athletes' accuracy and confidence ratings of deceptive movement were superior to novices'; the test item solution probabilities were found to be more widely distributed in athletes than novices in deceptive movement task.

The multi-task approach was used in experiment 2. The deceptive movement's RTs and normal movement's RTs were measured with two types of stimuli. The results showed that both RTs and accuracy rate were significantly different between the athletes and the novices in deceptive movement with the realistic stimuli.

In experiment 3, we compared basketball athletes with novices in the brain responses of ERP when they watched sequential clips of basketball games and predicted the direction change of the opponent. There were significant differences between the athletes and novices in the aspects of amplitude of N2 component in the frontal-central region, P2 latency, and amplitude of the parietal-occipital region.

Based on the results of the three experiments: we drew our conclusions as follows: (1) The deceptive movement is more sensitive than normal movement; (2) Only under the condition of complex realistic stimuli tasks did the athletes perform better, and the reason for this is that the athletes may be familiar with this sport stimuli; (3) Athletes usually use inferential (heuristic-based) judgments in all conditions, however, novices use direct-perceptual (invariant-based) judgments; (4) Athletes input less cognitive resources during the perception period, can make decisions quickly, and show significant advantages in anticipation.

Keywords: basketball athlete, perceptual anticipation, deceptive movement, information processing, heuristic strategies

Analysis of Adolescent Sports Violence in School Sports

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Abstract: Since sports activities came into being, violence in sports happens all the time. All sectors of the community are always concerned about this phenomenon. The methods used in this paper include literature reviews, interviews, and logic analysis in order to probe the problems of adolescent sports violence in school. The purpose of this article was threefold: Firstly, this paper defined the concept of adolescent sports violence in school sports, then summarized the existing explanation theory and analyzed the influencing factors. Secondly, this paper explained the current situation of adolescent sports violence in domestic and international school sports; as a result, it found that there are many improprieties in the current prevention and control of sports violence in schools from family and social aspects. Finally, this paper offered some corresponding countermeasures to prevent and suppress adolescent sports violence.

Keywords: adolescents, physical violence, school sports

Auditory References in Action and Perception

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Abstract: Previous research discusses a possible coupling of action and perception in motor processes. It is assumed that action as well as perception is based on the same mechanisms (common-coding theory; Prinz, 1997). Higher motor competence should therefore lead to improved perception (motor resonance; Schütz-Bosbach & Prinz, 1997). Evidence for that assumption derives from studies examining the influence of motor expertise on visual perception (e.g. Loula et al., 2005). The present study carries this theme into the auditory modality and thus tries to expand and generalize previous findings.

The movement sounds (steps) of 28 students (MAge = 23.07; SDAge = 3.08) were recorded with In – Ear Microphones (Soundman OKM binaural classic), while they were hurdling. Afterwards, the obtained sounds were presented to the subjects in a two-part experiment. In one part, the subjects had to discriminate between equal and unequal sound pairs. In the other part, the subjects had to identify the

actor who produced the presented sound. This was the subject itself (auditory and motor experience), a partner (auditory experience) or a stranger (no experience). The dependent variable was the number of correct answers.

The discrimination of equal and unequal movement sounds is possible independent of the actor (self = 95.24%; partner = 96.43%; stranger = 95.24%). The identification of self-generated movement sounds (63.54%) is significantly higher than that of strangers (47.32%), $t(27) = 3.0$, $p < .005$, $d = 0.47$ and higher (not significant) than that of partners (55.21%).

The coupling of action and perception seems detectable via naturally emerging movement sounds (auditory references). Thus more attention should be paid on the influence of movement sounds in theory and practice.

Keywords: action perception coupling, sense of agency, references

Predictive Effect of Two Psychological Test Results on Snipers’ Performance in a Shooting Contest

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Abstract: This study is aimed to assess whether snipers’ results in Raven reasoning test and position accuracy test is able to predict their performance in shooting contests. Ninety-eight well-trained snipers of CAPF took the "Raven Standard Reasoning Test" which requires them to complete 60 questions in 40 minutes. The kinesthetic orientation measuring instrument BD -II- type 301(of Bei Da Jade Bird Company) was used. With eyes blindfolded, subjects were required to copy the standard amplitude on device three times. The three deviations between the standard amplitude and the actual amplitude were recorded, measuring the kinesthetic ability of the testees. Finally, the total average error was recorded. Snipers’ shooting scores were used as dependent measures. A spear-man correlation analysis showed that snipers’ shooting scores were significantly correlated with the Raven reasoning test($r=0.406$, $p<.001$) and the position accuracy test($r=-0.290$, $p<.05$). Then based on their shooting scores, the 98 snipers were divided into 3 groups: 33 people in the high group, 32 people in the middle group, and 33 people in the low group. Independent sample t-tests were conducted between the tests scores of the highest score group and the lowest score group. Difference between the two groups reached a significant level ($p<.05$). A regression analysis indicated that results of both the Raven reasoning test and the position accuracy test could predict the shooting performance. The equation was significant for the Raven reasoning scores, $\beta=0.324$, $p<.05$. The Raven reasoning test and the position accuracy test could be used in sniper selection procedure.

Keywords: sniper, shoot, Raven reasoning test, position accuracy test

Anticipation and Eye-movement of Soccer Goalkeepers in Penalty Kicks

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Abstract: It is a short distance from the penalty point to the goal line, and a soccer goalkeeper must anticipate the high-speed flying direction of the ball in a very short time. The gazing point and eye-movement are the important psycho-motor behavior that may

influence the effect of anticipation. The purpose of this study was to investigate the effects of experience of expertise training on reaction time and accuracy in directions of penalty shootings, and the characteristics of visual search by examining the differences in eye-movement between two groups (experts and novice) of soccer goalkeepers. Expert-novice and between-group designs were adopted. Sixteen male goalkeepers (8 long time training and 8 short time training) participated in the tests by trying to gaze at the movement (head, body, standing leg and foot, and kicking leg) of shooting players of a serial video of penalty kicks, and reacted to four directions the balls were flying in (upper-right, lower-right, upper-left, lower-left). Forty-eight sections of videos, 12 in each direction, were shown randomly to participants, and the eye-movements were recorded by an iView X HED eye-tracker. Their gazing zone, frequency and time, and reaction time and accuracy to the directions were recorded and analyzed. The anticipating accuracy (50%) of the expert group to the directions was significantly higher than that (39%) of the novice group. The reaction time(2164.213±212.16ms) of experts was significantly faster than that (2199.843±228.47ms)of the novices. Gazing zones of experts were standing foot, kicking leg, and head of kicking players during movement sequences of kicking, while novices gazed at the body and ball. Gazing frequency and time of those positions between the two groups were significantly different. During the anticipation of directions of penalty kicks, experts used gaze focus and eye tracking simple visual search strategies, and their attention concentrated on the kicking leg and standing foot, which is highly related to the movements deciding the direction of the penalty kick. Novices’ eye movement tracks were confusing and gaze point diverse. These showed that experience in goalkeeping had a more positive influence on the anticipation of directions of penalty kicks, not only in terms of reaction time and accuracy, but also on the gaze point and eye-trace focused of kickers’ movements.

Keywords: anticipation, eye-movement, penalty kicks

Research and Development Trends of Making Off-side Decisions

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Abstract: In football (soccer) games, assistant referees often make wrong off-side decisions. Discussions on off-side decision-making have become a focus in this area. This paper analyzes and discusses the multiple factors of making off-side decisions such as the types of inaccurate penalties (flag errors/non-flag errors), levels of assistant referees (international referees/national referees), relative positions of players (obviously behind the off-side line/slightly behind/on the line/slightly ahead/obviously ahead of the off-line), movement speed of defensive players (standing still/in the direction of the kick-off circle), relative positions between players and assistant referees (the far end/the middle end/the close end), relative positions between assistant referees and off-side lines (ahead/behind the off-side line), movement speed of assistant referees (sprints/normal running/strolling/standing still) and fatigue factor of assistant referees (the speed of running). The paper also interprets and analyzes correlation theory hypotheses, which includes hypotheses of shift of gaze, optical error and flash-lag effect. Finally, the paper also gives a thorough introduction on the corresponding training measures (simulation training of real football pitch, video judgment training, simulation training of computer animation) that have been applied and reviews the developing situations as well as predicts future development directions.

Keywords: assistant referee, offside, decision-making

A Study on Mental and Behavioral Characteristics of Different Types of National Sport Lottery Consumers

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Abstract: A random questionnaire survey was conducted with different types (lotto, sport betting, scratch card and video lottery) of national sport lottery consumers (N=1552) from ten provinces in China. Analyses were performed to assess and compare the mental and behavioral characteristics of these four types of national sport lottery consumers. The results from a hierarchical linear regression showed that: in the mental aspect, purchase cognition most significantly predicts the purchase intention of both lotto consumers and sport bettors; also the economic function can predict the purchase intention of sport bettors; the function of extraneous information significantly predicts the purchase intention of scratch card consumers; risk inclination significantly predicts the purchase intention of video lottery consumers. In the behavioral aspect, first, most sport bettors and scratch card consumers obtained relevant lottery information through the Internet; most lotto consumers obtained relevant lottery information from advertisements in lottery stores; most video lottery consumers obtained relevant information from TV. Second, the ratio of monthly purchase amount to income of sports-bettors is higher than that of the other three types of consumers; lotto consumers purchase most frequently while scratch card consumers purchase the least per month in the four types of consumers; sport bettors spent the most time thinking before they purchased, while scratch card consumers spent the least amount of time in the four types of consumers. Finally, national sport lottery marketing strategies were made according to the mental and behavioral results of each type of consumers respectively.

Keywords: different types, sport lottery consumers, mental, behavioral, characteristics

ERP Study on Time Perception of Tennis Experts

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Abstract: Tennis is a fast game which requires players to make fast and accurate counterattacks. Players should have good perceptions of time to effectively predict the behavior of their opponent and make quick response decisions. In this study, we asked participants of three levels to distinguish three time intervals while we collected their ERP data. The results showed that: 1) In the long interval conditions, three groups have the highest accuracy rate, the experts have the shortest reaction time; 2) The subjects were all induced P150 and CNV components, and the experts group induced maximum CNV amplitude and earlier latencies, while the novice group induced minimum amplitude and later latencies. According to the above findings, it is suggested that the tennis expert has an advantage of the apparent reaction rate, the highest level of expectations of tasks, and the earliest sensory information processing efficiency. The study, from the perspective of behavioral and neural mechanisms, reveals the advantageous features of time perception in expert tennis players. It has important theoretical and practical significance for improving the tennis players’ specialized perceived abilities.

Keywords: tennis experts, time perception, ERP, p150, CNV

The Impact of Athletes Height on Referees’ Judgment in Basketball Foul Calls

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Abstract: It is clear that the judgment of performance is an inherent

part in the field of competitive sport. People involved in sport will not only judge the performance of an athlete, but also concentrate on the accurate judgments made by the referee to avoid the negative outcomes of mistakes. For example, a wrongly awarded penalty can provoke unfriendly responses by players and yield a football referee’s dismissal. Therefore, it is important to study how the accuracy of performance judgments in sports can be enhanced. The purpose of this study aims to discover the impact of athletes’ height on referees’ judgments in basketball in ambiguous foul situations, and to further discover different impacts in both offensive and defensive situations and its internal/external group effects with the referees.

The study was comprised of three experiments, used two factors design of experiment and presented pictures of ambiguous foul situations in a basketball game, letting participants view the pictures and make a foul judgment. There were 30 participants, 15 of them were national referees with third rank certification, while the other 15 had second rank certification. Study 1 was to discover the impact of athletes’ height on referees’ judgments with different ranks. Study 2 was to explore how athletes’ height affected judgments in both offensive and defensive situations. Study 3 was to explore the impact of athletes’ height on referees’ judgments with different groups (external/internal group). The results showed that: (1) The referees’ judgments were significantly affected by different athletes’ height in ambiguous foul situations ($F=11.000$, $p<.05$); taller players were given more fouls while shorter players were protected in ambiguous situations. (2) The higher rank of the referees, the less impact athletes’ height had on judgments ($F=8.370$, $p<.05$), however, the impact was still significant. (3) The impact of athletes’ height on referees judgments remained stable in both defensive and offensive situations ($F=1.030$, $p>.05$). (4) The impact of athletes’ height showed internal group effects ($F=11.302$, $p<.05$). More specifically, when the referee and the shorter player belong to the same group, the shorter player would be protected as he fell down. So, athletes’ height affected referees’ judgments in basketball foul calls.

Keywords: basketball game, athletes’ height, referee, foul calls, internal/external group

Athletes’ Responses in Sport: Quick vs. Accurate

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Abstract: Athletes can respond quickly with only partially advanced cues and can predict the opponent’s next action. In general, athletes must act quickly to a situation change and execute a quick responding action against the opponent, but of course this all depends on the type of situation. Externally-paced events and self-paced events have different demands on the athletes. In externally-paced events such as football, basketball, tennis, etc., the athletes need to respond quickly, but in self-paced events such as swimming, gymnastics, ball-service, etc., the athletes need to response accurately. However, we presume that a quick response is actually not the most important action for athletes, but rather accuracy is more important in the sport context. In this kind of research, the expert-novice paradigm is often adopted, response time and accuracy recorded, and temporal occlusion and space occlusion used. The results show that the expert athletes often have a shorter response time while the novice athletes often have a longer response time. This result often emerges in externally-paced sports. For self-paced sports, the response time between expert and novice is no different. But for response accuracy, higher level athletes are better than lower level athletes. In some recent studies, even in externally-paced events such as badminton, there is no difference between expert athletes and novice athletes in response time. In most of these studies, the experiments are not conducted in real situations but rather in the laboratory, which lacks ecological validity; the response style is also not the same as with a real situation due

to the utilization of non-pursuit responses as dependent variables. These problems exist in the researches and cannot be fully resolved. The athlete's cognition in sport situations is a complicated matter which needs innovation in the research paradigm to study it further.

Keywords: athlete, response, accuracy, externally-paced movement, self-paced movement

Anticipation Characteristics in Tennis Players during Stalement

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Abstract: The present study was conducted to explore the behavior performance and cognitive characteristics of tennis players. Fifteen tennis experts, 13 intermediate experts and 12 novices took part in a video-based experiment which lasted 3000ms per trial. They were told to anticipate whether the ball would land at the midcourt or the backcourt after several stalemates in three different temporal occlusions. The reaction time, accurate rate, eye movement indexes and event-related potentials (ERPs) were recorded while they completed the task. The results showed that, experts were significantly more accurate than novices, and reacted significantly faster than novices at 240ms and 360ms after ball–racquet contact. The eye movement indexes showed that the “tennis ball” and opponents’ “lower limb” are the key areas of interest (AOI). There were no significant main effects of the fixation count, but the percentage fixed and fixation duration of experts were significantly higher than those of the intermediate-experts and novices. It also showed that the route of the tennis ball and opponent’s lower limb kinematics may be more critical for experts to anticipate the ball’s landing position. ERP data showed that in the early stages of the cognition, the potential P1, N1, N2, P300 were induced in different parts of the cortex. With regard to the P1 amplitude, there were significant main effects, the expert’s group was the minimum while the intermediate-expert’s was the largest. As to P300 amplitude and latency, there were significant main effects of brain regions–parietal-occipital P3 reached maximum. During 1500-2200 time windows, the late negative component was a significant main effect being larger for the experts than others. The conclusion from this experiment was that the tennis experts extract relevant information according to specific tasks and situations and ignore irrelevant information. Their decision-making model was efficient in information and cognitive processing.

Keywords: tennis player, stalement, behavior characteristic, anticipation ability

Psychological Momentum and its Interruption: A Comparison between Actors and Observers’ Reactions

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Abstract: Psychological momentum (PM) is a psychological impetus that can be felt by both actors (e.g., Briki et al., 2013) and observers (e.g., Markman & Guenther, 2007), but that can be interrupted (Markman & Guenther, 2007). The present research examined how actors and observers perceive PM and how a sudden interruption of PM may impact their subjective experience. Table tennis players imagined that they were playing a table tennis game (actors), whereas participants who never practiced competitive table

tennis imagined that they were observing a table tennis game (observers). While viewing an audiovisual simulation of a table tennis match, participants were exposed to either an ascending (i.e., positive momentum) or descending (i.e., negative momentum) scoring sequence that was either suddenly interrupted or not interrupted. Then, participants’ PM perceptions were measured with Vallerand et al.’s (1988) Perceptions of PM Questionnaire. ANOVA and post hoc comparisons revealed that, following the negative momentum sequence, observers had lower PM perceptions than actors. No significant difference was found between actors and observers following the positive momentum sequence. Following the negative momentum sequence, PM perceptions were significantly higher in the interruption condition than in the no interruption condition, whereas the contrary was observed following the positive momentum sequence. Observers’ higher sensitivity to negative sequences could result from the combination of a general higher sensitivity to negative outcomes (Baumeister et al., 2001) and a pathetic fallacy (Deutsch, 1960) which corresponds to a polarization of observers’ ratings toward either success or failure. The sensitivity of PM perceptions to sudden interruptions is indicative of when timeouts in sport can be more likely to disrupt either one’s phase of negative momentum or the opponent’s phase of positive momentum.

Keywords: pathetic fallacy, performance, psychological momentum, timeout

EEG Characteristics’ Analysis of Angle Discrimination Based on Kinesthesia

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Tongji University

Abstract: This study discussed the brain electrical activity rules, and also discussed the relationship between brain electrical activity rules and cognitive behavior.

It provided ideas and the basis for many aspects, including the improvement of technical level in movement, athlete selection and artificial intelligence.

Subjects’ accuracies of regular angle were larger than irregular angle; accuracies of intuition discrimination were larger than non-intuition discrimination. In irregular angle discrimination and non-intuition discrimination, athletes showed more obvious expert advantage. Athletes showed more obvious advantages in angle discrimination and their brain neuron performance had higher activation levels and attention degree.

Twelve students from Tongji University were selected as subjects, including six athletes and six ordinary university students. PowerLab was used to record the 12 subjects’ EEG during quiet state, and angle discrimination and multivariate statistical analysis was used to compare and analyze brain waves of different subjects in the different angle discrimination process.

Keywords: kinesthetic angle, regular and irregular angle, intuition and non-intuition discrimination, EEG characteristics

The Impact of Different Emotional States on Conflict Control in Male Basketball Players: An ERP Study

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Abstract: To control conflicts is an important ability in competitive

sports. It is inevitable that athletes will encounter various emotions in the sports field, which influences information recognition and process. Thus, the objective of this research is to study the effects of various emotions (positive and negative) on the abilities of male basketball athletes to control conflicts.

This study, through emotional pictures which induces positive and negative emotional states, used basketball dribbling pictures as stimulating materials and adopted the paradigm of Simon task to generate confliction situations. Dribbling directions and picture position were either on the left or right. Subjects judged the dribble direction and made key responses. If the position of stimulus-response was incompatible, it was considered as a conflict situation. Event-related potential technology was also used to study the influence of different emotional states in basketball athletes’ abilities to control conflicts.

The RT of basketball players was shorter than college students and the main effect was significant (p=0.042). There were no differences in accuracy. Subjects correctly performed the conflict tasks in different emotional states that induced obvious P300 waveform. The results showed that the emotional states had main effects (p=0.017). The latency under negative emotions was longer than that of under the positive. The peak amplitude of the P300 showed a significant effect of electrode position (p=0.000). The maximum amplitude occurred mainly in the CPz, Pz electrode point.

Conclusions: Emotional states and the degree of difficulty of tasks affect the athletes’ response time and process of interpreting information to fulfill tasks. Under specific sport emotions, in recognition process, negative emotions would generate more interference and negative effects than positive emotions. Negative emotions have more influence on the ability to control conflicts than positive emotions. The ability of male basketball athletes under negative emotions to perform conflict tasks is no better than those of ordinary undergraduates.

Keywords: emotion states, conflict control, basketball players, ERP

Effects of the Visual Field and Visual Cues on Basketball Players Depending on Their Level of Expertise: Evidence from Eye Movement Data

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Abstract: In sports, especially fast ball games, athletes face a lot of information which they have to respond in a very short period of time in an attempt to predict the opponent’s actions in advance. The selective attention for only the most relevant source of information is the foundation for successful performance. Selective attention includes visual ability, visual search ability, ability of advance cue usage, etc. In the past, domestic research has probed into the performance of elite athletes on this ability, but there are less specific explanations from the perspective of empirical differences between experts and novices.

The aim of this research is to compare cognitive processing between experienced athletes and amateur athletes, through investigating how the visual field and cues influence visual search in different perceptual and cognitive tasks. The sample (N = 40) is composed of 20 experienced athletes and 20 amateur athletes. The procedure used a visual search paradigm. The independent variables were the level of athletes, the amplitude of the visual field and the presentation of cues. The dependent variables were the eye movement data and the reaction time of stimulus. Two experiments were conducted using

eye movement techniques. The pictures used in both experiments consisted of eight shapes which were arranged in a 3×3 square. In experiment 1, observer participants had to locate the matching shape by using the number pad on the side of the keyboard whether there was a cue or not. Experiment 2 adopted similar treatments as Experiment 1 but differed in complexity of visual search situations; observer participants had to judge the specific shape after searching for the matching shape.

The results showed: 1. The experienced athletes scored fewer errors in the attentional task and had a shorter visual reaction time than novice athletes (p<.05), indicating that professionals manifest a stronger ability to process information than the novice athletes. 2. The cues had a greater effect in the peripheral visual field than when they were in the centre visual field. Experienced athletes made more efficient use of cues during both experiments (p <.05). 3. There was a remarkable change in parameters for the experimented, in order from the experienced athletes down to the amateur athletes, while the degree of cognition increased progressively. 4. As cognitive task difficulty increases, the subjects’ eye movement indicators also had obvious changes; the difference between the experienced athlete and novice athletes is reflected in a lower level of cognitive tasks.

Keywords: visual field, cue, visual attention, eye movements

Cognitive Features and Neural Mechanisms of Elite Sanda Athletes in the Course of Perceptual Prediction

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Abstract: The study theoretically guided by experts athletes’ postnatal experience of cognitive advantages, using expert-novice paradigm, together with the technology of event-related potentials and eye movement recording technique, will clarify the inherent laws of perceptual prediction during the process of information processing on the elite Sanda athletes, and provide theoretical guidance to the practical training.

The results show: (1) Elite Sanda athletes have a shorter latency of the evoked P1 and a larger amplitude of the evoked N1; the more number of interference stimuli, the larger N1 amplitude was induced. (2) Elite athletes have a shorter latency of P2, N2, P3, a smaller amplitude of P3, P2 and a larger amplitude of N2; the more difficult the search, the longer latency of P1, P2, N2, P3 and the larger the amplitude. (3) Elite athletes have a shorter latency of evoked N1, P3 and a larger amplitude of P1, N1; subjects have a longer latency and a larger amplitude of P1, N1, P3 with video material identification. (4) Elite athletes have a shorter latency of induced P1, N1, P3, a smaller amplitude of P1, P3 and a larger amplitude of N1. Subjects have a longer latency of P1, N1, P3, larger amplitude of P1, P3 and smaller amplitude of N1 with pre-judgment of video material. (5) Beginners after training have a shortened latency of evoked P1, P3 and decreased the amplitude of P1, P3 slightly.

Conclusions: (1) Elite Sanda athletes, in general, spend more psychological resources during visual search with high concentration of attention; with the degree of task difficulty increased, the consumption of psychological resources also increases. (2) Elite athletes subtly process the effective attack point with more psychological resources; the increase of task difficulty reduces the efficiency of visual search and extends the process of cortical activation. (3) Skilled motion-recognition of elite athletes effectively inhibits the interference of irrelevant stimuli; the more psychological resources, the higher rate of accuracy. (4) In the early period of pre-judgment, elite athletes spend more psychological resources, have

a higher degree of attention concentration and have faster activation speed of mental patterns from the memory system; the greater the amount of information to judge, the higher the rate of accuracy of cognitive processing. (5) Perception training makes beginners grasp the economic and reasonable search strategies, effectively improving the efficiency of pre-judgment.

Keywords: Sanda, perceptual prediction, neural mechanism, event-related potentials, eye movement

The Influence of Emotion Regulation on Decision-making in Basketball: Moderation Effects of Working Memory

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Abstract: This research tried to investigate the effect of emotion regulation, visual-spatial working memory and verbal working memory upon the speed and accuracy of basketball players in decision-making, based on the cognitive approach and paradigms of cognitive psychology. One hundred and two basketball players (18 to 22 years old) from one sport university participated in the study. Self-developed softwares measuring working memory capacity and the accuracy and speed of decision-making were used in the investigation. The research consisted of three mixed-design experiments.

Study 1 adopted emotion (3) × emotion regulation (3) × decision-making task (2) mixed-design to investigate the influence of emotion regulation and emotion on the quality of decision-making. The results suggested that emotion regulation was important for decision-making in basketball. The cognitive reappraisal group performed better than that of the expression suppression group. Emotion played an important role in basketball. The neutral emotion group performed better than that of the anger and fear groups.

Study 2 adopted emotion regulation (2) × visual-spatial working memory (2) × decision-making task (2) mixed-design to investigate the influence of emotion regulation and visual-spatial working memory on the quality of decision-making. The results suggested that visual-spatial working memory moderated the influence of emotion regulation on decision-making. In the control group, the reaction time of the players with higher visual-spatial working memory capacity was shorter than that of the players with lower capacity .The reaction time of the cognitive reappraisal group wasn't affected significantly by the visual-spatial working memory capacity.

Study 3 adopted emotion regulation (2) × verbal working memory (2) × decision-making task (2) mixed-design to investigate the influence of emotion regulation and verbal working memory on the quality of decision-making. The results suggested that verbal working memory moderated the influence of emotion regulation on decision-making. The reaction time of the players with lower capacity was significantly affected by emotion regulation. The reaction time of the cognitive reappraisal group performance was better than that of the control group. Verbal working memory capacity affected the reaction time of decision-making. The reaction time of the group with a higher capacity was shorter than that of group with a lower capacity.

The conclusions drawn from this research were as followings: emotion, emotion regulation and working memory are important for decision-making in basketball. Visual-spatial working memory and verbal working memory moderates the effect of emotion regulation on decision-making.

Keywords: decision-making, emotion regulation, emotion, visual-spatial working memory, verbal working memor

A Review of Exploratory Research on Athletes Decision-Making in China

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Abstract: Decision-making in sport has been a hot area of research for several years. A few Chinese researchers have made some exploratory research mainly involving the mechanism or influencing factors of decision-making in sport based on the information processing orientation in cognitive psychology.

A pioneering work found that athletes' decision-making tend to be intuitive in most cases, mainly because available time and information for athletes' decision-making are inadequate (C. Yang & C. M. Liang, 2001). Intuitive decision-making in sport is distinctly different from logic decision-making in situations, clues, speed, accuracy, consciousness and analysis (B. Wang, 2003; Q. Fu, 2004; Y. M. Cheng, 2006).

Some research examined factors affecting decision-making such as skill levels, sports, knowledge representation, risk preference, decision-making style, self-esteem and capacity of working memory, and the results suggested that most of these factors correlated significantly with the variations in speed and accuracy of athletes' decision-making (Q. Fu, 2004; Y. M. Cheng, 2006; X.W. Zhou, 2010; X.D. Sun, 2011; H. Y. Ye, 2011). Moreover, a few studies began to investigate the relationship between emotional state (positive or negative), emotion regulation and performance of athletes' decision-making, and found that decision-making in positive emotions was usually more effective than that in negative emotions, and emotion regulation could improve the decision-making (X.W. Zhou, 2010; X.D. Sun, 2011; H. Y. Ye, 2011; X. B. Zhang, 2012; Y.Y. Fu, 2012).

In the future, ecological validity of decision-making research in sport should be expanded in methodology, such as the settings of decision-making tasks, situations or ways of emotion elicitation and emotion regulation, etc. Hopefully the research can learn from methods and results of cognitive neuroscience.

Keywords: decision-making, intuitive decision-making, logic decision-making, athletes

The Difference in Multiple Object Tracking between Video Game Players and Non Video Game Players

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Beijing Sport University

Abstract: Researchers have shown that there are significant differences between video game players (VGPs) and non-video game players (NVGPs) in multiple object tracking (MOT) tasks (Green & Bavelier, 2006a). However, no evidence has shown whether the non-target inhibition in the MOT task between VGPs and NVGPs is different. This research aimed to answer this question by employing the MOT and probe detection task.

This research included four experiments in total with two sub-researches. In the first sub-research, half of the non-targets were randomly moving, and the other half were static (experiment 1) or regularly moving (experiment 2). In the second sub-research, half of the non-targets had the same speed as the targets, and the other half had twice the speed as the targets (experiment 3) or three times as the targets (experiment 4). Participants in the four experiments performed the tracking task first and the non-tracking task after, and then detected the presence of a dot at a location occupied by the

target or non-target with a different feature. The correct percentage of tracking and probe detection in different locations of the different tasks were measured. The difference in accuracy of dot detection in each location condition between the tracking and non-tracking tasks was computed as an index of inhibition.

The results showed that There was no significant main effect between groups in the four experiments, which means there was no significant difference between VGPs and NVGPs. There was also no significant interaction of the groups and dot location in the four experiments. There was a significant main effect of dot location in the four experiments. Experiment 1: The randomly-moving non-targets got the most inhibition in the three locations and more inhibition to the randomly-moving targets compared to the static non-targets. Experiment 2: More inhibition was obtained with the randomly-moving targets than with the randomly-moving targets and regularly-moving non-targets, but there was no significant difference between the inhibition to the targets and to the regularly-moving non-targets. Experiments 3 and 4: The non-targets whose speed was faster than the targets obtained the most inhibition, and more inhibition to the non-targets whose speed was the same as the targets compared to the targets.

The conclusions were: There was no significant difference of inhibition in different tasks and dot locations between VGPs and NVGPs. There was significant difference of inhibition in different tasks and dot locations.

We can see from the research whether and how video games influence human beings' visual attention ability.

Keywords: multiple object tracking, inhibition, moving pattern, moving speed

Research on the Implicit Aggression of College Students Who Exercise Regularly

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Abstract: In real life, the increasing number of stadium violence forces us to confront the fact that while physical exercise promotes the development of people's physical and mental health, it also plays a role in inducing aggressive behaviors. This research aims to discuss the aggressive differences between people who exercise regularly and those who don't by means of the Implicit Association Test (pictures and words test) and BPAQ aggression questionnaire.

Experiment One studied the aggression of two types of people (214 college students were used as subjects for this). The results show that there were no significant differences in their LAT, which leads to the conclusion that these two types of people are not significantly different in implicit aggression, and also in explicit aggression as well as in all sub-scales (body attacks, verbal attacks, anger and hostility). Experiment Two tested the implicit aggression of 66 college students who were divided into two groups based on their different self-exercise styles: one group was in antagonistic events such as basketball and football while the other group was in physical events like aerobics and aerobic long-distance running. The results are as follows: there were significant differences between the two groups in their implicit aggression with the former group being more aggressive than the later one; in the results of their explicit aggression test and all sub-scales (body attacks, verbal attacks, anger and hostility) scores, no significant differences were shown.

Keywords: people exercise regularly, Implicit Association Test, implicit aggression, explicit aggression

Application of the Implicit Association Test for Research of Physical Exercise Attitude

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Abstract: The Implicit Association Test (IAT) developed by A.G. Greenwald, based on the response-time paradigm, has been widely used around the world since 1998. It is a new method to measure implicit attitude, based on a kind of computerized discriminating and classifying task. The indicator for the IAT is the difference of reaction time between incompatible discrimination and compatible discrimination. The IAT measures implicit attitude by measuring the automatic association between concept words and attributive words. Some researchers suggest that people can have dual attitudes, which are different evaluations of the same attitude object (explicit attitude and implicit attitude). People usually pay close attention to an explicit attitude under conscious statute, but are recently interested in implicit attitude under unconscious statute, especially in the field of physical exercise. Undergraduates' physical exercise attitude has a major impact on their sports behavior. In this study, with the methods of the implicit association test, we measured the implicit attitude of 106 undergraduates on physical exercise. Also explicit attitude of physical exercise was measured by questionnaire. The study results show that the implicit association test was fit for testing implicit attitude of physical exercise, and the implicit effect was significant in undergraduates' specialty; students majoring in physical education were significantly higher than that of non-PE majors. Generally speaking, the explicit physical exercise attitude of college students is more positive because of their higher total score, especially target attitude, behavior habit and feeling of exercise. The behavior intention, perceived behavior control, feeling of exercise, and behavior habit of male college students were significantly higher than that of female students. The relation of implicit and explicit physical exercise attitude is not significant except behavior intention, behavior cognition, and target attitude, so they belong to two relatively independent structures.

Keywords: Implicit Association Test, physical exercise attitude, application

The Advantage of Movement Correction in Elite Fencers: An ERP Study

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Abstract: This study was designed to investigate the fencers' expertise in movement correction. Behavioral data and event-related potentials (ERPs) were recorded in fencing experts (n = 10) and novices (n = 10) while they completed a manual aiming task. The task was to manually move a cursor to the target point in a screen. Participants completed aiming movements in three experimental conditions (control, movement correction and correction failed). Compared with the control group, fencers completed the movement correction task with significantly less time (p<0.05) and higher accuracy (p<0.05). At the initial stage, the P1, N1 and P2 components were evoked. The N2 and P3 components were evoked when participants corrected their movement. The peak amplitudes of P1 (p<0.001), P2 (p<0.05), N2 (p<0.05) and P3 (p<0.05) of fencers were lower than that of the controls, and the peak amplitudes of N1 was higher in fencers (p<0.05). The latency of P2 in fencers was longer(p<0.05)And there was no significant difference between the two groups' latency of other components. Fencing experts correct their movement faster and more accurately with high efficiency

advantages in cognitive processing.

Keywords: fencer, ERP, movement correction

The Effect of an Acute Bout of Moderate Intensity Exercise on Stroop Task among College Students with Different Physical Fitness

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Abstract: The objective of this study was to examine the effect of an acute bout of moderate intensity aerobic exercise on executive function among college students of different physical fitness using the Stroop task. The participants were 30 female college students. To measure maximal oxygen uptake (VO2max), we used the YMCA program in Monark 839E cycle ergometer. The subjects were divided into either the high fitness group or low fitness group according to the VO2max. Subjects completed 30 minutes of moderate intensity aerobic exercise on the cycle ergometer and underwent the Stroop task before and after the exercise. There was no significant difference in Stroop task performance before and after the exercise for the high fitness group. However, compared with pre-exercise task performance, the correct rate was significantly enhanced in the low fitness group when the color and words were congruent. The reaction time was significantly reduced in the low fitness group whether the color and words were congruent or not. Thirty minutes moderate intensity aerobic exercise on a cycle ergometer can promote the Stroop task performance in low fitness individuals, indicating that inhibitory function, as a part of execution function, is enhanced after exercise.

Keywords: executive function, inhibitory function, maximal oxygen uptake, physical fitness

Athlete’s Ego Depletion Caused by Cognitive Dissonance and Its Compensation

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Abstract: Self-regulation often consumes a limited resource, akin to energy or strength, thereby causing a temporary state of ego-depletion. The study on ego-depletion is important because of the research showing many problems associated with self-regulation failure. Many studies have investigated the influential factors and compensation effects of ego-depletion. The aim of the present study, based on the strength model, was to test whether cognitive dissonance would impair regulatory behaviors by consuming self-control strength, as well as the compensation effect of self-affirmation on ego-depletion. In Study 1, twenty college athletes participated in the cognitive dissonance task for five minutes and then performed a stroop task. The result showed that cognitive dissonance caused ego-depletion. Study 2 further explored the compensation effect of self affirmation between cognitive dissonance and an athlete's ego depletion. Sixty college athletes finished the cognitive dissonance task for five minutes and then engaged in value affirmation, attribute affirmation, and no affirmation tasks for five minutes respectively. After that, participants completed three items of the clarity of self-concept, and finally performed a stroop task for Study 2. Two results were attained. The first one showed value-affirmation played an important role in compensating ego-depletion under the condition of cognitive dissonance. The second one suggested that the compensation of ego-depletion was mediated by the clarity of self-concept.

Keywords: cognitive dissonance, ego-depletion, self-affirmation, compensation

Electroencephalographic Coherence Analysis during Action Recognition of Table Tennis Athletes

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Abstract: The aim of this study was to examine electroencephalographic coherence to determine the relation between cortico-cortical communications during action recognition of table tennis athletes. Method: EEG (64 channels) were simultaneously recorded in 18 expert table tennis athletes and 18 novice table tennis athletes. During the EEG recordings table tennis serve action was observed. Coherence was assessed for four frequency bands (low alpha, 8-10Hz; high alpha, 10-12 Hz; low beta, 13-22Hz; and high beta, 23-35Hz) using site F3, Fz, F4, C3, Cz, C4, P3, Pz, P4, T7, T8, O1, Oz, and O2. Statistical results showed: Compared to the novices, experts exhibited lower coherence in the bilateral parietal-frontal (P3-F3 and P4-F4 electrodes) and parietal-temporal (P3-T7 and P4-T8 electrodes) regions, and between the left particle (P3) and left central occipital region for low-alpha frequency in intra-hemispheric, high-frequency alpha (left parietal-frontal, parietal- temporal, parietal-central, parietal-occipital); the same applies to lower-frequency beta. High-frequency beta (left parietal-frontal, parietal- temporal), inter-hemispheric low-frequency alpha (frontal regions, parietal regions, central regions), high-frequency alpha (parietal regions, central regions), low-frequency beta (parietal regions, central regions). The results revealed that compared to novices, experts engage in less cortico-cortical communication, particularly between the left parietal association frontal and central regions. The results support refinement of cortical functional coupling in experts.

Keywords: table tennis athletes, serving rotation, electroencephalographic coherence, functional coupling

Does Self-efficacy Affect Soccer Referees’ Risky Decisions? The Case of Judging Off-sides

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Abstract: Sports officials must quickly appraise and judge events that dynamically take place during the match. Such a decision-making task is made in a scenario in which multiple aspects of the game would act as noise, so that referees frequently have incomplete or contradictory information. Moreover, all of these decisions are made under socially evaluative conditions, which would roughly penalize his/her actions. Therefore, refereeing would be conceptualized as a decision of an uncertainty task in which the decision-making would be followed by negative consequences for the referee. One of the aspects that have been suggested to influence refereeing performance is self-efficacy. Referee self-efficacy has been defined as the extent to which referees believe they have the capacity to perform successfully in their job (Guillen & Feltz, 2011). Self-efficacy beliefs have shown to influence risk-taking of decision makers. The present paper aimed to analyze in which extension of officials' self-efficacy would affect the more or less risky character of the refereeing decision.

For this purpose, a sample of young soccer referees were assessed

Students of Different Physical Fitness

Jingjing Yuan
East China Normal University

Abstract: The aim of this study was to examine the effects of acute bouts of moderate intensity aerobic exercise on switch function in college students of different physical fitness.

Thirty-two female college students were divided into a high fitness group and low fitness group by VO2max measurements using the YMCA program in Monark 839E cycle ergometer. With cross balanced design, subjects underwent the more-odd-shifting task before and after 30 minutes of acute moderate intensity exercise on the cycle ergometer.

By t-test, we found that there was no significant difference between the high fitness group and low fitness group in switch function. Compared with the pre-exercise task performance, the reaction time of the switch task was significantly reduced when subjects completed the task after exercise regardless of their physical fitness.

Thirty minutes of acute moderate intensity exercise on a cycle ergometer can improve switch function of female college students, which indicates a positive effect on executive function.

Keywords: executive functions, switch function, acute exercise, physical fitness, college students

Visual Search Strategy for Stroke Course Prediction in Soft Tennis

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2. Japan University of Economics

Abstract: The purpose of this study was to clarify the visual search strategy for a net player of soft tennis to predict the stroke course of the opposing baseline player. The participants were 20 players, and they were classified into a veteran group and a novice group according to their soft tennis experiences. They were instructed to watch 15 stroke videos and orally explain a predicted stroke course. At that time, a device for measuring eyeball movements was put on the head of each subject, to observe the eyeball movements of the subjects. The ratio of correct answers was calculated from the results of the experiment. In addition, the body of the player in the stroke video was divided into four parts: head and chest, racket and arm, feet, and other region. Then, gaze ratio was calculated from the duration of gazing on each part. Additionally, stroke motion was divided into two phases: a course selection phase, which ends when the player steps on the right foot, and a main phase, which starts when the stepping is finished and ends just before the impact. Gaze ratio was calculated for each phase. The results indicated that the ratio of correct answers for the veteran group was higher than the novice group. The results of gaze ratio calculation indicated that the novice group gazed mostly on the head and chest and secondly the racket and arm in the course selection phase, while the veteran group gazed mainly on the head and chest. The comparison in average gaze ratio between the veteran and the novice groups indicated that the gaze ratio for the head and chest in the veteran group and the racket and arm in the novice group were significantly higher than each counter subject. In the main phase, the novice group gazed mostly on the racket and arm, and secondly the head and chest; meanwhile the veteran group gazed mostly on the head and chest, and secondly the racket and arm. The comparison in average gaze ratio indicated that the gaze ratio for the head and chest in the veteran group and the racket and arm in the novice group were significantly higher than each counters. There were significant differences between a veteran

with the Referee Self-Efficacy Scale (REFS, Myers, Feltz, Guillen, & Dithurbide, 2012). They were also asked to choose whether they would whistle or not an off-side fault by watching a set of video recordings presenting potential off-side situations. Situations showed the beginning and the end of the shot, but referees would not watch the positions of the defenders and forward when the ball is passed. Previously they noticed the situations were difficult to appraise and asked about how accurate the estimates should be. After a set of trials, they received a bogus feedback either maximizing or minimizing errors according to two random groups. Afterwards, a new set of trials was presented for refereeing. Participants were informed that they would be assessed in the task according to the following payoff table: 5 points earned when the forward is off-side and the fault whistled (right response), and when the forward is on the line and fault is not whistled (right omission); -2 points when the forward is onside and the fault whistled (false alarm); -8 points when the forward is on the line and the fault whistled an off-side (wrong omission). Results compared frequency of whistled off-side faults before and after the experimental condition and within feedback groups as well as in relation with the referee self-efficacy index and the task self-efficacy score participants showed. Implications for referee judgment under uncertainty and the role of self-efficacy in sport officials' decisions are discussed.

Keywords: referee, risk-taking, self-efficacy, soccer, off-side

The Effect on Brain Mechanisms of Executive Function in an Acute Bout of Aerobic Exercise: An fMRI Investigation Using N-back Task

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Abstract: The aim of this study was to examine the effect on brain mechanisms of executive function in an acute bout of aerobic exercise in college students. Fifteen female college students carried out 30 minutes of moderate intensity aerobic exercise on the cycle ergometer. The brain was scanned by fMRI before and after the acute aerobic exercise when subjects finished the N-back task. Paired t-test was used to compare the scope and extent of brain activation before and after the exercise. There were no significant differences in brain area activation when undergoing the 0-back and 1-back task before and after the exercise. Compared with the pre-exercise task performance, the right calcarine sulcus, the right side of the middle frontal gyrus and the left fusiform gyrus activation were significantly enhanced, and the right nucleus accumbens, the left nucleus accumbens, the paracentral lobule and the left inferior frontal gyrus were significantly reduced when subjects finished the 2-back task after aerobic exercise. Thirty minutes moderate intensity aerobic exercise can cause plasticity changes of the neural substrate, which affects the function of memory refreshing in female college students.

Keywords: executive function, acute bout of exercise, memory refreshing, brain mechanisms, fMRI

The Effects of an Acute Bout of Moderate Intensity Exercise on Switch Function in Female College

and novice player’s visual search strategy, and the results were discussed in the content.

Keywords: visual search strategy, soft tennis, college student, prediction

The Impact of Perception-Action Coupling on Receiving Performance in Virtual Serving Situations for Tennis Athletes

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Abstract: Researches on perception and action have been directed and conceptualized by two distinct frameworks, often referred to as the information-processing and ecological perspectives. The difference between the two theories is the level of perception-action coupling. Traditional perception anticipation studies are based on the information-processing framework; these studies investigated expert superiority by using nonrepresentative response modes, such as verbal report and button response, and have a low perception action coupling level. Meanwhile, the ecological theory represents a high level of perception-action coupling; studies investigate expert superiority by using real motor action.

The purpose of this study was to investigate the impact of perception-action coupling on receiving performance of tennis athletes in virtual serving situations. Verbal report response is a low level perception-action coupling, while real action response is a high level perception-action coupling.

This study used a 3 (grade one athletes, grade two students, amateurs) ×2 (verbal report, real action) mixed experimental design. Nineteen subjects were selected to take part in this study—five grade one athletes, seven grade two students, and seven amateurs, with an age range of 19-32 years old. All subjects were male, healthy, right handed, and with normal naked vision. The tennis virtual serving situation was modulated by Chengdu Spirit Technology Company. The serving action was based on real serving from the Australian Open; there were eight serves and with a speeds of about 150km/h. Results showed that there were significant differences of reaction time and accuracy among grade one athletes, grade two athletes and amateurs in verbal report, with the reaction time and accuracy performance of grade one athletes best. Moreover, accuracy of real action was lower than verbal report for grade two athletes and amateurs, but opposite for grade one athletes. There also was significant difference of real action accuracy among grade one athletes, grade two athletes and amateurs. The starting time of body movement and racquet swing of grade one athletes were earlier than grade two athletes and amateurs; the total time of racquet swing of grade one athletes was shorter than grade two athletes and amateurs; the total time of body movement and racquet swing of grade one athletes was longer than grade two athletes and amateurs, and grade two athletes were also better than amateurs.

The performance of the athletes was good in the virtual serving situations, and perception-action coupling level influenced the receiving performance of the athletes. A high perception-action coupling level can mostly reflect expert superiority; grade one athletes had a better receiving performance in real action.

Keywords: perception-action coupling, receiving performance, virtual serving situation, tennis athletes

Differences of Visual Search in Expert and Novice Basketball Players

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Abstract: The search for factors that discriminate experts’ and novices’ perceptual motor performance is of interest to researchers in motor behavior, but the different mechanisms underlying performance is still under discussion and the debate of ‘hardware’ or ‘software’ is ongoing. In order to examine the differences between expert and novice basketball players’ visual search, 38 subjects (experts=19, novices=19) were asked to perform a search task of targets, which appeared in the central visual field or peripheral visual field with or without cues. A SMI RED 250 Eye Tracker was used to record the eye movements. Results were analyzed using repeated measured ANOVA. The main effects of visual field were significant both in the task with cues (F1, 36=8.520, p=.006) and without cues (F1, 36=149.253, p=.000). The main effect of groups was not significant in the task without cues (F1, 36=1.847, p=.183), but the response time of expert basketball players were faster than the novices’ (F1, 36=5.840, p=.026) in the search task with cues. It was suggested that search speed in the central visual field was distinctly faster than that in the peripheral visual field for both experts and novices. The dominance of experts was not in the basic perceptual processes but in superior perceptual skills—the ability to use advanced visual cues. The results of eye movements indicated that experts’ number of fixation and saccades were significantly less than the novices’, while the average fixation duration was longer than the novices’ as well as the average saccades size. A significant difference of average saccades velocity was not found between the groups.

Keywords: experts, novices, basketball players, visual search, eye movement

The Effect of Aerobic Exercise in the Recognition of Sad Facial Expression in Menopausal Women

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Abstract: Women aged 45-55 years have a "window of vulnerability" when they are susceptible to depression because of rapid hormonal changes, and are extremely susceptible to emotional fluctuations due to menopause. Regular exercise has been an essential recommendation from the health and medical field for enhancing spiritual health and diminishing the negative psychiatric symptoms of depression. This study examined the effects of aerobic exercise on facial expression recognition, hypothesizing that physical activity intervention changes the cognitive performance of perimenopausal women. Ten healthy, right-handed women (aged 46–54 years) and 17 young women (aged 18–20 years) were recruited. We conducted an experiment involving facial recognition of the expressions “neutral”, “happy”, “fearful”, and “sad” according to the Paul Ekman collection of photographs depicting facial expressions. In addition, we analyzed the accuracy and performance speed before aerobic exercise, as well as after exercise in a 15-minute period of absolute rest. Average exercise strength of 73%–75% was equally achieved for both groups. The total correct scores indicated that the reaction times (RTs, in ms) of the older group were significantly shorter and consistent regarding the facial expressions of emotions “happy”, “sad” (p < .01), “fearful”, and “neutral” (p< .05) in the performed exercise as compared with the pre-exercise performance of the younger group. The results showed that aerobic exercise could enhance the perceptual speed of the non-perimenopausal women. Conversely, a significantly reduced reaction time specific to the sad facial expression was demonstrated in the perimenopausal group (p< .05) after the aerobic activity; however, the reaction times did not change regarding the “happy”, “fearful”, or “neutral” expressions. The results indicated that the perimenopausal

women showed more rumination in recognizing the “sad” facial expression after aerobic exercise. Based on our research, this is the first report to demonstrate that aerobic exercise improves cognitive flexibility, as demonstrated by a significantly reduced reaction time specific to recognizing a “sad” facial expression. Brain neuron-plasticity has been shown to be a resource for behavioral change, suggesting that a highly depression-prone woman can adjust innate happiness-sadness brain conditions by exercising. Perimenopausal women are characterized by large fluctuations in estrogen levels and are influenced by mood regulation and depression, as determined in previous behavioral and imaging studies. Our findings emphasize the importance of sports and physical activity in enhancing the brain dynamics of emotional circuitry modulation of menopausal women, in accordance with sport-relevant effects.

Keywords: aerobic exercise, facial expression, sad, menopause

Research Prospects on Superior Anticipation in Experts

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Abstract: Under high time pressures in sports, it is important for the players to anticipate outcomes of the various actions involved, such as the opponent’s actions or ball trajectory. Recently, many researchers have explored this superior action anticipation using the expert-novice paradigm in behavior and neuromechanism. Through temporal or spatial occlusion, most studies have found the difference between them especially in neuromechanism. Results have revealed experts possess excellent sensory abilities or high cognitive levels such as neural efficiency, attention, object recognition, and pattern matching under their sport situation. However, further study could explore the following problems: (1) Most studies pay attention to the anticipation of “What”, for example experts and novices should press the key when a top spin emerges, but in real games players doing the actions at the right time is important too. This refers to the anticipation of “When”. Studies in neuroscience have found the difference between “what” and “when”. (2) How does long term training build specific representations in a player’s brain? Neuroscientists have told us our brain uses analogies and associations to generate predictions through representations, thus, the kind of superior anticipation in experts is due to the specific representation form. From the multiple motor control view, both semantic and graphical representation takes part in it. (3) Does the ability happen naturally? Someone could be born for sports not only because of physical quality but also because of the excellent “software”, for instance, a dynamic brain could let players quickly regulate the relevant representation to adapt to the rapid change.

The exploration of the above problems could help us understand more about the expert players and could be used to train or even choose players.

Keywords: experts, anticipation, representation, prospect

The Difference between Sports Major Students and Other Students on Masking Effect When Set Size of Masking Components and Arrangements Are Manipulated in OSM

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Abstract: We used an object substitution masking paradigm in this study to explore the difference between sports major students and other students in visual masking experiments. The two experiments are as follows:We used the same black dots as masking components in experiment 1. The results are consistent with that of Todd A. Kahan Katherine M. Mathis’s 2002, that is masking effect becomes stronger with increasing masking components set size. Notably, the proportion of correct target identification shows that sports major students are better than other students in their performance. We explored the effect of masking components arrangements on these observers’ target identification in experiment 2 when the set size of masking components was fixed. Our results show that 1. OSM effect significantly increases with more masking components, but the results are better when there are two components than four. 2. There is a significant difference in their performance between the two groups in masking condition—sports major students have better performance than others. 3. Masking effects appear in all these masking conditions. Observers have worse performance in disordered components arrangements than the other three regular arrangements and they have no difference with each other. It is assumed that sports major students are more able to avoid the disturbance of distractors and it seems that sports major students can control their attention more freely than others.

Keywords: object substitution masking, components size, arrangements, visual attention, sports major students

Dynamics of Cognitive Team Coordination in Basketball: A Social Network Analysis with Novice Players

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Abstract: The network that links the players’ individual activities at each instant during the game is assumed to help the team perform better as a whole. Our study was built on a detailed description of what players experience during the course of their actions in a basketball game. We introduce the Social Network Analysis (SNA, Wasserman & Faust, 1994) as a promising method to dynamically account for the way the team networks throughout a game. The activity of five young relatively inexperienced basketball players (M= 15.2 ± 0.45 years) was studied during an official match over an effective time of 4 minutes. The data were first collected and processed according to a procedure defined for course-of-action analysis (e.g., Bourbousson et al., 2010), and then submitted to the SNA tool. Verbalizations data (retrieved from post-match interviews) were processed in order to synchronize the courses of the respective experiences lived by the players. To apply the SNA tool, we identified at each instant the teammates that were taken into account by each player. The series of matrices obtained at each instant were processed using indicators like density, transitivity, reciprocity, and centrality indices. Time series analyses were then applied (correlation, windowed correlation, cross-lagged correlation, windowed cross-lagged correlation).

From synthetic analyses, density was 0.66 (±0.15), transitivity was 0.76 (±0.17), reciprocity was 0.45 (±0.22), and closeness-centralization was 0.73 (±0.41). Within the matrix of correlation coefficients some significant positive relations between indices were of particular interest: density/transitivity (r=0.48), density/reciprocity (r=0.83), and some negative ones: density/closeness-centralization (r=-0.71) and reciprocity/closeness centralization (r=-0.76). Then, conducted with all pairs of indices, (a) the running-correlation calculations together suggested that the relations between indices were quite stable except for some key-moments, (b) the cross-lagged correlation calculations together pointed out that some relations

between indices (i.e., transitivity/reciprocity) were better described including a time-lag; (c) the running-cross-lagged correlation calculations allowed to especially point out the instances when indices were seemingly constraining each another.

The results suggested that SNA tools are also assumed to be an opportunity to test multiple metrics in a multilevel view of team patterns. These descriptions particularly highlighted that the network synthetic properties of a novice team differ from those observed within expert teams (Bourbousson et al., 2010). Dynamical account of the network's phenomena open up some avenues for research with regards to top-down/bottom-up phenomena in sport teams.

Keywords: team cognition, team dynamics, team coordination, shared awareness, social network analysis

Information Content Affects One vs. One Defense on Soccer Players

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Abstract: To investigate the differences in decision making and eye movement of one vs. one defense among soccer players. Twenty-one adult amateurs and ordinary college students participated in this experiment in which time block paradigm was applied. The videos were cut from complete videos, incomplete videos with time blocking point 1 and blocking point 2. Experimental results showed that: 1) The RT of players was the least of all, and the ordinary used the most; 2) For the accuracy of decision making, players and amateurs were higher than the ordinary, while the participators watching incomplete videos scored lower than the others watching complete videos; 3) amateurs and the ordinary paid more attention to the football, whereas players gazed at the supporting leg and kicking leg more. The results indicated that professional soccer players might notice crucial information and pay attention to the broader field during visual search of one vs. one defense, with less time and more accuracy. Meanwhile, the complete information would help players make the right decision.

Keywords: soccer, decision making, eye movement, one vs. one defense

A Quantitative Approach to the Dynamics of Intersubjectivity within a Soccer Team During a Game

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Abstract: The purpose of the present study was to gain insight in the processes of team cognition during a soccer game. More particularly, we aimed to describe and track in time the cognitive coordination network underlying intersubjectivity processes. Our approach was grounded (a) on the enactivist theory (Maturana & Varela, 1987) that emphasizes the phenomenological aspects of human social coordination, and (b) on the Social Network Analysis framework (SNA, Wasserman & Faust, 1994).

The activity of 11 young (U17) national soccer players (years of structured training $M = 10.1 \pm 1.6$ years) was studied during a competitive match over an effective time of 3 minutes. The data were first collected and processed according to a procedure defined for subjective data analysis in course-of-action framework (e.g., Bourbousson et al., 2010), and then submitted to SNA tools. Verbalizations data (retrieved from post-match interviews, $X = 1.25h$) were processed in order to synchronize in time the courses of the respective experiences lived by players. To apply SNA, we identified

at each instant the teammates that were taken into account by each player. The series of matrices obtained at each instant were processed using indicators like density, transitivity, reciprocity, density clustering coefficient (DCC) and centrality indices. Time series analyses were then applied (correlation, windowed correlation, cross-lagged correlation, windowed cross-lagged correlation).

From synthetic analyses, density was 0.18 (± 0.05), transitivity was 0.50 (± 0.22), reciprocity was 0.10 (± 0.09), DCC was 0.30 (± 0.14), and eigenvector-centralization was 0.43 (± 0.12). Within the matrix of correlation coefficients some significant positive relations between indices were of particular interest: density/DCC ($r = 0.76$), density/transitivity ($r = 0.33$), density/average distance ($r = 0.26$), density/connectedness ($r = 0.50$), DCC/transitivity ($r = 0.53$), and some negative ones: density/eigenvector-centralization ($r = -0.63$) and density/isolate count ($r = -0.49$). Then, conducted with all pairs of indices, (a) the running-correlation calculations together suggested that the relations between indices were quite stable except for some key-moments, (b) the cross-lagged correlation calculations together pointed out that some relations between indices (i.e., reciprocity/eigenvector-centralization) were better described including a time-lag; (c) the running-cross-lagged correlation calculations allowed to especially point out the instances when indices were seemingly constraining each other.

The results suggested that the network of intersubjectivity within the team was (a) quite low, (b) spread in space (connections chained in a ramification fashion), (c) structured by sub-groups, (d) positioning some players as central nodes and (e) a complex phenomenon where emergence and downward causation phenomena could be tracked with a multilevel approach.

Keywords: team cognition, mutual awareness, social network analysis, team coordination

Application of Eye Movement Analysis in Sport Psychology in China

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Abstract: Eye movement analysis can provide the information processing characteristics of athletes during motion. In order to achieve an accurate analysis of athletes' psychological activities, more researchers pay attention in this field. Eye movement analysis is one of the important directions in the development of sports psychology with good development potential. Our study focuses on the investigation and analysis of eye movement in Chinese sport psychology. We found that eye movement analysis in Chinese sport psychology is in a stage of vigorous development. Eye movement analysis for sports research are applied in more and more sports, which produces abundant research results and further promotes sports psychology and the development of cognitive psychology. However, the development of eye movement research has some limitations in sport, and eye movement analysis is still questioned. According to the trend and weakness of eye movement research, we provide advice and put forward our own point of view and hope that the references and suggestions are helpful for further studies.

Keywords: eye movement, athlete, sport psychology

An ERP Research on the Phenomenon of “Sticking-ball” in Basketball Athletes

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Abstract: The relationship between emotion and decision-making is of significant interest in the field of scientific psychology. The emotions that individuals experience for post-decisional outcomes are not only influenced by properties of the outcomes (e.g. magnitude, valence), but also by the paths of individuals' action (e.g., action vs. inaction) to reach it. Considerable behavioral researches have claimed that emotional reactions to outcomes following decisions to act are typically more intense than are those following decisions not to act. This well-known phenomenon has been labeled “action effect” (Landman, 1987, Kahneman and Tversky, 1982). Though numerous convergent studies on decision-making have reported this phenomenon, few have reached agreement on its cognitive mechanism.

In the field of sports science, some basketball players “stick” to the ball too much, dribbling or have strained offense, and miss the opportunity to score by assist. This study was to explore whether athletes who encounter “sticking” to the ball and miss the chance of scoring by assists will cause more intense psychological feelings. In addition, the present study aimed to further investigate the role of personality in inducing the “action effect”.

We recruited basketball volunteers from Wuhan Sports Institute through testing of the Optimism and Pessimism Scale (OPS), and 15 participants were screened. The participants in the experiment were all right-handed, had normal or corrected-to-normal vision and had no neurological or psychological disorders. They were divided into two groups: 7 optimist participants (4 males and 3 females, age 18-25, $M = 20.69 \pm 2.28$ years) and 8 pessimist participants (6 males and 2 females, age 17-25, $M = 20.42 \pm 2.19$ years). Each participant signed a consent form prior to the experiments and was paid after the experiment.

In this experimental task, we present a basketball half court with a companion of different locations and the basket to participants, assuming that participant stood on the free throw line, giving the participants the choice to either pass the ball to the companion (action condition) or shoot (inaction condition). Both choices were randomly associated with identical score gains and losses in each trial. A feedback conveying the outcomes of the two options (either gaining or losing score) was provided; four conditions were included: inaction-gain, inaction-loss, action-gain, and action-loss. These participants were simultaneously recorded event-related potentials (ERPs) while engaged in the decision-making task.

The behavioral data showed that, whatever the feedback outcomes were (winning or losing), the emotions and responsibility experienced by the pessimist participants for the feedback outcomes were not significantly different between following their action and inaction; while the emotions and responsibility experienced by the optimist participants for the feedback outcomes following their action were more intense than that following their inaction. Moreover, the FRNs and P300s elicited by the feedback outcomes following action and inaction were no different for the pessimist participants, whereas the two ERP components elicited by the feedback outcomes following action were both larger than that following inaction for the optimist participants. In short, the action effect is not evident in pessimist participants, but evident in optimist participants. Thus, it is most likely that action effect is induced by different degrees of sense of confidence to identical outcomes following variant behaviors.

Keywords: basketball, sticking ball, ERP

The Influence of Distribution of Cue on Inhibition of Return

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Abstract: A “cue-target” procedure of IOR paradigm was employed in the present study to examine the influence of distribution of cue on inhibition of return in detection task and discrimination task. Sixteen undergraduates were selected as participants. In the experiment, nine boxes were placed on the circle which was around the central fixation. The cue of the experiment was the color green in the internal of three of the nine boxes and the target of the experiment was a circle. In experiment 1, the target was green and subjects responded to it as quickly and correctly as possible when detecting it; but in experiment 2, the target was yellow or blue and subjects had to discriminate them and respond to the target as quickly and correctly as possible. Only the target reaction time was examined in all experiments. Experiment 1 was $2 \times 3 \times 2$ within-subjects design and experiment 2 was $2 \times 2 \times 2$ within-subjects design. This study utilized E-prime2.0 experimental software system for the programming procedures and the presenting stimulus, and utilized the SPSS13.0 statistical software for data processing. The following results were found: (1) The IOR in visual search exists, which contains detection task and discrimination task. (2) The quantity of the IOR when the cued locations were adjacent was significantly greater than when the cued locations were spaced. There was no significant difference on the quantity of the IOR in discrimination task. (3) The reaction time on the cued locations was significantly different between the two different kinds of distribution of cue. The reaction time was greater when the cuing locations were adjacent than when the cuing locations were spaced. (4) The reaction time of the target on uncued locations is significantly greater than that on the uncued location, which concludes that there was a facilitation in the uncued locations.

Keywords: distribution of cues, IOR, detection task, discrimination task

Different Attentional Type of Athletes Have Different Performance in Anti-Saccade and Covert Attention Shift

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Abstract: A constantly changing stadium puts forward different requirements for different types of athletes. Individual-induced attentional type athletes IIATA e.g. track and field athletes are required to focus their attention all the time, eliminating interference and reducing unnecessary visual search; while for circumstance-induced attentional type of athletes (CIATA e.g. football players), the requirements are to improve the efficiency of visual search, having synchronous change with the field, and inhibit reflexive reactions to confuse opponents. Yet, there is no cognitional evidence for this. To give a direct answer, using the cue-target paradigm, we performed two experiments to explore the difference of cover attention shifting, anti-saccades and IOR between different attentional types of athletes. In experiment 1, in the exogenous-cued condition, we found a significant increase of reaction times in eye-gazed condition and in cue-invalid and saccades condition in CIATAs, indicating that CIATAs can shift attention without eye movement and suppress reflexive saccade more flexibly. In experiment 2, in the exogenous-cued condition, the CIATAs' anti-saccade reaction times were also significantly faster than common students', while for IIATAs, the condition was completely opposite, that is to say, compared with common students, IIATAs' reaction times were significantly slower. These findings indicate that IIATAs have a stronger ability to execute reflexive saccades, while CIATAs can cover their original intention by suppressing reflexive saccade and shifting attention covertly.

Keywords: anti-saccade, covert attention shift, IOR

How Tai Chi Exercises Affect

Stability of Attention and Sleep

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Abstract: The purpose of the present study was to study the effects of Tai Chi exercises on the stability of attention and sleep.

A 3-month intervention experiment of Tai Chi exercise was done on 120 subjects (59 male and 61 female), with an average age of 30.5±15. All subjects were randomly assigned to 3 groups: the experimental group, the control group and the placebo control group. The experimental group practiced Tai Chi exercise for 1 hour each week, 3 times a week; the control group conducted no intervention at all; the placebo control group practiced setting-up exercises to music 3 times a week, 1 hour each time, in order to avoid the Hawthorne effect and to improve internal validity. Random number cancellation test was adopted for the stability experiment and PSQI was adopted for the sleep test. SPSS19.0 was adopted to conduct statistic analysis, like variance analysis.

After 3 months: (1) the stability of attention index of the experiment group showed significant difference with the other two groups ($P<0.01$), however not much difference was shown between the control group and the placebo control group ($P>0.05$), which indicates that Tai Chi exercise clearly improves stability of attention. (2) The PSQI of the experimental group showed significant difference with the other two groups ($P<0.01$), however not much difference was shown between the control group and the placebo control group ($P>0.05$), which indicates that Tai Chi exercise improves sleep quality. Tai Chi exercise clearly helps improve the stability of attention and sleep quality.

Keywords: Tai Chi, stability of attention, sleep, experimental study

ERPs Research on the Effects of Increased Exhaustive Exercise on College Students' Executive Control

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Abstract: Executive control is the core of cognitive activities and it plays an important role in our daily life. ERP (Event-related Potentials) is an objective method to reflect the brain's higher nervous activity and it has obtained the widespread application in cognitive function research. P300 is the most typical and commonly used method in ERP. It is a new method in brain research and it is closely related to cognitive process. This study examined the effects of exhaustive exercise on neuroelectricity and behavior index of interference control. By examining the effects of exercise on P300, the changes of college students' executive control ability after the exhaustive exercise would be studied.

30 male and female participants were recruited from the Graduate School at Capital Institute of Physical Education. The participants completed a pre-test and the physiological and biochemical indexes were detected to evaluate their physical condition. Flanker task was performed as the pre-test. Then the horizontal cycle ergometer was applied for the incremental load test. The exercise session started with the loads of 25W and kept 60r/min, with the exercise load increasing by 25W every 2 minutes until volitional exhaustion occurred. Blood samples, pulse and RPE data were collected at these times: at the end of the exhaustive exercise, at the 3-minute recovery, at the 5-minute recovery, before the post-test and at the end of the post-test. Then the executive control ability of participants before and after the exhaustive exercise was compared.

1. Exercise resulted in reduced response time. $F(1,18)=11.11, P=0.004$. Congruent trials had higher response accuracy than incongruent trials. $F(1,18)=10.23, P=0.005$. 2. It was observed that the P3 amplitude of the parietal region and frontal region had significantly increased after the exercise. Between 300ms and 500ms, the D Charts of incongruent trials and incongruent trials had obvious differences. After exercise, more brain regions became active and the motion scale was increased. The omnibus analyses revealed a main effect of electrode sites, $F(11,198)=7.71, P<0.001$. The reciprocal action of the (Electrode sites \times Conditions) revealed significant differences between sites with exhaustive exercise and baseline. $F(11,198)=4.84, P<0.001$. The interaction of (Sites \times Conditions \times Congruency) was significant, $F(11,198)=2.79, P=0.002$. 3. When the participants were exhausted, the pulse (157.52 ± 17.55), blood lactic acid (7.63 ± 1.80) and RPE (18.47 ± 0.33) were all close to the their physical limitation. Physiological and biochemical indexes had significant differences before and after the ERP post-test. 4. In POMS (Profile of Mood States), we could see that after exercise, the negative mood state of tension, anger, depression and panic decreased significantly than before, and the energy increased.

The ERP finding suggests that a single bout of exhaustive exercise could lead to the increase of P3 amplitude and the reaction time is shorter after exercise. These cognitive processes are related to the distribution of attentional resources toward the stimulus environment, faster cognitive processing, and better inhibiting and monitoring ability in stimulus encoding. Thus, it proves that the single bout of exhaustive exercise can promote college students' executive and control ability.

Keywords: intermittent incremental exercise, executive control, cognitive function, event-related potentials, P300

The Influence of Motivation on Ego Depletion in College Athletes

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Abstract: The negative effects of ego-depletion may cause the reduction of effort and performance in cognitive tasks, therefore it is important for college students to develop coping methods to counteract ego-depletion and minimize the negative effects. The present research, based on former research, investigated the influence of motivation on ego-depletion via the Stroop task, and put forward that internal motivation and external incentives are effective methods to cope with the unwanted effects of ego-depletion.

In study 1, 60 college students (36 males and 24 females, average age = 18.521, SD = 2.034) participated in the experiment. Ego-depletion was caused by controlling attention through watching the video, internal motivation was activated by using an internal stimulus (group a) and inner learning (group b). Results showed that participants' reaction time (incongruent condition) on the Stroop task in group A was shorter than in group B, indicating that compared with inner learning, internal stimulus is a better way to counteract ego-depletion.

In study 2, 60 college students (40 males and 20 females, average age = 18.201, SD = 1.887) participated in the experiment. Ego-depletion was caused by controlling attention through watching the video, and external motivation was activated by using external rewards (group c) and external honor (group d). Results showed that participants' commission number (incongruent condition) on the Stroop task in group d was higher than in group c, suggesting that, by contrast, external reward is better than external honor when counteracting ego-depletion.

The results of the present research provides another empirical

support for ego-depletion, and suggests that internal stimulus and external rewards are effective methods to compensate ego-depletion, while inner learning has no compensatory effect on ego-depletion. External reward and external honor both are effective methods to compensate ego-depletion, and the effect is equal. Results support the reserved energy hypothesis for limited resource theory of self-control.

Keywords: motivation acting, ego-depletion, internal motivation, external reward

Cohesion Sport and Exercise Physiology: the Cohesion in Perception and Utilization of Sport Psychologist by Sport Associations in Kwara State, Nigeria

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Abstract: For excellent performance and desired harmony in sports, maximum utilization of experts studying the scientific behavior of sports stakeholders might be ideal and desirous, hence, the objective of this paper which examined the status and rationale for the utilization and non utilization of sport psychologists by sport Associations in Kwara state, Nigeria. The study was carried out during the 2012 sporting season using the twenty six (26) identifiable and functioning Sport Associations operating within the law of kwara state Sports Council (Kwara State Sports Council amended Law cap S.9 of 1990, No 4 of 2006). A specially designed quantitative questionnaire distributed to proprietors, chairmen, Administrative Secretaries, Coaches, Sport Supporters, Marketers and promoters of sports as well as five (5) athletes from each of the 26 Sport Associations were used to compare the results of finding between sport Associations utilizing the services of sport psychologists and the sport Associations that are not utilizing the services of sports psychologist. Follow-up cell phone calls were made to further encourage response from participants. After a six week period, the retrieved questionnaires were collated and analyzed. The following results were obtained; 19%, that is, 56 number of the respondents out of 294 were aware of the existence of a profession called sports psychology while 81% or 238 number of respondents lack information about the existence of sport psychology, according to them there is no difference between a sport psychologist and a coach, some even claimed not to have heard of that discipline. Similarly, out of the total number of 26 sport Associations used for the study, only two, which is 7.69% employed and utilizes the services of sports psychologist. The reason why the remaining 24 that is, 92.31% does not engage the services of sports psychologist are; lack of fund, lack of interest and willingness and none awareness of existences of sport psychologists. However, the only two Associations that employed and utilizes the services of sport psychologist proclaimed so many benefits. The findings therefore supports previous researches that recommends the employment and utilization of sport psychologists by Sport Associations, Sport club owners as well as the government so as to boost appropriate sports performances. It was observed that utilization of sports psychologist by sport Associations will assist greatly all authorities concerned to professionalize the discipline area called sports psychology. The findings equally affirmed that utilization of sport psychologists by sport Associations is a channel through which jobs are created for would be professionals upon graduation from the Universities. Similarly, employment and proper performance of tasks by sport psychologists would herald the desired Harmony and ensure appropriate excellent life of the people.

Keywords: excellent sports performance, perception and utilization,

sport associations, sport psychologist, Kwara State Sport Council, Nigeria

Cohesion, Collective Efficacy and Sports Results in Basketball Players

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Abstract: A number of studies in the sphere of sports show the importance and confirm the positive interrelationship between Cohesion and Collective Efficacy for successful team results. Cohesion is defined as "a dynamic process which is expressed in the willingness of the group to be united and to remain united in the pursuit of their goals and in meeting the emotional needs of its members" (Carron et al., 1998). Collective Efficacy is considered an element of a group's behavior that has common beliefs and arises from the sum of the individual members and their perceptions and abilities to succeed in a particular task. It is especially important in team sports and particularly in basketball, where the team is a group with a common goal. Collective Efficacy is connected with the issue of pre-competition anxiety and team cohesion. Several authors report a strong influence of Collective Efficacy on achievements. The data show that teams with high levels of Collective Efficacy outperform teams with lower levels of Collective Efficacy. The goal of our research is to examine Group Cohesion and Collective Efficacy in basketball players from the Bulgarian Youth league and to search for their connection with team results and game efficacy. Subjects of the research are 120 athletes from the Youth basketball league. For the realization of the research we have used: 1. Group Environment Questionnaire (GEQ), Brawley, Carron and Wdmeyer (1985); 2. Collective Efficacy Questionnaire (CEQ), Flerz and Ligg (1998) I.; 3. Revised Leadership Scale for Sports (RLSS), Zhang, Jensen, & Mann (1997). The results confirm the positive relationship between Collective Efficacy and team game efficacy. The relationship between Group Cohesion and sports results is not categorically confirmed. The results reveal certain reserves for sports activity optimization, mainly related to improving team cohesion.

Keywords: group cohesion, collective efficacy, leadership style, game efficacy

Development and Validation of the Perceived Social Loafing Inventory for Sport (PSLIS)

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Abstract: Social loafing, or the 'reduction in individual effort when people work in groups' (Latané, 1986), has been well documented in numerous studies (Karau & Williams, 1993, 1995). Evidently, this notion of social loafing is an area of interest and potential concern for sports teams and coaches (Shaw, Gorely & Corban, 2005). Indeed, the mere perception that other members of a team are social loafing (perceived social loafing) has also been found to result in reduced team performance (Høigaard, 2010). The present study outlines the development of the Perceived Social Loafing Inventory for Sport (PSLIS). The participant pool consisted of 202 interactive team sport athletes (132 male and 70 female, mean age 23.9±4.4) representing the following sports: Football, Rugby Union, Netball, Hockey and at either - first team club, university first team or semi-professional levels. The Perceived Social Loafing Inventory for Sport (PSLIS) consisted of 40 items taking into consideration both the training and competition context. Principal component analysis confirmed the following expected five categories as subscales: Social loafing in others (based on the Perceived Social Loafing Questionnaire,

Høigaard, 2010); Impact of social loafing on team effort; Impact of social loafing on my effort (based on the Anticipated Lower Effort Questionnaire, Mulvey & Klein, 1998); Impact of social loafing on team performance; Self-Loafing (based on the Self-reported Social Loafing Questionnaire, Høigaard et al., 2010). Internal consistency was found to be acceptable for the five identified sub-scales. The PSLIS is proposed as a valid measure of perceived social loafing for use in sport settings.

Keywords: perceived social loafing, interactive team sports

Validation of the Group Environment Questionnaire (GEQ) for the Brazilian sporting context

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Abstract: Studies have shown that cohesion is an intervening factor in the performance and success in sporting context, highlighting the importance of assessing the level of cohesion in sports teams. This study aimed to translate the Group Environment Questionnaire (GEQ) for Portuguese language and verify its validity through confirmatory factor analysis, internal consistency and test-retest reliability for the Brazilian sports context. The study included seven professionals (4 translators and 3 doctors in Sport Psychology) and the subjects were 502 male and female adult athletes of the individual and collective sports football (97), indoor soccer (83), volleyball (142), basketball (55), handball (60), rugby (49) and beach volleyball (16) of the state of Paraná-Brazil. The validation instrument was the Group Environment Questionnaire. The Portuguese language version was obtained through the method of back-translation. For data analysis it was used the Coefficient of Content Validity (CCV), Confirmatory Factor Analysis, Cronbachs alpha and Intraclass Correlation Coefficient. The results showed that the Portuguese version contains clear and relevant questions, presenting the CCV > 0.70; possesses satisfactory internal consistency ($\alpha = 0.76$ to $\alpha = 0.83$) and acceptable test-retest reliability ($r = 0.95$ to $r = 0.96$) in all dimensions of the instrument. Confirmatory factor analysis showed that items 2 ("I'm happy with the amount of time I have played") and 5 ("Some of my best friends are on this team") haven't showed acceptable individual reliability in relation to its latent factors (factor loading < 0.50), and thus excluded. The model with 16 items showed satisfactory adjustment indices of confirmatory factorial validity ($\chi^2 = 309.72$, $df = 95$, $p \leq 0.001$; $\chi^2/df = 3.02$, $GFI = 0.94$, $AGFI = 0.90$, $CFI = 0.93$, $TLI / NFI = 0.93 / 0.91$, $RMSEA = 0.06$), expressing its construct validity. It was concluded that the Brazilian version of the GEQ showed good psychometric properties and proved valid to assess cohesion in Brazilian sports teams. However, the numbering and reordering of the 16 items by the four dimensions were corrected for the final process of validation, noting that the structure of the Portuguese version of the GEQ has changed compared to the original model. The Brazilian version of the GEQ was distributed as follows:

- 1) Group Integration-task (Items 8, 10, 12, 14, 16);
- 2) Group Integration- social (Items 9, 11, 13, 15);
- 3) Individual Attraction to the group-task (Items 3, 4, 6) and 4). Individual Attraction to the group-social (Items 1, 2, 5, 7).

Keywords: team cohesion, validation, sport

Sport and Exercise Psychologist, Cohension in Perception and Utilization of Sport Psychologist by Sport Associations in Kwara state Nigeria

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Abstract: For excellent performance and desired harmony in sport, maximum utilization of expert studying the scientific behavior of sport stakeholders might be ideal and desirous, hence, the objective of this paper which examined the status and rationale for the utilization and non-utilization of sport psychologists by sport Associations in Kwara State, Nigeria. The study was carried out during the 2012 Sporting Season using the twenty six (26) identifiable and functioning Sport Associations operating within the law of Kwara State Sports Council (Kwara State Council amended Law cap S.9 of 1990, No 4 of 2006). A validated questionnaire was used to elicit data from Proprietors, Chairmen, Administrative Secretaries, Coaches, and Sports supporters, Marketers, Promoters and Athletes in other to determine utilization of Sport psychologists by sport Associations. Follow-up cell phone calls were made to further encourage responses from participants. The results obtained showed 19% of the respondents were aware of the existence of sport psychologists, while 81% lack information about the existence of sport psychologist. Some even claimed not to have heard of that discipline before. Similarly, out of the total number of the 26 sport Associations used for the study, only two (7.69%) employed and utilized the services of sport Psychologist. The study therefore recommends the employment and utilization of sport psychologist to boost appropriate sport performance so as to herald the desire harmony and ensure appropriate excellent life of the people.

Keywords: excellent sport performance, perception and utilization, sport associations, sport psychologist, Kwara State Sports Council Nigeria

What Is Most Important During a Season in Football Teams: Cohesion or Collective Efficacy?

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Abstract: This study examines the effect of the direction of group cohesion and collective efficacy and their association with team performance in semi-professional football teams. The participants were 203 male soccer players, ranging in age from 18 to 37 years old ($M = 24.71$, $SD = 3.68$), who belonged to 20 teams which participated in the XIV group of the Third Division of the Spanish Football League. We adopted a longitudinal perspective, taking measures at the beginning, the middle and the end of a sport season. The Spanish version of GEQ (Iturbide et al., 2010) and CECF (Leo et al., 2012) were used to assess cohesion and collective efficacy. The average between final position in the classification and player's satisfaction of this classification was used to measure team performance.

Thus, to analyze the effect of the direction of causality of these variables, we used SEM and we tested two models using one of the variables in each model as a dependent variable. In Model 1, we computed cohesion measured at the first assessment as the predictor and collective efficacy at the second measurement as a dependent variable. In Model 2, we used collective efficacy at the first assessment and cohesion at the second measurement. Furthermore, in both models, final performance at the third measurement was also entered as a dependent variable of these factors in order to verify which one of them—cohesion or collective efficacy—better predicted performance.

Model 1 had a higher prediction index for the dependent variables than Model 2. Thus, task cohesion emerged as the strongest predictor of collective efficacy (.36). Moreover, collective efficacy was also more closely related to team performance (.67) in Model 1 than

group cohesion at the end of the season (.10) in Model 2. Finally, Model 1 showed adequate fit indexes ($\chi^2/df=2.18$; $p=.00$; $CFI=.95$; $TLI=.93$; $SRMR=.07$; $RMSEA=.07$); Model 2 presented some low fit index ($\chi^2/df= 3.73$; $p=.00$; $CFI=.90$; $TLI=.86$; $SRMR=.07$; $RMSEA=.11$).

Thus, this work reaffirms the results of previous studies, which supported the idea that cohesion had greater impact on collective efficacy (Kozub, & McDonnell, 2000; Leo et al., 2010; Paskevich et al., 1999). In fact, only the study of Heuzé et al. (2007) found opposite results. Therefore, although this paper extends the scientific literature, it seems necessary for future works to use multiple measurements throughout the season using three levels of analysis (within-person, between-athletes, between-teams) to provide more consistent results.

Keywords: cohesion, collective efficacy, professional, football

Development of a Unity Scale for Sports Teams

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Abstract: Unity is one of the most important factors of cohesion in Forsyth's model (2006, 2010). However, few studies qualitatively and quantitatively evaluate unity in team sports. Therefore, the aim of this study is to develop a scale to assess unity in sports teams.

Method: (1) Participants: They were 1,001 athletes (590 males, 411 females) from 12 different types of sports. The average age was 17.9 ($SD = 2.04$) years. (2) Measure: The Unity Scale for Sports Teams (USST) was developed from a three-stage process. First, the authors (three sports psychologists and a sport coach) collected 299 items that reflected the concept of unity, taken from some questionnaires (e.g., GEQ: Carron et al., 1985) and from an adaptation of Hornby's definition of unity (2010) on the sports field which defines unity as "the state in which members perceive being united as a whole in their own team". Second, we selected 37 items from the 299 items by consensus, according to the following two criteria: (a) the items asked directly about the perceptions of one's own group unity or integration, and (b) the items asked about the common features of strongly united or integrated teams in various sports. Third, the subjects of these 37 items were recorded in order to insure that each item would be equally applicable and intelligible for all sports teams.

The above 37 items were used in this study. The USST utilized a 5-point Likert scale.

Exploratory factor analysis with promax rotation indicated that the USST had a two-factor structure explaining 65.4% of the total variance. These factors were labeled "Integration for the group" and "Commitment" on the basis of Forsyth's model. The eight items were extracted from the following criteria; each items showed acceptable communalities (> .20) and factor loadings (> .40). Next, we confirmed that the two subscales had sufficient internal consistency ($\alpha = .90$ for Integration for the group and .86 for Commitment). Confirmatory factor analysis showed the appropriateness of the data ($\chi^2(19) = 82.53$, n.s.; $CMIN/DF = 4.34$, $GFI = .98$, $AGFI = .96$, $CFI = .99$, $TLI = .98$, $SRMR = .02$, $RMSEA = .06$).

We obtained the following two conclusions from this study. First, the USST was confirmed to have sufficient validity and reliability. Second, the USST consisted of two factors ("Integration for the group" and "Commitment") in common with Forsyth's model. The USST could

thus be a valuable and useful measurement for intervention in team-building effectively.

Keywords: unity, cohesion, sports teams, team assessment, team building

The Relationship of Emotion Regulation Strategies, Team Intimacy, and Team Cohesion in an Elite Women's Basketball Team

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Abstract: This study examined whether emotion regulation strategies (reappraisal, suppression) and team intimacy affect team cohesion. Existing researches have shown that emotional intelligence is one of the important factors which can influence team cohesion. However, the relationship between team cohesion and emotion regulation have not been well studied. Since use of emotion regulation strategies is one of the most crucial aspects of emotional intelligence, analyzing this relationship is beneficial to the research field of cohesion. Moreover, team intimacy and team cohesion have often been confused in existing researches. Until recently, some researchers have demonstrated that they are independent terms which may share some common characteristics. However, few studies were undertaken to investigate the relationship between team intimacy and team cohesion. To explore the influencing factors of team cohesion is meaningful in effective sport psychological group intervention. Therefore this study aims to analyze the effect of emotion regulation strategies and team intimacy on team cohesion.

A team of high-level professional basketball players (22 women, aged from 17 to 27 years) took part in this study. They completed the Emotion Regulation Questionnaire (ERQ: Gross, 2003), Group Environment Questionnaire (GEQ: Carron, 1998), and Genuine Intimacy Scale (Lau, 2005) after routine training.

In a stepwise multiple regression analysis, using individual attractions to the group-social (ATG-S), individual attractions to the group-task (ATG-T), group integration-task (GI-T) and group integration-social (GI-S) as dependent variables, and reappraisal strategy, suppression strategy and team intimacy as independent variables. When using ATG-S and ATG-T as dependent variables, the regression equation is significant ($P<0.05$). Only the team intimacy entered the regression equation, explaining 33.3% and 21.2% of the variance, respectively. When using GI-T as dependent variables, the regression equation is significant ($P<0.05$). Only reappraisal strategy entered the regression equation, explaining 26.7% of the variance. When using GI-S as dependent variables, regression equation is significant ($P<0.001$). Reappraisal strategy and team intimacy entered the regression equation, explaining 73.8% of the variance.

Findings suggest that with the increase of team intimacy, team members' perceptions of personal involvement toward the group's task and social aspects both increase. However, emotion regulation strategies have no effects on the above two aspects of team cohesion. Increasing team intimacy does not have an impact on the level of unity possessed by the group around task aspects, but the level of unity is affected by the application of reappraisal strategy. Reappraisal strategy and team intimacy have positive effects on the level of unity possessed by the group regarding social aspects. This indicates that sport psychology practitioners should adopt corresponding theories and methods to promote different dimensions of team cohesion during psychological interventions.

Keywords: reappraisal, suppression, team intimacy, team cohesion

Is Team Cohesion Adequate Enough to Protect Athletes from Competitive State Anxiety?

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Abstract: According to Martens, Vealey and Burton (1990), competitions are potentially a threatening situation for athletes as they include evaluation and demands for result. Furthermore, there is research evidence pointing out that individual sport athletes experience significantly higher cognitive and somatic state anxiety and significantly lower state self-confidence than team sport athletes (Martens et al., 1990). However, all sport teams do not provide their members with the same psychological tools. Teams can vary in structure, intra-group processes, cohesion, or a combination of these (Carron, 1988). And the question which arises is: Is team cohesion a useful tool that can “protect” athletes from competitive state anxiety? Cohesion is “a dynamic process which is reflected in the tendency of a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Carron, Brawley, & Widmeyer, 1998, p. 213). Prapavessis and Carron (1996) paraphrasing the Martens et al. (1990) proposition, wrote: “In highly cohesive groups, competitive state anxiety would be reduced because the threat of evaluation is minimized in that diffusion of responsibility for performance error. The purpose of the present study is to examine how team cohesion influences competitive state anxiety and to determine whether individual characteristics such as gender, age, level or experience mediate this relationship. One hundred seventy volleyball players (80 men, 90 women; age: M=25.03 years, SD=5.56; competitive experience: M=14.59, SD=5.18; mean time as member of the team: M=5.88, SD=3.39) from the Greek championship signed an informed consent form and participated in the study. The athletes completed: (1) the Group Environment Questionnaire (Carron, Widmeyer, & Brawley, 1985) in a midweek training session prior to the examined competition and (2) the Competitive State Anxiety Inventory-II (Martens, Burton, Vealey, Bump, & Smith, 1990) approximately 30 to 45 minutes prior to the competition. The results (ANOVA with Bonferroni correction) indicated statistical differences among low, medium and high social cohesion teams in cognitive anxiety [F (2, 166) =10.10, p<.001] and self-confidence [F (2,167) =4.69, p<.05]. The athletes participating in high social cohesiveness teams displayed lower cognitive anxiety and higher self-confidence. The results showed that social cohesion can affect athletes' emotional reactions in a positive way. In other words, high social cohesion “protects” athletes from the effects of negative psychological characteristics (e.g., cognitive anxiety). Additionally, the athletes feel more confident as much as they can manage successfully the demands of the competition.

Keywords: team cohesion, competitive state anxiety

The Change of Group Cohesion in Older Adults’ Exercise Class by Applying Team-Building Intervention

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Abstract: One of the interventions for enhancing group cohesion is team building. Team-building is an ongoing process where team members learn goals and communication. Even though there has been increasing needs of team-building intervention for group cohesion, there has not been much research on the application of team-building as an intervention in the exercise field. Therefore, this study was to examine the effectiveness of a team-building intervention designed to enhance class cohesion for improving

exercise adherence. The goals of the team-building intervention program were planned based on in-depth interviews with older adult exercisers. The intervention program consisted of 14 sessions (two sessions a week) during a swimming class. The team-building intervention topics included team goal setting, group-social, group-support, and group-communication. The intervention program was delivered to an older adults swimming class. Sixty participants were assigned to a team-building or control class. The results were as follows: Firstly, there was statistically significant improvement in group cohesion after 14 sessions of team-building intervention. Secondly, results from the in-depth interviews indicated that there were positive effects on group communication, group-environment, and group-social. Finally, participants in the team-building condition attended more classes than the control condition. It was concluded that class cohesion plays a significant role in exercise class participation, and appropriate team-building interventions are effective in developing class cohesion.

Keywords: team-building, group cohesion, older adult, exercise

The Relationship among Coach-Athlete Relationship, Cohesiveness and Sport Commitment of Sport Groups in College: The Mediation of Athlete Satisfaction

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Abstract: Sports teams are an important part of a college. The problems concerning coach-athlete relationship, sport commitment and athlete satisfaction have some connection with the development of the sports teams in college. The aim of this study is to discuss the relationship of these variables. In order to determine whether the athlete satisfaction mediate of sport groups in college has any influence on the coach-athlete relationship, cohesiveness and sport commitment, 30 coaches and 235 student-athletes were investigated with the Coach-Athlete Relationship Questionnaire, Cohesiveness in Sport Groups Scale, Athlete Satisfaction Questionnaire and Sport Commitment Scale. Mediation was tested by using linear regression analysis suggested by Baron&Kenny (1986). The study used three-step linear regression to analyze the mediation of athlete satisfaction. In the first step, we analyzed whether athlete satisfaction had significant influence on coach-athlete relationship and cohesiveness or not. In the second step, we analyzed whether sport commitment had any significant influence on athlete satisfaction. In the last step, we used stratified regression to analyze whether the influence of the coach-athlete relationship and cohesiveness on the sport commitment would become weak.

The results showed that closeness, one of the dimension of coach-athlete relationship, and complementarily and task attraction, task consistency, sociality consistency, (three dimensions of cohesiveness) have significant influence on sport commitment among college student-athletes, but their effects were diminished when specific aspects of athlete satisfaction were included in the predictive equations. It suggested that specific aspects of athlete satisfaction mediate the relationship between coach-athlete relationship, cohesiveness and sport commitment.

Keywords: coach-athlete relationship, cohesiveness, sport commitment, athlete satisfaction, mediation

Communication skills Is Personality Characteristics of Athletes Predictor of Athletes

Relationship with Their Coach?

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Abstract: The purpose of this study was to investigate the role of personality characteristics of athletes in the quality of the coach- athlete relationship from athletes’ perspective and gender differences in this relation. Eighty four female (Mage= 20.58 ± 2.75) and 129 male (Mage= 21.97 ± 3.25), totally 203 athletes (Mage= 21.42 ± 3.13) voluntarily participated in this study. The Five Factor Personality Inventory (short version) and Quality of Relationships Inventory (QRI) were administered to all participants. Stepwise Multiple Regression Analysis was used. The model with the five personality factors predicting depth of relationship was not significant for males or females. The model predicting social support dimension was significant for females and males. The only significant predictor was extroversion ($\beta = .37$) for females, but emotional stability for males ($\beta = -.40$) indicating that a lower score on emotional stability was related to more social support for males while higher score on extroversion was related to social support for females. Analysis also indicated that emotional stability ($\beta = -.30$), agreeableness ($\beta = -.22$), conscientiousness ($\beta = -.57$) were negatively related with the conflict dimension of coach-athlete relationship for female athletes and these variables explained 36% of variance. On the other hand, for male athletes the extroversion ($\beta = -.21$) and conscientiousness ($\beta = -.31$) were significant predictor of conflict dimension. In conclusion, personality of athletes is critical factor in determining the quality of coach-athlete relationship.

Keywords: coach-athlete communication, personality

Social Skill Status of Chinese College Students Majoring in Physical Education

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Abstract: This study was to probe the social skill status of Chinese college students majoring in physical education (PE).

The social skill status of 2241 college students in nine universities was investigated via the Revised Chinese University-student Social Skill Inventory (RChUSSI). The sample consisted of 401 PE students and 1840 non-PE students, aged from 16 to 29 years (mean=20.52, SD=1.37). In order to find the relationship between competitive level and social skill, the PE students were categorized into three groups depending on the technical hierarchy of the athletes: second grade and above, third grade and no grade. The RChUSSI includes two subscales, named Partner's MIANZI (face) and Sociability.

By means of T-test, there was no significant difference in Partner's MIANZI and Sociability between genders. In order to examine the differences of social skill among the three groups, we obtained the scores of two subscales respectively and assessed them by the method of ANOVA backward. The score of the third grade was higher than the other two grades, but no significant differences were found in post hoc multiple comparisons. Meanwhile, in order to examine differences of social skill based on gender, school year and major, the two subscales were analyzed by MAOVA. In the analysis of gender and majors, the score of PE students was higher than non-PE students. Significant main effects for gender were observed for sociability, and significant main effects for majors were observed for Partner's MIANZI. In the analysis of school year and majors, PE students' score of social skill was also higher than non-PE, but

decreased along with their advancing school year. And no significant effects were found in main or interaction. In this study, we found PE students' social skill was better than non-PE students, but their social skill score decreased along with their advancing school year. The result indicates physical activity has a positive impact on the development of college students' social skill which is in line with previous studies. However, there is a negative influence as well.

Keywords: social skill, Chinese college students, physical education

Are Athletes Suspected of Doping Able to Rebuild a Positive Image?

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Abstract: In 2006, Floyd Landis won the Tour de France but lost his title shortly afterwards as a consequence of a positive doping test. It is one of the most investigated doping cases in science (e.g. Glantz, 2010). To rebuild his reputation and to regain trust, Landis applied different image repair strategies according to the Theory of Image Repair (Benoit, 1995). Benoit's theory comprises five verbal basic strategies, namely denial, evading responsibility, reducing offensiveness, corrective action and mortification. Most athletes found guilty of doping try to repair their images by communicating directly to their recipients, often by social media like Facebook or Twitter. They try to prevent financial losses (e.g. withdrawal of sponsors) or nonmaterial damage (e.g. distrust) (Glantz, 2010). To date, no empirical studies have been conducted into image repair in doping cases. In this presentation, results of a literature review concerning image repair, sports and social media will be discussed.

An analysis of articles linked by the database “SCOPUS” concerning image repair and/or social media in sports was carried out. An additional forward and backward search resulted in 14 articles, published between 1994 and 2012. Seven of them concerned image repair directly and constituted the final sample for further analysis. All articles were case studies, mostly evaluated by content analysis. Only two articles combined the aspects image repair, social media and doping.

Most studies (85.7%) applied the Theory of Image Repair (Benoit, 1995). Athletes combined at least four different strategies: mostly attacking the accuser (6 cases), denial (5 cases), defeasibility of the allegations (4 cases), and mortification (5 cases). Only three studies included verification of the effectiveness of the image repair efforts. Only one athlete out of five has managed to repair his image. In contrast to all other cases, he admitted his transgression immediately and apologized (Walsh & McAllister-Spooner, 2011).

The lack of experimental designs renders establishing causal relationships impossible, thus results have to be interpreted with caution. One key theme which emerged suggests that athletes undertake multifaceted efforts to rebuild their image. However, most of these efforts were not successful and thus the damage remained. Literature evidence shows honesty and apology appear to be the most effective. To date, social media has played only a minor role. As many athletes utilize social media to connect with their fans resulting in a significantly changed athlete-fan relationship (Kassing & Sanderson, 2010), further research is required to focus on the function of this medium in image repair strategies.

Keywords: sports, image repair, doping, social media

A Comparative Study of

Psychological-Competitive Ability and Social Skills in Japanese and Chinese Student-Athletes

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Abstract: The present study aimed at examining psychological-competitive ability and social skills in Chinese and Japanese university athletes based on sex, grade, and competitive level. Moreover, we investigated how the effects of sport experiences on psychological-competitive ability and social skills are different between athletes from these two countries. We used the t test and variance analysis.

One-hundred and forty-nine university athletes in Shanghai and 228 university athletes in Osaka completed two questionnaires. The questionnaires consisted of DIPCA-3 which measures psychological-competitive ability and KiSS-18 which measures social skills. Analyses were conducted for (a) a comparison by sex, (b) a comparison by countries, (c) a comparison by sex and grade, and (d) a comparison by sex and competitive level on psychological-competitive ability and social skills. Also, we compared the effects of sport experiences on psychological-competitive ability and social skills between countries. There were significant correlations between psychological competitive ability and social skills in both countries, which indicate that athletes who posses high levels of psychological-competitive ability also have high levels of social skills. In addition, the results showed that psychological competitive ability mediated the relationship between sport experiences and social skills in both countries.

The results from the present study, which investigated the factors that affect social skills of Chinese and Japanese university-athletes, implicate that it is necessary to explore the ways in which sport experiences promote development of social skills in athletes.

Keywords: psychological-competitive ability, social skills, Japanese, Chinese

Exercise in psychotherapy
Validity and Reliability of a
`Questionnaire to Diagnose Exercise-Dependency in Endurance Sport`

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Abstract: So far, we can not find questionnaires measuring exercise dependency in the German language. Therefore, we developed the "Questionnaire to Diagnose Exercise-Dependency in Endurance Sports (FESA)" based on existing exercise-dependence scales.

The sample for exploratory factor analyses consisted of 323 non-professionals from endurance sports like running, cycling and triathlon. We calculated two factor analyses: analysis 1 contains all athletes exercising for four or more hours per week (N=323). Analysis 2 contains all athletes exercising 10 or more hours per week (N=118). The sample for the convergent and divergent analysis consists of 94 non-professionals completing 16 items of Analysis 1, CORE-P (Stoll, 2001) and MIPS (Stöber, Otto, Pescheck & Stoll, 2004) and 65 non-professionals completing 11 items of Analysis 2, CORE-P (Stoll, 2001) and MIPS (Stöber, et al., 2004). The sample for test-retest-validity exists for 37 non-professionals.

Analysis 1 revealed four factors with 16 items: `Positive Hedonic Tone`, `Interference with Social Life`, `Health`, and `Withdrawal

Symptoms` (FESA 16). Analysis 2 revealed three factors with 11 items: `Positive Hedonic Tone`, `Withdrawal Symptoms`, and `Exercise as a Possibility to Compensate Psychological Problems` (FESA 11). Correlations for FESA 16 showed that `Positive Hedonic Tone` correlates with `Physiological Fatigue`; `Interference with Social Life` correlates with `Perfectionist Concerns`, `Physiological Fatigue` and `Emotional Fatigue`; `Health` correlates with `Self-Worth-Resources`; `Withdrawal Symptoms` correlates with `Self-Efficiency`. Correlations for FESA 11 were as follows: `Positive Hedonic Tone` correlates with `Social-Resources`, `Job-Resources`, `Self-Worth-Resources`, `Emotional Fatigue`, `Withdrawal Symptoms` and `Exercise as a Possibility to Compensate Psychological Problems`; `Withdrawal Symptoms` correlates with `Positive Hedonic Tone`, `Exercise as a Possibility to Compensate Psychological Problems`, `Striving for Perfectionism` and `Perfectionist Concerns`; `Exercise as a Possibility to Compensate Psychological Problems` correlates with `Self-Worth-Resources`, `Positive Hedonic Tone`, `Withdrawal Symptoms`, `Striving for Perfectionism` and `Perfectionist Concerns`. Regarding our theoretical assumptions, test-retest-validity after four to six weeks showed the expected low correlations.

The verification of the FESA 16 and FESA 11 shows satisfying results relating to exploratory factor analysis, to the analysis of internal consistencies and to the total-item-correlations analysis, and in terms of validity. FESA 16 could be used to measure commitment to sports. FESA 11 could be used to measure (the threat of) exercise-dependency.

Keywords: exercise dependency, validation study

The Effect of Calligraphy Therapy on a Coach’s Mental Fatigue: A Case Study

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Abstract: The research studied whether the coach’s mental fatigue could be improved by calligraphy therapy through a case study. Sports coaches are prone to suffer mental fatigue under great work pressure and after experiencing disciplined schedules over a long period of time. The study examined the effect of regular and cursive script writings on the coach's HRV (heart rate variability) and self-evaluation scores of mental fatigue.

The subject was a male head coach for archery aged 35 years old. The regular and cursive scripts were applied in the study. The coach was writing regular script first for 20 minutes each day for 28 days, and then cursive script for about 10 minutes each day for 19 days. During the writings, the coach’s HRV data was recorded. The major HRV indices used in this research included HR (heart rate), SDNN, RMSSD, TP, LF, HF, and LF/HF. Since the HRV data was averaged every 10 times of writing, the regular script writing period was divided into 3 stages while the cursive script writing period was divided into 2 stages. Descriptive statistics and trend analysis of changing were applied to HRV indexes.

The Coach Burnout Questionnaire (CBQ) was applied to assess the coach’s mental fatigue in pre-writing and post-writing conditions. CBQ includes “reduced sense of accomplishment”, “emotion/physical exhaustion” and “sport devaluation”.

During the regular script writing period, the coach’s HR was reduced from 84 b/m to 81 b/m. The increases were continuously observed from the indices of SDNN, RMSSD, TP, LF and HF, which suggested that the activity and adjustment ability of the coach’s autonomic nervous system improved. LF/HF value continually decreased, which suggested that the balance of the coach’s autonomic nervous system

also improved.

During the cursive script writing period, the coach's HR was reduced from 83b/m to 80b/m, while the HRV data presented an opposite changing trend, which means the activity, balance and adjustment ability of the coach’s autonomic nervous system decreased.

The CBQ result showed that the dimension of “reduced sense of accomplishment” didn’t change, while the score for “emotion/physical exhaustion” decreased from 21 in the pre-test to 15 in the post-test, and “sport devaluation” decreased 1 point.

The HRV data indicated that the long-term regular script writing could improve the activity, balance and adjustment ability of the coach’s autonomic nervous system. However, the cursive script writing caused the opposite effect. Therefore, the regular script was suggested to be used in calligraphy therapy. And in general, the calligraphy therapy effectively improved the coach’s mental fatigue.

Keywords: calligraphy therapy, mental fatigue, coach

Psychotherapist and Athlete in Elite Sport

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Abstract: Scientific researches of elite sport show that in some cases before crucial competition, such as the Olympic Games, World and European championships, athletes are close to prepathological states: neuroses, psychostenia and depressive states (F. Antonneli, P.Kynat, T. Fanagorska, L. Gissen). These could be caused by the extreme pressures placed on the importance of high recognition and the responsibility to produce good results in the competition. To prevent and optimize the psychological state of athletes before major competitions, they ask a psychotherapist for help.

Analyze talks of athletes who resorted to psychotherapists for help. This analysis has revealed that to reduce the psychic tension psychotherapists used the method of transferring the responsibility of the result from the athlete to the psychotherapist (the responsibility for the result I take upon myself). Usually for this purpose, they used direct suggestion on the confidence and future success of the athlete in competition.

The psychotherapist’s efforts to change (by way of suggestion) the attitude of the athlete in the forthcoming start and remove the responsibility the result of participation from him, makes the athlete dependent on the psychotherapist as well as on his own poorly controlled competitive state.

It appears that such approach is not right. In this case, it is not a real solution for the athlete’s psychological problems by putting him on a higher personal level of regulation, and manipulating the athlete’s faith of the psychotherapist to solve the problem for him and ensure good results. It may bring success in some cases, but in this case the athlete becomes a hostage of the psychotherapist.

We believe that a psychotherapist should apply all his efforts to guide an athlete on the level of being a subject who is able to make decisions, who can be responsible for his/own choices, and not to place it onto the psychotherapist.

The task of a psychotherapist is to create a direction for the athlete to struggle for the achievement of the formulated aim, not to a specific sport result which depends on many factors which are not always controlled by the athlete.

Practicing this form of guidance and direction considerably decreases

the athlete’s tension and optimizes his psychic state before a main competition. It is very important that failures do not cause frustration for a long period of time.

Keywords: psychotherapist, athlete, elite sport

How to Listen to “Performance”
Talked About By Athletes in
Psychotherapy

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Abstract: In providing psychological support for athletes via psychotherapy, it is critical to deepen understanding of the relationship between their reality adaptation (performance enhancement) and individuation (personality development) in their life development, as well as the therapeutic meaning of “performance” in a broad sense (e.g., physical symptoms or complaints, movement problems, and challenges) that they often talk about in psychotherapy. When mental problems cannot be solved at the mental level, symptoms at the physical level (somatization) occur as a solution (as a product of compromise) and a means of communicating with the therapist. Unique or specific to psychotherapy with athletes, these two aspects are considered to overlap to some degree. With reference to a consultation case in which “performance” was talked about, the author attempts to elucidate the quality of a therapist’s listening (receiving) necessary for deeper understanding of the therapeutic meaning of “performance.” For this purpose, the psychotherapy interview records, and the therapist’s internal process and response to clients’ talking about “performance” during sessions were retrospectively analyzed to identify characteristics of listening that help to understand the therapeutic meanings. As a result, the following four perspectives emerged: (1) to listen, taking into consideration the client’s life history and athletic career; (2) to listen at an image level or a symbolic level; (3) to listen, taking into consideration how it relates to the internal (psychological) issues underlying the chief complaint; and (4) to listen in a way that is meaningful to the individual. These perspectives are deemed to interact with each other. Listening in such ways is likely to prove useful in the psychotherapy of athletes by increasing the therapist’s empathic understanding of the client’s experiences and the therapeutic meaning of “performance.” Psychotherapists dealing with athletes should put much more emphasis on the “performance” in order to share in the experiences of their athletes. The author believes that the above listening of the “performance” in psychotherapeutic sessions with athletes will create an original path for “clinical sport psychology” as a distinct discipline from Western clinical psychology for sports with its research focused on the pathological problems of athletes.

Keywords: athlete, psychotherapy, listening, therapeutic meanings of

Effect of Outdoor Experiential
Therapy on Self-concept in
Adolescents with Developmental
Disorder

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Abstract: Outdoor experiential therapy (OET) is a therapeutic treatment modality that uses or emulates an outdoor setting or natural environment to rehabilitate, develop, and enhance an individual's physical, social, and psychological well-being through the application of structured activities that involve direct experience. OET was developed in the U.S. and has been used in numerous programs with

a number of benefits and positive outcomes. We examined the effects of an OET program on self-concept in adolescents with developmental disorder (e.g., attention deficit hyperactivity disorder, Asperger syndrome, learning disorders). The 21-day OET program included an intake interview, primitive living, adventure-based activities, and a follow-up camp. Adventure-based activities included mountain biking, sawanobori, river canoeing, rock climbing, and mountain climbing. The subjects were 16 adolescents (mean age, 13.7 years; SD = 1.0) with mild developmental disorders who each participated once in the OET program between 2004 and 2010. Self-concept was measured with the self-actualization scale (SAS), which consists of 31 self-description statements each rated on a five-point response scale (5 = completely true to 1 = completely false) and comprises the four subscales of perceived self, achievement motivation, self-confidence, and self-effort. The SAS was administered to all clients before the program (pre-test), at the end of the program (post-test 1), and 1 month after completion of the program (post-test 2). The self-concept of participants improved between the pre-test and post-test 1. Analysis of the subscales revealed a significant positive change in achievement motivation between the pre-test and post-test 1 ($P < 0.01$), but no significant change in self-effort, self-confidence, or perceived self. According to the literature, adolescents with developmental disorders are generally considered to have a lower-than-normal self-concept. However, self-concept in the participants in this study had approximately the same modal score as that in normal participants in other studies. We also examined the relationships between the self-concept score and program processes or developmental disorder characteristics.

Keywords: outdoor experiential therapy, adventure education, developmental disorder, self-concept

Relationship between Procrastination and Physical Activity of College Students

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Abstract: At present, the procrastination behavior is widespread among college students. Some methods of treatment and prevention of procrastination lack certain operations, therefore this study is to find a more operational way to prevent and treat procrastination -- physical activities. Methods: This study investigated 220 students by means of questionnaires and related analysis, and primarily discusses the relationship between regular physical activity and procrastination. Results: 1) students' procrastination phenomenon generally exists with no gender differences; 2) There is a significant negative relationship between physical activities and procrastination; 3) For individuals who do moderate and above intensity physical activities, scores of procrastination were significantly below those who do small strength physical activities; 4) There is a significant negative relationship between exercise strength and exercise time with procrastination, both of them are significant predictors of procrastination; and exercise frequency has no significant predictive effect on procrastination. Conclusion: Moderate intensity physical activities can be an effective way of overcoming procrastination.

Keywords: college student, procrastination, physical activity

The Influence of Twelve Duan Jin Exercises on Mood States of Old People

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Abstract: Exercise can help old people keep a healthy psychology. Twelve Duan Jin is a complete and independent set of Chinese traditional training methods. Old people prefer to choose exercises which are characterized by simple methods, gentle movements and at a low cost. Twelve Duan Jin can meet just the need. Thus we studied the twelve Duan Jin exercises for improvements on moods by taking 22 old people as subjects and using POMS scale as a criterion. The people in the experimental group participated in the twelve Duan Jin exercises five to seven times a week for one hour each day. A test was given to the subjects before the experiment and after three months, and an analysis using the Paired samples T-test method with SPSS 18 was made. The results showed that there were significant differences in the "vigor" and "tension" dimensions, indicating that three months of twelve Duan Jin exercises may significantly reduce the level of tension, and at the same time make the elderly feel full of vitality and with abundant energy.

Keywords: twelve Duan Jin, old people, mood states, vigor, tension

Exercise at the Early Stages of Psychiatric Treatment for Major Depression

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Abstract: Using scores from the Beck Depression Inventory (BDI-II, Beck, Steer, and Brown, 1996) the purpose of the present study was to test whether a short program of aerobic exercise of 10 days could alleviate depressive symptoms in clinically depressed patients receiving psychiatric hospital treatment for less than two weeks. Based on preliminary findings by Knubben and colleagues (2007) in Germany, it was anticipated that such an endurance program would reduce depressive symptoms to a larger extent than placebo exercise (stretching and flexibility exercises).

The present research in progress included 18 inpatients (67% female, Mage = 43.3 ± 5.7 years) at the time of abstract preparation and submission to the ISSP scientific committee. All of them were recently admitted to a public care unit for treatment of a major depressive episode in northeastern France. Eligible participants were randomly allocated to one of two groups: aerobic exercise training (30 minutes of brisk walking and/or slow jogging for 10 consecutive days, n = 11), or placebo exercise (30 minutes of stretching and flexibility exercises for 10 consecutive days; n = 7).

The 2 x 2 mixed ANOVA for the BDI total score revealed a significant group x time interaction ($F(1, 16) = 19.42, p < .001$) indicating that reduction in depressive symptoms was larger in the walking/jogging group than in the stretching/flexibility group. Post-hoc student's t-tests showed that the ratings of depression severity were not statistically different between the two groups on admission ($t(17) = 0.21, p = 0.80$), but reached significance at the termination of the exercise treatment ($t(17) = 6.42, p < .001$). From a clinical point of view, participants who walked or jogged experienced a significantly more important reduction in depressive symptoms (mean BDI score change = -45.6%) than did the participants who received the placebo exercise treatment (mean BDI score change = -17.4%).

Although our findings are in line with previous research by Knubben et al. 2007, the present investigation (a) used a widely known measure of depressive symptoms (Knubben et al. used a somewhat unusual instrument for assessing depressive symptoms, the Bech-Rafaelsen Melancholy Scale) and (b) controlled for the length of antidepressant treatment by including only patients taking drugs for less than 2 weeks.

Keywords: aerobic exercise, major depression, psychiatric care unit

Sports' Influence on the Mental Health and Urbanization of Migrant Workers

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Abstract: In the process of urbanization, China's cities and towns have brought about a new group - migrant workers. Migrant workers come from rural areas to urban centres to temporarily seek employment opportunities. The article made an investigation on Chengdu migrant workers' participation in spare time sports. With migrant workers entering the city and working hard, they are inevitably influenced by the urban culture, and could consciously participate in some sports activities. However time to participate in sports is less than urban residents. Usually the exercise intensity is low, the choice of sports activities they choose to participate in is simple, not expensive, and does not need use of sports venues. By taking part in sports, migrant workers can improve their mood, vent their dissatisfaction, and relieve mental pressure. In the survey, 43.3% migrant workers chose sports to alleviate their depressed mood, so as to reduce the possibility of doing crime and to promote mental health. The urban experience has an impact on migrant workers which could spread consciously or unconsciously on the city's civilization, and has played a positive role in promoting the process of urbanization and modernization.

Keywords: sports, migrant workers, mental health Leadership

Inspirational Leadership in Sport: When Charisma Is Not Enough

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Abstract: Within transformational leadership theory, inspiration is a key element and inspirational motivation of the leader one of the core transformational behaviors (Bass, 1985). Thrash et al. (2003) devised a tripartite conceptualization of inspiration characterized by three core characteristics: transcendence, evocation, and approach motivation. Furthermore, Thrash et al. (2004) describe two component processes - being "inspired by" and being "inspired to". This conceptualization helps explain the process by which a sporting leader inspires his/her players to greater levels of commitment and motivation. However, understanding the momentary state of inspiration is still being developed (Thrash & Elliot 2004), as is the part played by others, such as leaders, in generating it. Using Thrash & Elliot's (2003; 2004) conceptualization, this poster explores the experiencing of inspirational leadership using a narrative analysis (Lieblich, Tuval-Mashiach, & Zilber, 1998) of recalled inspirational leadership occurrences. This will illuminate the parts played by the characteristics and behaviors of the leader (e.g., sports coach, or team-mate), the situational factors surrounding these actions, and mediators and modifiers that may impact these experiences, as well as explore the consequences for the performer of being inspired. Consistent with Nieslon & Munir (2009), we argue that inspirational leadership has important consequences for both sports performance and performer well-being and hence needs to be better understood. Eight high level team sports people were interviewed using semi-structured interviews whereby participants recalled their experiences of inspirational leadership. Verbatim transcripts were subject to inductive and deductive holistic-content narrative analysis (Lieblich, Tuval-Mashiach, & Zilber, 1998) to identify a range of person and situational characteristics and factors influencing their impact on the experiencing of inspirational leadership. This involved the researchers immersing themselves within the transcript data

and developing commentaries of repeating patterns of instances of inspirational leadership. Analyses revealed a range of personal leader factors implicated in performers' experiences of being inspired (e.g., communication style, reputation, passion). However, there are also a number of factors that appear to mediate these being influential, including a range of situational factors (e.g., needs of the occasion, team needs) and factors peculiar to the follower (e.g., follower's personality, existing aspirations, personal needs). These findings are presented in relation to existing transformational and charismatic leadership models (e.g., Bass & Steidlmeier, 1999). We suggest future studies should utilize more immediate (as opposed to recall) methods of capturing inspirational leadership, and in so doing further distinguish situation-specific and trait characteristics (and their interactions) of leaders who inspire.

Keywords: transformational leadership, inspiration, motivation

Gender Differences in Perception of Coaches' Competency and Justice and Their Relationship with Satisfaction

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Abstract: The aim of this study was to examine differences between coaches' competency and perceived justice among genders and their relationship with satisfaction with the head coach. Participants were 356 male professional football players from the Second Division B belonging to 18 teams, and 225 female professional football players from the First Division belonging to 13 teams; both participated in the Spanish Football League. Coaching competency was measured with the Athletes' Perceptions of Coaching Competency Scale II- High Scholl Teams (APCCS II- HST: Myers et al., 2009). An adaptation of Colquitt's (2001) scale was used to measure perceived justice, whereas the scale of Myers et al. (2011) was used to assess satisfaction with the head coach.

Analysis of variance (Anova) showed that there were no differences between gender regarding our study variables (perceived justice, competency and satisfaction with the head coach). On the other hand, a regression analysis was conducted to determine the strongest predictor of satisfaction with the head coach and differences between genders were found. On one side, male players perceived that the development of a coach's procedural justice was the strongest predictor of satisfaction with the coach. On the other side, female players indicated that coaches' informational justice was the strongest predictor of satisfaction with the head coach, followed by his/her competency to motivate their athletes (Myers et al., 2011; Myers et al., 2006).

Therefore, despite that there were no differences between coaches' competency and perceived justice among genders, results of this work provide proximity about satisfaction with the head coach among males and females. Thus, it is important to note that male footballers preferred a justice leadership regarding the procedure, that is to say, equality in the carrying out of the rules developed in the team, whereas female players preferred a leadership who gives information and explains decisions within the sport context. Finally, further researches are needed to set a constant behavioral line in both genders.

Keywords: football, professional, players

Decision Making Styles of Portuguese Football Referees (1st level)

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Abstract: It is an assumed and consolidated fact that the decisions that we make every single day have huge and decisive importance in our life. As Hammond (1999) cited by Alqarni (2003) refers, “all the functions that we perform are a reflection of the decisions we make”. Football referees are managers. They judge and make decisions, in time. Understanding the style of decision-making affected by age, the number of years in activity or the number of years at the professional level, is one of the great purposes of the study at hand. Rowe et al (1998) states: “Knowing an individual’s decision style pattern, we can predict how he or she will react to various situations”.

The sample comprised of 49 Portuguese football referees of the 1st level ranging from 29-44 years old (mean age=35.41years, S.D.=4.13 years). The questionnaire comprised of several items concerning individual factors, items concerning age, years refereeing and years in a certain referee level. The decision-making style was assessed using the Decision Style Inventory (DSI, Rowe et al 1981). Data were analyzed with PASW 18.0.

Regarding the mean values of Making Decision Style (DSI) with consideration of the total sample and the sample by age and years in referee activity, the highest value corresponded to the analytical style (85), followed by the behavioral style (74) and the directive style (73). The lowest value was the conceptual style (68). For different age groups, the highest values corresponded to the analytical style (86); in levels, less than 34 years and 35 to 40 years old, respectively. The lowest value corresponded to the behavioral style and age group over 40 years (66). Regarding the referee activity, the highest value found (85) was in the behavioral style; when analyzing the level, less than nine years in activity. In the others levels, 10 to 20, and over 20 years, the highest values were found in the analytical style (86 and 84), respectively.

There were no significant differences among levels in each style, but it is possible to conclude that the style with the highest mean value is the analytical style (85) and the lowest value is assigned to the conceptual style (68).

Keywords: football referees, decision-making styles

Further Improvement in Leadership from Urban Sports Compared to Other Universal PE Activities

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Abstract: The purpose of this study is to investigate the effects of urban sports in leadership. One hundred freshmen and 110 sophomores who study football, basketball, volleyball, Tai Chi, aerobics , taekwondo, urban sports games 30 from every PE course were selected at random. Leadership skills were measured two times (pre-test and post-test) by the leadership skill inventory, which was developed by Carter Townsend. The results show students in urban sports scored significantly higher on the difference between the pre-test value and post-test value of leadership than that of other groups. The results revealed urban sports can improve leadership more than other sports in PE courses.

Keywords: leadership, urban sports games

The Cross Level Moderating Effects of Team Values between Paternalistic Leadership Behaviors

and Trust of Coaches

San-fu Kao, Cheng-Ta Lu, Chene-Tang Yang
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Abstract: The purpose of this study was to examine the effects of paternalistic leadership behaviors to trust a coach, and examine the cross level moderating effects of team values between paternalistic leadership behaviors and trust of coaches. Surveys were used for the present study. The participants were open group volleyball players (male 160, female 139, 24 teams in total) from the university volleyball league in Taiwan. Paternalistic Leadership, Team Values, and Trust in Leader were measured. Hierarchical linear model (HLM) was used to analyze the data. The results revealed that benevolence leadership and morality leadership positively predicted trust in a coach, but authoritarianism did not predict trust in a coach. The value of perseverance cross level moderated between moral leadership and trust. The magnitude between moral leadership and trust would be increased by conditions of perseverance; the less perseverance the more trust in a coach. This study identified the relationships between paternalistic leadership behaviors and trust in a coach, and the moderating effects of perseverance value.

Keywords: sports teams, multi-level study, aggregation statistics

Team Value as a Moderator of the Relationship between Paternalistic Leadership and Trust of Coach: Value of Perseverance as an Exemplar

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Abstract: The purpose of this study was to examine the individual-level relationships between paternalistic leadership behaviors and trust of coach, and examine the cross-level moderating effects of team values (value of perseverance) between paternalistic leadership behaviors and trust of coach. In order to examine these relationships, a survey was conducted. The participants were 160 male and 139 female volleyball players from 24 teams in Taiwan. Hierarchical linear model (HLM) was used to analyze the data. The results revealed that benevolence leadership ($\gamma = 0.36, p < .01$) and morality leadership ($\gamma = 0.62, p < .01$) positively predicted trust in a coach, but authoritarianism ($\gamma = 0.02, p > .05$) did not predict trust in a coach significantly. The team-level perseverance value ($\gamma = -0.39, p < .05$) moderated the individual-level relationship between moral leadership and trust of coach. The magnitude of relationship between moral leadership and trust of coach would be increased by conditions of perseverance value; the less perseverance the more trust in a coach. This study identified the relationships between paternalistic leadership behaviors and trust of coach, and the cross-level moderating effects of perseverance value.

Keywords: sports teams, multi-level study, aggregation statistics

Life-span development issues

The Influence of Orienteering on the Development of Spatial Perception and Attention in Early Childhood

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Abstract: Orienteering is a competitive sport where winning is achieved by being the fastest to navigate through points in the environment known as controls using a map and a compass.

Orienteers have to translate symbols from a map to objects in the environment. They compare these two mental representations using spatial abilities and attention. The research goal was to examine the effect of orienteering on spatial abilities and attention of 5-6 years old children. Participants were 120 kindergarten children, divided into three groups: experimental group – orienteering, and two control groups: dancing, and no intervention group. Instrumentations were: 1) Attention, measured by the MOXO test. The system includes software only, compatible with computer with an internet browser and flash player installed. A set of target and non-target stimuli was shown in the middle of the computer screen. The child was instructed to respond as quickly as possible to the "target" stimuli by pressing the keyboards space bar only, and only once. 2) A short version of the Conners test, filled out by the parents and the kindergarten teachers. 3) The Cognitive Modifiability Battery (CMB) Reproduction of Patterns (RP) (used for measuring spatial abilities. The RP subtest is based on the simple visual-motor task requiring copying three-dimensional patterns. The copying requires distinction of the dimensions of color, height, number, and location. The tasks begin with very simple patterns increasing in level of difficulty to very complex patterns. Intervention – orienteering or dance – was applied twice a week for six consecutive weeks. Measures were conducted pre and post interventions. Children from the orienteering group demonstrated improvement both in attention and in spatial abilities. The MOXO test showed improvement when stimuli came from different angle (bottom, left right and up). T-test showed significant difference between pretests and posttests in two of the parameters: the height of the cube and the location in the window. No differences were found between boys and girls. No differences were found when stimuli came directly from forward. Attention to objects that come from unexpected directions as in the MOXO test resembles attention demands of orienteering – dealing with unfamiliar objects and surroundings. Practicing improves attention among young children.

Keywords: orienteering, spatial perception, attention, early childhood

Feelings of Academic Success, Learning Adaptability and Academic Procrastination of College Students Majoring in P.E

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Abstract: Feelings of academic success refers to the positive feeling of satisfaction, gladness, and pride when people are conscious that they are close to achieving or exceeding their aspirations in academics. The feelings of academic success consist of cognitive and emotional factors; it lies on the difference between one’s aspiration and actual performance, and it is also influenced by others’ appraisal and the environment. Learning adaptability means “the tendency to conquer difficulty to improve academic performance”. Academic procrastination refers to the learner knowingly and willingly not finishing the learning task on time (Lay, 1993), or putting off the learning task unnecessarily (Saddler, 1993).

To examine the prediction effect of the feeling of academic success, learning adaptability and academic procrastination, 1024 college students (mean age 20.74 years, SD=1.10) majoring in P.E completed the Procrastination Assessment Scale-Students (PASS), Feeling of Academic Success(FAS) and Learning Adaptability Scale (LAS) for this study.

The results suggested that male P.E college students’ academic procrastination level is significantly higher than that of females, but lower than females when they wish to decrease academic procrastination. There are no significant differences on grades, but

gender difference in some factors. There is a significant negative relationship between the college students’ feeling of academic success and academic procrastination. For learning adaptability and academic procrastination, the positive learning adaptability has a significant relationship with low academic procrastination, and the negative learning adaptability has a significant relationship with high academic procrastination.

Keywords: college students in P.E., feeling of academic success, learning adaptability, academic procrastination

The Relation between Mental Rotation and Motor Performance in the Elderly

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Abstract: Studies with children show that motor performance and the visual-spatial cognitive ability of mental rotation - the ability to imagine an object when it is rotated away from its original orientation - are related (e.g. Jansen & Heil, 2010a). This relationship seems to be moderated by coordinative abilities. The main goal of this study is to investigate if this relationship also exists in older people.

Healthy females (30) and males (30) between 60 and 74 years old (mean age: 66.13, SD=3.77) completed a) a chronometric mental rotation test (MR) with embodied and concrete stimuli and b) three different motor tasks: one-leg stand (OLS), chair-stand test (CST), and time-up and go test (TUG). The MR task consisted of 240 trials. Two objects of one stimuli category were presented and the participants had to decide if they were identical or mirror reversed. The dependent variable in the MR test was accuracy; the factors were gender and angular disparity between the two presented objects. The performance in the motor tasks was measured in seconds.

The most relevant effect in the MR task was a main effect of gender, $F(1, 58) = 4.19; p < .001$.

This is the first study showing a relationship between mental rotation and specific motor performance in the elderly. It contributes to the broader range of studies on the relation of motor performance and cognition. In addition to age and gender, the performance in mental rotation could be explained by balancing ability, in line with a study by Jansen, Schmelter, Kasten, and Heil (2011). The relation between balance and visual-spatial ability must be investigated in more detail throughout the life span.

Keywords: elderly, motor performance, spatial cognition

Quality of Life and the Level of Competence of Professional Athletes

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Abstract: The purpose of this study was to examine the relationships between the level of competence and the quality of life of professional athletes. Competence pertains to skills based on high abilities and manifests itself in the level of achievements. The quality of life includes two aspects, i.e. a subjective one (being satisfied with oneself and one’s life) and a functional one (essential areas of activity, i.e. in- and out-of-sport). Participants (N=128, 74 males and 54 females; age M=26.98) representing 23 sports disciplines were divided into four subgroups differing in their level of competence, i.e.: (1) Experts (N=30) – outstanding and repeated achievements (e.g. multiple medalists of the Olympic Games and world championships); (2) Future Experts (N=28) – single outstanding achievement and a

possibility of further development; (3) Athletes Waiting for Success (N=41) – competence allowing them to participate in competition at the highest level and achievements at an earlier stage but still without achievements at the senior level; (4) Athletes Resigning Prematurely (N=29) – in spite of high competence and ability to participate in competition at the highest level, deciding to interrupt their sporting careers. The analysis of variance and Hochberg’s post hoc test GT 2 were used. The results revealed that a group with the highest competence obtained the highest results in all the indicators of quality of life, whereas the biggest significant differences were in the sense of realization of one’s potential in sports (p=0.0001). While it is understandable that outstanding achievements are connected with a strong sense of realization of one’s potential in sports, it also seems interesting that this connection is also related to the spheres of activities which are not related to sports. From a cognitive and practical point of view, it would be important to carry out further research involving athletes who, having reached a high level of competence after many years of training, interrupted their sporting careers prematurely.

Keywords: quality of life, professional athletes, life span perspective

Investigating the Relationship between Daily and Competitive Life Stressors and Coping Styles among University Athletes with a Particular Focus on University Year and Performance Level

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Abstract: A study was conducted among university athletes in order to investigate the types of frequent stressors they experienced in their daily life, as a university student, and competitive life, as an athlete, and the types of copying styles they applied in order to deal with the stressors. Furthermore, it investigated if there was a relationship between the stressors and the copying styles according to the university year and performance level the university athletes were in. A questionnaire consisting of daily and competitive stressors scale and five copying factors were administered to 99 (7 females and 92 males) university athletes, ranging from first to fourth year. The questionnaire was processed both through a T-test for performance level and ANOVA for university year. In addition, to see the differences of coping styles between high stressed and low stressed athletes, based on the total point score of stressors, the bottom 15% of the lower points score group’s data and the top 15% of the higher points score group’s date were processed both through a correlation test. The correlation test results highlighted the bottom 15% of the lower points score group which showed high correlation of coping styles with the following three factors: “Distraction-recreation”, “Positive-thinking”, and “Problem-solving”, compared to the 15% of the top scores group. This latter correlation could suggest that specific coping styles, such as “Problem-focus”, can reduce the physical and mental response to the stressors experienced.

Keywords: coping with athletic stressors, stressors, coping styles, university athletes

Effects of Physical Activity on Working Memory in Children with ADHD: A Randomized Trial

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Abstract: Some studies have shown that physical activity increases cognitive performance. However, there are few randomized trials showing this result in children with ADHD. This study aimed to determine whether physical activity improves working memory in children with ADHD. Children with ADHD were randomly allocated to an exercise (n=31) or control (n=32) group. The supervised exercise program consisted primarily of moderate physical activity and included 45-minute sessions at least three times per week for 15 weeks. Two measures of working memory, the OSPAN and the RSPAN, were obtained at baseline and at 15 weeks. Participants in the combined intervention group improved on the OSPAN, while those in the usual medical group improved at the end of the intervention. RSPAN working memory improved in the combined group, and working memory in the usual care group improved. A repeated measure ANCOVA revealed significant main effects of the type of physical activity intervention on OSPAN working memory and RSPAN working memory. In children with ADHD, an intervention consisting of 15 weeks of regular, moderate physical activity may improve cognition.

Keywords: working memory, ADHD, physical activity, brief intervention

A Preliminary Investigation of Personality Characteristics of Collegiate Athletes in Japan

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Abstract: The purpose of the present study was to examine gender and competitive level differences in personality characteristics of collegiate athletes in Japan, using the Tokyo University Egogram-II (TEG-II) which assesses five different personality characteristics: Critical Parent (CP), Nurturing Parent (NP), Adult (A), Free Child (FC), and Adapted Child (AC). These personality characteristics are considered the bases of individual behaviors. The participants were 409 collegiate athletes (male: n = 256, female: n = 153) who are at different competitive levels. We conducted separate t-tests to examine the differences in the five personality characteristics between competitive levels (high-low) according to gender. The results showed that among male athletes, athletes who compete at high levels were higher in CP and FC than athletes who compete at low levels [t (197) = 2.34, p< .05, t (197) = 2.83, p< .01]. Among female athletes, we found that athletes who compete at high levels scored higher on CP and A than athletes who compete at low levels [t (124) = 3.06, p< .01, t (124) = 4.09, p< .001]. We also categorized the athletes into the 19 personality types according to their scores on TEG-II and examined the gender differences in personality types emerged. The results showed that there were no significant gender differences, though the results suggest that predominantly AC personality types may be more seen in female athletes than male athletes (male: 19.1%, female: 25.5%). We also presented our preliminary results on new categorization of athletes’ personality types and validity of these categorizations. The findings from the present study implicate that competitive levels may be linked to athletes’ personality. Understanding of such link may be necessary for coaches and sport psychology practitioners who have constant interactions with athletes. Further studies are necessary to investigate how different personality types are related to actual behaviors of athletes which lead to important consequences such as the mental health of athletes.

Keywords: Egogram, mental health, stress

Young Athletes’ Personality and its

Relation to Emotional Intelligence

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Abstract: Young athletes are those aged 12 to 19 who have received a certain level of sport training. The present study explored the characteristics of young athletes’ personality and the relationship between personality and emotional intelligence.

419 young athletes and 634 adolescents completed the Five-Factor Personality questionnaire and Emotional Intelligence questionnaire. Multivariate analysis of variance and correlation analysis were used. Results: (1) Compared to the adolescents, young athletes had lower scores in extraversion, agreeableness, openness, and conscientiousness and higher scores in neuroticism. (2) Significant differences were found between genders. Girls had higher scores in extraversion and agreeableness than boys. (3) Youth athletes in level 1 had higher scores in agreeableness and neuroticism than athletes in level 2. (4) There were significant correlations between personality and emotional intelligence. Some dimensions of personality could predict emotional intelligence.

Keywords: young athlete, personality, emotional intelligence

The Comparison of Life Quality, Mental and Physical Health of the Elderly: Study on Sport for All

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Abstract: Sports and physical activity is considered as a very important factor in promoting the health levels of people, and it seems very important and necessary in addressing issues related to the elderly. Therefore, the objective of this study was to investigate the Sport for All effect on the life quality, mental and physical health of elderly people.

The static populations were all elderly people (M= 69±9 years) from Tehran metropolis. The samples were 151 elderly subjects (77 men and 74 women) who participate at the sport clubs and 156 elderly people (81 men and 75 women) who do not participate in the sport clubs. Seven scales of life quality were measured by using the LEIPAD quality of life questionnaire with 49 items. In addition, Ware’s questionnaire was used to measure the mental and physical health of the elderly based on the Likert scale. To compare the mentioned variables between elderly participants in sport and elderly non participants in sport, an independent t-test was used for analyzing the data (p≤0.05).

The findings of the research indicated that there was a significant difference between participants’ life quality and non-participants’ in Sport for All. In other words, the life quality (including the subscales of physical well-being, employment satisfaction, social relationships and innovative behavior) of participants in Sport for All was better as compared to the individuals who did not participate in it. Furthermore, the elderly who had participated in Sport for All did better than non-participant elderly in physical and mental scales.

The results of this research showed that the elderly will have a higher life quality and better physical and mental health if they have an active lifestyle. As a final point, the researchers suggest that the planners of aged people’s health must provide facilities to promote physical activity as well as participation in Sport for All.

Keywords: sport for all, elderly, life quality, mental health, physical

health

Mental training and preparation for performance enhancement
The Effects of Self-Selected Asynchronous Pre-Task Music on Performance in a Soccer Task

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Abstract: Research has suggested that listening to music can enhance physical performance by acting as a stimulant or sedative and thus altering athletes’ arousal levels. The purpose of this study was to investigate the effects of self-selected asynchronous pre-task music on performance in a soccer skill test and in the achievement of participants’ individual zone of optimal functioning (IZOF). An idiographic A-B-A-B single subject design was used. The single subject design is suggested as the most appropriate methodology for applied research. Nine male collegiate soccer athletes from a university in London participated in this study. Participants were asked to describe their most and least successful performances, and the emotions related to these experiences. Based on the information provided, participants’ IZOF was established. Participants then selected three or four music tracks from their own play list that they considered would help them in achieving their IZOF. The motivational qualities of the selected tracks were assessed using the BRMI-3. Participants in each trial were asked to complete two circuits of a soccer skill test developed to emulate the skills used in a soccer match. Performance was assessed through time to complete the soccer skill test and kick accuracy. The study was composed of four experimental trials; two with pre-task music, and two without. Before the no-music trials, athletes completed the concentration grid as filler. After each trial, participants completed their IZOF and at the end of the study participants completed the intervention evaluation questionnaire. According to the study results the hypothesis suggesting that pre-task music would improve performance has not been supported. The graphically displayed data did not show a consistent improvement in time or kick accuracy. Moreover results on the IZOF did not present stable improvements in the pre-task music trials. Nevertheless, participants reported in the intervention evaluation questionnaire an improvement in concentration and motivation and an increase in activation levels as effects of listening to pre-task music. Therefore it is necessary for further investigation, with an idiographic approach, of the relationship between pre-task music and subsequent performance and emotions.

Keywords: pre-performance routines, single case design, music, IZOF

Effects of Psychosocial Interventions on Sport Performance: A Systematic and Meta-Analytic Review

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Abstract: Intervention research in sport psychology has flourished over the past 40 years; however, to date, attempts to synthesize the literature have been limited to either narrative or intervention-specific reviews. The aim of this paper was, therefore, to systematically review published literature on the effects of psychosocial interventions on sport performance. Inclusion criteria stipulated that papers assessed the treatment effects of psychosocial

interventions on athletes completing tasks in the sport which they regularly competed. Psychosocial interventions were considered to be any action or process that used social factors and/or individual thought and behavior to alter functioning and/or performance (e.g., team building, hypnosis, goal setting). Study designs were required to be randomized and controlled. Systematic paper retrieval returned 1292 potentially relevant articles from database searches, journal hand searching, and citation pearl growing. Thirty-nine independent samples from 38 papers were reviewed in the final analysis. Performance enhancing effects were observed in 22 comparisons, seven comparisons were inconclusive, and 10 were non-significant; none of the interventions were detrimental to performance. Moderation effects were observed for the type of intervention, age and gender. For example and in reference to intervention type, physiological biofeedback, video feedback, pre-performance routines and written scripts received greatest support whereas inconclusive evidence was found for relaxation-based techniques and imagery. Overall, generally positive support was found for the short-term performance enhancing effects of the psychosocial interventions delivered. However, the enduring effects of the interventions remain unknown. Future research needs to sample more elite and disabled athletes, evaluate team and organizational level interventions, and continue to strive to enhance treatment efficacy by adopting causal research designs and by implementing season-long follow-up assessments. Applied practitioners should consider athletes' characteristics before deciding which strategies to implement and ensure that athletes have developed fundamental psychological skills before delivering more complex interventions.

Keywords: athletes, intervention effectiveness, psychology, teams, treatment efficacy

Assessment of Psychological Skills Usage amongst Japanese Rugby Players

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Abstract: Over the past few decades, there has been increased attention paid to psychological skills usage among high-level athletes. However, little is known about these skills in Japanese rugby players. Considering the significant role that practice is thought to play in determining competition outcomes, a need also exists to assess the usage of psychological skills in both practice and competitive performance domains. The purpose of this study was to assess the usage of psychological skills by Japanese rugby players in both practice and competition. This study also aimed to access the ability of the Test of Performance Strategies (TOPS) to differentiate players of varying competitive levels. The TOPS was administered to 352 male athletes (M = 22.01, SD = 3.64), including 95 Top League and 257 university players. Discriminate function analysis demonstrated that psychological skills were employed, in both practice and competition, more frequently by Top League players than university players. On the competition subscales, Top league players scored significantly higher on goal setting, activation, emotional control, and relaxation than university players while university players scored higher on negative thinking. Top League players also reported significantly higher scores on goal setting, imagery, and relaxation among practice subscales than university players. The 16 subscales of the TOPS, with four exceptions, created an internally stable instrument with moderate predictive ability relative to performance level in this sample of Japanese rugby players.

Keywords: psychological skills, Japanese, rugby, TOPS

Talent Identification and Early

Development Programmed

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Unique Ultimate Sports & Academy

Abstract: Introduction: 1 For example, on June 1994, when I founded UNIQUE ULTIMATE SPORT & ACADEMY (a Football Training Centre in Lagos-Nigeria), I was actively involved in Talent Identification and Early Development Programmed Voluntarily, in partnership with some community authorities and Football supporters. The programmed used a series of physical tasks and an interactive Sport Interactive – to determine the suitability of sports for young people. In order to investigate the validity and applicability of the programmed “SOCCER for HOPE” commissioned the Unique Ultimate Sports & Academy to undertake an academic review.

Background Information:
2. In introducing the review the following points are made:
2.1 In developed western countries, scientific approaches increasingly are being used.
2.2 Skills and aptitudes shown at a young age do not automatically translate into talent development and performance.
2.3 Talent may be lost or never recognized because of lack of opportunities.
2.4 Lessons, practice and encouragement appear to precede exceptional performance.
2.5 Development patterns vary among individuals and different components develop at different rates.
2.6 Evidence suggests that it takes ten years of concentrated training to reach the highest levels.
2.7 Training must be directed at improving or developing a skill. It should be purposeful and goal-directed.
2.8 'Deliberate practice' requires time, energy, access to Coaches, facilities and training materials and is not inherently enjoyable.
2.9 Children often would not practice if it was not for parental and individual encouragements. Children practice more when they are progressing and finding the practice pleasurable. Also, Individuals have to enjoy an activity before they can practice deliberately.
Psychological:

3. Many researchers consider psychological factors to be the main determinants of individuals' potential in sport in terms of the development of skills, a continuing commitment to training and competing and consistent high performance and need to be incorporated into talent detection/identification models.

Conceptual Styles of Talent Identification
This approach is not supported by empirical evidence:
4.1 Determinants of performance and potential at adolescence are likely to differ and mature values are hard to predict.
4.2 Determinants of performance between males and females are different.
4.3 Once skills are mastered performance is heavily influenced by psychological factors.

Development and Potential Building:
The focus on current performance rather than potential is paralleled by the need for successful youth squads that drives the development agenda. The review calls for leadership in driving this work forward to influence the development of young people in sport.

Keywords: psychological, development and potential building

Study of Mental and Combined (Mental and Physical) Practice on Learning Motor Skills in Volleyball

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The comparative effect of mental and combined practice on learning motor skills of volleyball was studied by carrying out experiments with randomly selected men subjects. They were divided into three equal groups of thirty each named as group of mental practice physical practice and control group. The subjects were administered mental and combined practice for duration of thirty minutes over a period of twelve weeks. The AAPHER volleyball skill test was selected as criterion variable to test the skills ability of subjects for the experiment. Their age ranged from seventeen to twenty years. The subjects were classified into three groups randomly namely A, B, and C and further these groups were randomly assigned to the experimental treatments and control group namely mental practice group, combination of mental and physical practice group.

(A) Mental Practice Method
The subjects were instructed to sit or lie down comfortably and concentrate on a point in the middle of their forehead, close their eyes and relax. This made the subjects to completely relax and concentrate. After about five minutes of time, a switch way was made from relaxation and concentration to the use of imagery instructions. Subjects were asked to imagine themselves among preparing and performing the volleying in a real life volleyball situation. Thirty minutes a day for three alternate days in a week for twelve weeks was assigned for the mental practice training. During the above training, and instructor verbally led the subjects emphasizing the auditory and visual points of the task. Each thirty minutes of session included three components: initial relaxation, mental reading for imagery mind/body and imagery of selected skills.

(B) Combination of Mental and Physical Practice
Combined group was assigned mental practice and physical practice with equal amount of time. First they were asked to practice mentally and then undergo by physical practice. The subjects were asked to practice relaxation and concentration and warming up exercises as mentioned in the mental practice and physical practice groups respectively. After two weeks of learning, the subjects were put to mental practice. The investigator wrote the script and distributed among the subjects for reading and practicing it in lying position with closed eyes without performing any physical movements for fifteen minutes. Then the investigator asked the subjects to practice physically each of the skills for fifteen minutes.

The subjects were to mentally rehearse a successful execution of the skill in each session. Each subject was asked to imagine himself performing the skill to verbalize the sequence of the skills. This mental practice session was for fifteen minutes duration of five to ten trials. Similarly, physical practice of a skill was for fifteen minutes duration of five to ten trials.

(C) Control Group
The subjects of the control group were not involved in any of the experimental treatments. The subjects were tested before the commencement of the experiment and after the experiment period of twelve weeks to examine the effect of natural growth and development of their various systems taking place in the body during the period of experimentation group and control group. Each group consisted of thirty subjects.

Mental practice and Combined practice method was found to be significantly better in improving learning motor skills i.e., volleying, serving, passing, and setup in comparison to control group.

Significant improvement was found in all the skills performance due to mental practice and physical practice method, from fourth week onwards.

Conclusions
1. The twelve weeks of mental practice and combined practice was

effective method to improve performance and learning rate in motor skills of volleyball.

2. The mental practice and physical practice method is comparatively a better method to improve performance and skill acquisition of motor skills in volleyball.

Keywords: mental practice, combined practice, motor skills, volleyball

Acclimatization Training and Its Effect on Setting Shot Goal Kicking Accuracy in Australian Football.

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Abstract: Recently, Australian Football (AF) has increased professionalism, both at club and player level, with performance improving across nearly all aspects of the game. Considering its importance, one aspect that has not displayed the same level of improvement is set shot goal kicking. A set shot for goal is where a player takes a mark or receives a free kick and kicks for goal in his own time with an opponent standing in front of him where the free kick was awarded. At the highest competition level, there has been a drop in set shot goal kicking accuracy over the last decade, with minimal research being conducted on how to alleviate the performance deterioration. Research using other sports has shown that increased psychological pressure and state anxiety can have detrimental performance effects. Thus, this presentation will examine whether practicing set shot goal kicking under pressure can help a player become accustomed (acclimatize) to the pressures associated with set shot goal kicking and improve performance in a high-pressure situation. Participants included 12 semi-elite Australian football players from the one team who were divided equally into an experimental group (EG) and a control group (CG); both groups completed a pre-test, intervention, and post-test phase. Pre- and post-testing included participants completing 10 shots at goal from specified positions under low pressure (LP) and high pressure (HP) conditions. During the 14 session intervention, the EG practiced goal kicking under HP, while the CG practiced under LP conditions. During the pre- and post-tests the players also completed anxiety testing. The results showed that there was a significant increase in participants' anxiety levels when pressure was induced for both groups and a significant decrease in accuracy post-test. In the post-test, the CG was more accurate under high pressure than the EG. Contrary to other acclimatization studies, results indicated that there was no significant advantage by practicing set shot goal kicking under pressure. Thus, exposing the EG to the HP intervention made them more susceptible to the negative effects of pressure than the CG. Future research in pressure acclimatization should determine the role that self-consciousness plays on acclimatization and perhaps investigate whether a dose response exists.

Keywords: simulation training, transfer of learning, specificity

Comparing Among Concentration & Refocusing & Fear Control between Team Sports and Individual Sports and Between Combat Sports and Non-Combat Sports In Iranian Elite Athletes

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Abstract: This study wants to clarify this issue which is there any difference between three mental skills level includes concentration & refocusing & fear control among team sports versus individual sports also between combat and non-combat sports .These three mental skills are too important in mental preparation of athletes and most of Iranian elite athletes have problem for reaching to sufficient level of these mental skills. It does not reasonable if sport psychologists assume that same level of these mental skills are required in various types of sports for a pick performance. Results of this study could help to realize levels of these mental skills that will be expected to reach for successful performance in each type of sports. Samples of this study includes 217 Iranian national athletes in different sports such as Basketball; Hockey and football as team sports versus Fencing; Ping Pong ; Archery and Track and Field as individual and non-combat sports also Taekwondo ; Judo; Karate and wrestling as individual combat sports. These Three mental skills measured by the Persian version of the Omsat and data have been analyzed by Anova. The results showed significant difference (p<0 .01) and (F=8.56 for concentration & F=14.45 for fear control & F=6.44 for refocusing) of these three mental skills between individual sports and team sports and athletes who were involved with team sports had used higher level of all three skills than individual sports athletes. Also there were significant differences(p<0.01) and (F=6.62for concentration & F=34.58 for fear control & F=20.07 for refocusing) among those skills level in combat sports athletes and non-combat athletes and athletes who were involved in non-combat sports used higher level of concentration & refocusing and fear control rather than athletes in individual combat sports .It was concluded that application of a mental skills program needs to be paid attention to difference level of mental skills such as concentration & refocusing and fear control for various type of sports. For team sports need to pay more attention to reach to higher level of these skills and it takes longer time and practice on those skills must continue to reach in higher level. Also for making a mental preparation program for athletes who are involved in non- combat sports needs to insist more to reach to higher level of concentration; refocusing and fear control than making a mental preparation program for individual combat sports athletes.

Keywords: mental skills, concentration, refocusing

Mental Skills Profile and Mental Preparation of the Under-17 Mens State Volleyball Team 2010

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Abstract: The mental skills profile of the athletes of the men’s volleyball team under-17 of Minas Gerais, silver medal in the Brazilian Championship 2010, was evaluated through the OMSAT-3*, a questionnaire with 12 mental skills dimensions. A demographic questionnaire was also used to investigate the age, length of practice and education of these athletes. Demographic data were analyzed by descriptive statistics (means, standard deviations, and percentages). The 15 athletes at the beginning of the training season were evaluated and this profile refers to 9 of the 10 athletes who participated in the championship. These athletes were, on average, 17.02 (± 0.36) years old, had 3.78 (± 1.48) years of volleyball practice, 1.78 (± 1.20) years of national experience and 0.22 (± 0.44) years of international experience. Trained, 5.22 (± 0.44) days/ week, 2.89 (± 0.96) hours/day. Eight of these athletes practiced another sport, starting with the mean age of 8.00 (± 1.91) years and has practice these sports for 3.75 (± 2.49) years, on average. Four athletes practiced soccer and the other four, swimming, tennis and futsal. Two athletes had practiced three sports in their careers (judo, basketball and handball). All the athletes were studying at high school level and only five of them had worked with some sport psychology in their career. The results of the OMSAT-3* profile were: *goal

setting" 6.31; "self-confidence" 6.43; "commitment" 6.54; "reaction to stress" 5.50; "fear control" 5.61; "relaxation" 4.96; "activation" 5.00; "focusing" 5.61; "refocusing" 4.18; "imagery" 5.21; "mental practice" 4.61; and "competition plan" 5.11. The mental preparation of this group was made during the training period of three weeks, for an average time of 30 minutes, three times a week, after the technical and tactical training. The following issues were developed with this group: mental preparation goals; goal setting and commitment; breathing techniques, activation and relaxation techniques, imagery techniques; changing attitudes from negative to positive, teambuilding and positive communication, reaction to stress situations; focus and refocus techniques after internal and external distractions; mental practice and competition planning.

Keywords: mental skills, high performance volleyball, expertise in sports, mental skills profiles, OMSAT-3 *

Periodization and Specification in Sport Mental Training

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Abstract: Meta- analyses, such as Feltz and Landers (1983) investigation, in which they analyzed 60 sport psychology studies, are equivocal regarding the effectiveness of applied mental training interventions on sport performance. Their research reports that the overall effect size was barely significant at (p=.048). This data suggests that mentally practicing a motor skill is only somewhat better than not at all. It is these statistics which diminish coach's enthusiasm for including sport psychology and mental training programs in their programs. Since sport coaches want assurance contemporary research points to a more positive possibility when mental activity specifically and modular planning are utilized by the sport psychologist and coach together. Moreover, recent developments in pinpointing the specificity of mind/body interactions in a wide range of sports, and the means by which mind and body techniques are synchronized into periodized training modules are improving the accuracy of targeted results (Alla and Ajibua 2012). This more specific mind/body practice minimizes extraneous images and their resulting misguided movement thereby improving proficient in every aspect of training and peak performance planning (Moreau & Conway 2012). Additionally, the mental dynamics have to match the sport skill necessities of the activity or sport. For instance, running may require a mental training singularly focused as is accomplished in Zen or sensory awareness (Spino 1979). A sport such as wrestling requires rotational thinking dexterity that provides cognitive /physical mental interplay consistent with its sport skills (Moreau 2013) Moreover, besides the traditional intervention choices of internal or external visualization perspective, and emerging theory is being explored with the hypothesis that distraction, for instance, during an event rehearsal can actually be a stimulant for sport activity improvement (Spino2012). Thereby, the advocacy of applied sport psychology will be advanced by mental training that includes images of sport specificity, periodized into a progressive modular plan utilizing the mental training intervention that supports particular activity.

Keywords: periodization, group selection, rotational imagery, distractive imagery

The Effect of Resilience Training for Junior Athletes

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Abstract: In recent years, there was a proliferation of research on resilience. However, there is little research on intervention to promote resilience in junior athletes, and the application of resilience in sport psychology is still in its infancy. In this study, based on Galli and Vealey (2008) model, a sport psychological resilience training program was designed and implemented for a selected group of Hong Kong junior athletes. Participants, 69 in total, were HongKong national junior athletes from windsurfing, table tennis, fencing, billiard and squash. Participants were randomly put into (a) resilience group (n=21), (b) traditional mental skill group (n=27), and (c) contrast group (n=21). The resilience group undertook the sport psychological resilience training program; the traditional mental skill group undertook a series of training in sport psychological mental skill; and the contrast group did not receive any psychological training related to resilience and sport psychological mental skill at all. The Resilience Scale for Chinese Adolescents (RSCA), the Athletes’ Resilience Questionnaire (ARQ), the Brief Resilience Scale (BRS) and the Mental Skill Questionnaire (MSQ) were implemented before and after the training. Through comparing and analyzing the pre- and post- findings, the researchers found that resilience training program derived from Galli and Vealey (2008) model was statistically effective in improving Hong Kong junior athletes’ overall psychological resilience, although the improvement in sub-scales “Family Support” and “Help Seeking” were not significant. Moreover, the effect of the resilience training program on athletes’ resilience was better than the traditional mental skill training, and the effect of the resilience training program on athletes’ traditional mental skill was not significantly different from the traditional mental skill training.

Keywords: Hong Kong junior athletes, resilience, traditional mental skill training, resilience measurement

Sport Psychological Preparation of the Hungarian Olympic Team for London 2012

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Abstract: Vocational training for sport psychology in Hungary was launched in 2007. For previous Olympics only a few professionals worked in the process of preparation and on scene with the athletes. In this material we present the preparation work of four sport psychologists, who also teach in vocational training. They attended more than half of the Hungarian team (approximately 80 persons). The leader of the team coordinated the work and provided continuous supervision. Her activity had focused mainly on swimmers, shooters and 1 gymnast, but she had been at service for the rest of the athletes in the Olympic village. She attended approx 30 sportsmen before the Olympics and on the scene. Her work included psychoeducational elements (AT, MT, concentration of attention, cognitive methods) and monitoring the sport form of athletes using bioinformational technology and the timing of form. In some cases crisis intervention was also used. The canoeing team was prepared by Miklós Fischer, who has been working with the team for six years, since their recruitment years. His methods focus on psychoanalytic orientated therapy and focus therapy. With the women’s water polo team he used team cohesion exercises as well as individual preparation. Zsuzsa Imre-Tóvári had worked with the men’s water polo team for four years. In the first year she helped selecting team members. In the second year individual and team work came into focus, which helped developing self knowledge, helped them prepare for unexpected situations (modeling) and improved concentration. They also learned autogenic training and mental training. In the third year the main focus was on communication of the teammates and on team-building. Ilona Haraszttiné Sárosi worked with 11 athletes who

had received qualification, including wrestlers, swimmers, gymnasts, judoists and athletes, many times also in training camps. After detailed state measuring, she used psychotherapeutic method combinations. Beside basics, she worked on the stretching out of dead point, course perception, sustenance of activational and motivational level and self-control techniques; moreover she used NLP techniques to achieve confident behavior. Noémi Gyömbér used biofeedback and other laboratory techniques besides regular methods in the preparation of a swimmer.

The team contributed to the winning of 6 gold, 2 silver and 3 bronze medals besides several other places.

Keywords: preparation for Olympic Games, expert team work, educational program for sport psychologist

Psychological Preparation: An Approach to Effective Coaching in Sports

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Abstract: In modern competitive sports Psychological preparation of a team is as much important as teaching the different skills of a game on scientific lines .The teams are prepared not only to play the games, but also to win the games, and for winning the games it is not only the proficiency in the skills which bring victory but more important is the spirit and attitude of the players with which they play and perform their best in the competition. The mental attitude of an individual player or a team can help either to overcome many obstacles for victory or can lead to unexpected defeat. The importance of psychological preparation of a team for competition cannot be denied and should never be underestimated. Most of the coaches do not agree about how to help the players to develop their mental attitude. But each coach seems to have his own techniques which work for him. Nevertheless, the development of an appropriate mental attitude, set or preparation is an integral part of the sports competition. The psychological aspects for performance involves the preparation that the player undergoes to be ready him for giving the peak performance in the sports competition.

Keywords: psychological preparation, mental attitude, competition etc

A Case Conceptualization of a Young Professional’s Learning Experiences in Preparing Consulting work

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Abstract: Graduate education is critical in acquiring competencies for professional career in sport psychology. Studying in the two-year sport and performance psychology master’s program at University of Denver has greatly shaped my understanding in doing consulting. As a sport psychology practitioner, the purposes of providing mental training and conducting psychological consultation could be assisting athletes to fully reach their potentials, enhancing their satisfaction in playing sports, and hence, increasing their well-being in life (Williams, 2009). Several issues are highlighted in this paper: application of knowledge, self-reflection, using feedback, and cultural sensitivity. Firstly, being able to apply the knowledge to practice is something that has been emphasized in the program. Besides the different courses that students take, second-year students are expected to do consulting with sport teams or individuals, and first-year students would be the observers of their consulting work. This

arrangement not only enables the students to naturally adapt the consulting role, but also to use the knowledge in the class to form, conduct, and reflect on a session. Secondly, to improve the work of mental training services, personal reflection is also an important part for our practices (Holt & Streat, 2011; Aoyagi, Portenga & Poczwadowski, 2011). We learn to reflect on our experiences in written reports, in which some questions regarding consulting aspects that went well or not, whether the content fit or did not fit with the purpose of the session and the population in the group, and other elements that could be done differently in the future sessions. We are also expected to videotape our sessions to be more aware of our consulting behaviors as well as personal strengths and areas of improvement. Small group supervision provides chances to openly express our questions and concerns about the sessions, to listen to other's feedback and suggestions and to learn from each other (i.e., peers and supervisors). Thirdly, the process of peer feedback allows the students to learn how to provide constructive feedback as well as to receive others' feedback. Since, how we perceive ourselves might be very different from others, being able to handle different types of feedback is a great way to raise self-awareness as well. Finally, the exploration of personal beliefs and biases would be important for raising the awareness and sensitivity diverse cultural backgrounds. Athletes come from various cultural backgrounds, which requires sport practitioner to be competent in understanding and communicating with these athletes.

Keywords: self-reflection, using feedback, application of knowledge, designing mental training

Comparison of Performance Strategy between Iranian Men and Women handball's Athletes

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Abstract: One of interested topics for researchers is investigation of mental skills in athletes. Test of Performance Strategy (TOPS-2) is that it asks the player to differentiate the used in practice and in competition. Therefore, the aim of present study was to examine of difference between Iranian men and women handball players. The subjects was 30 Iranian national handball players (15 male and 15 female, Meanage=29±3.60). The TOPS-2 questionnaire was used in this research that is an inventory by Lew Hardy et al (2010) with 68 questions and asks what mental skills a player already uses and also how often they use them. TOPS have two scales (Practice and Competition) and 17 subscales. The TOPS is valid and reliable tool for measurement of mental skills. After gathering of completed questionnaires, we used independent t-test for examination of differences between men and women handball players (P< 0.05). The results showed that the woman handball players have the better mental skills compared to the men handball players (P=0.022). Also, the results showed that this difference was significant in practice subscale (p=0.013) whereas did not seen significant difference between them in competition subscale. The finding revealed that the woman handball players are better in mental skills especially in practice dimension. We suggest to practitioners that consider to mental skills in men players more than ever.

Keywords: mental skills, test of performance strategy (TOPS-2), men and women handball's athletes

The Effect of Progressive Relaxation and Mental Imagery on the Level of Skills and Physical Performance for soccer players in Alahli Saudi Academy

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Abstract: The aim of this study was to investigate the effect of progressive relaxation and mental imagery program on the level of skills and physical performance for soccer players in Alahli Saudi Academy. Relaxation is of great importance to any athlete striving for peak performance. Relaxation skills can help athletes reduce mental (self-doubts, worry, etc.) and physical anxiety, while increasing concentration and performance. Mental imagery for the motor skills helps the player to achieve a greater understanding of the nature of the performance and become more familiar with the requirements of success in the performance of motor skills in playing situations and competitions. And then lead to the development of performance and helps the performance of motor skills become more automatic. Studies indicate that during the mental visualization produces muscle activity in the working muscles, and helps to strengthen the neural pathways for nerve signals sent from the nervous system to the muscles, leading to improve the level of performance. As many studies have indicated that mental training exercises using visualization has contributed to increase muscle strength for soccer, basketball & rugby American players. The researcher used the experimental method by using pre and post test for one experimental group from the soccer buds players in Alahli Saudi soccer academy in Jeddah less than 13 years. Also the research sample consisted of (25) soccer players. The ability to relax scale, the multi-dimensional mental imagery scale and a group of skills and physical tests in soccer was used as tools for data collection in this study. The results indicated that there were statistically significant differences between pre and post measurements for the research sample in favor of the post measurement refers to the positive effect of progressive relaxation and mental imagery program in developing the motor skills and some of physical variables for the buds soccer players.

Keywords: progressive relaxation, mental imagery, level of skills, physical performance

The Intervention Effect of Competition Scheme and Pre-Performing Routines for Archers

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Abstract: This study aims to improve the adaptability and satiability of archers in competition by means of competition scheme and pre-performing routines. The competition scheme intervention ensures the archers of not only knowing how to making proper competition schemes before the games, but practicing it several times in simulation. To help archers set pre-performing routines, we collected a lot of information about their behavior in the successful competition, which was the foundation of making personal routines. Some mental skills training was applied to help archers improve abilities to be included in their own routines, such as relaxation, concentration, imagery and so on.

We took five archers who were all professional athletes (mean age of 20.6±2.2 years old). Three of them were the experimental group and the other two were taken as the control group. The intervention lasted 12 weeks; a pre-test in the form of simulation competition were arranged. Mental skill level, performance strategies, competitive state anxiety, self-confidence were tested as psychological dependent variables. Also, archery performance was examined with total scores, degree of dispersion of each arrow, and times of failed attempts. Mean heart rate during the games was tested.

The result of descriptive statistics showed the mental skills level of the experimental group improved; the paired samples T test observed significant difference in the experimental group from the dimension

of mental preparation (sig=0.017), anxiety and worry management (sig=0.013) and concentration ability (sig=0.011). Covariance analysis with the control group showed corresponding significant difference from the 3 aspects (sig=0.022, sig=0.046, sig=0.037). Clear progress was observed by testing performance strategies from the experimental group compared with the control group; a significant difference was found in the paired samples T test with the dimension of goal setting (sig=0.042) and emotional control (sig=0.032). Covariance analysis with the control group showed corresponding significant difference (sig=0.023, sig=0.043). In the paired samples T test with pretest and post-test for the experimental group , the self-confidence trait observed significant difference, sig=0.033; the self-confidence state, cognitive anxiety, somatic anxiety, failed attempts did not show a statistically significant difference, but appeared in varying degrees of positive change. The descriptive statistics in the experimental group observed improvement on scores (pretest=100.33±8.02, postest=103.33±5.51) and intensive degree (Sum of square Vertical and horizontal Coordinate of each arrow, then ask square root. pretest =65.92±15.66, posttest=52.41±17.13), but with no statistically significant difference. The control group data did not appear to have any improvement (scores: pretest = 102.00 ± 8.49, posttest = 98.00 ± 12.73; squareroot: pretest = 59.30 ± 11.59, posttest = 66.92 ± 22.68).

The intervention of competition scheme and pre-performing routines can effectively improve the accuracy and constancy of the archers' performance. Also the archers' level of mental skill and competition strategies were improved. The intervention can reduce the archer's worry and anxiety before the games and can promote the archers' self-confidence for games.

Keywords: competition scheme, pre-performing routines, archery performance, self confidence, anxiety

The Effect of Mental Training Programs on China's Diving Team Preparing for the Olympics

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Abstract: Based on the cognitive-behavioral intervention, the program consisted of techniques of goal setting, imagery training, relaxation training and self-talk control. In this study, seven participants were all members of China's Olympic team. Design: For the purposes of this study, a single-subject design was used. The design selected for this study is a multiple-baseline across participants.

Procedure: The intervention consisted of a brief cognitive-behavioral intervention which included the following techniques: goal setting, imagery training, relaxation training and self-talk control. The intervention was presented to each participant in four sessions during a one week period. The total length of the study was 12 months. Participants: All seven participants were athlete members of China's diving team for the Beijing Olympic Games.

Setting and apparatus: Participants were requested to complete a mental skills questionnaire to evaluate what they perceived.

The experimental criterion studies changes between the baseline and post-intervention on four major criteria: mean, trend, level, and latency. The mean refers to the average rate of performance. All participants demonstrated a marked increase with a mean effect size of 41.5%. The reductions in the variability of the mental skill means between the baseline (7.30) and the post-intervention (6.02) are extremely meaningful. Positive changes on the level criteria were also accomplished as every participant showed an immediate change on the scores after the interventions, range from 2 to 4.

Another important criterion is the trend, which refers to the tendency of the data to increase or decrease over the stages. Visual representations of the trends are calculated by the best fit line. The seven participants all showed a considerable change in the directions of the trend lines.

The last experimental criterion is the latency which refers to the abeyance of the changes in the performance between the onset and the end of the post-intervention. These criteria can be visually analyzed in the study figure. Results demonstrated that the mental training intervention enhanced participants' self-evaluation in a number of mental skills.

Keywords: mental training program, mental skills, divers

Effect of Motor Imagery Training on Voluntary Strength and Brain-to-Muscle Signals in the Elderly

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Abstract: The purpose of this study was to explore the effect of motor imagery training (MIT) and conventional strength training (CST) on increasing voluntary muscle strength and related central nervous system adaptations in elderly people.

Twenty-seven healthy elderly (age: 75 ±7.9 years, 8 women) volunteers were randomly assigned into three groups: Low-intensity (30% maximal voluntary contraction [MVC]) physical exercise combined with MIT group, CST group (trained with high-intensity muscle contractions), and a no-practice control (CTL) group. MIT and CST lasted for 12 weeks (5 sessions per week). The participants' right-elbow flexor muscle strength, electromyography (EMG), and motor activity-related cortical potential (MRCP) directly related to the strength production were measured before and after training.

The CST group had the highest strength gain (17.6%) surprisingly, only the MIT group demonstrated a significant enhancement in the MRCP (28.6%), approached significance (9.9%, P=0.061) and that for CTL group was the lowest (4.9%, P=0.539).

These results suggest that MIT combined with low-intensity physical exercise is an effective method for voluntary muscle strengthening. Training of the cortical motor control centers might translate to greater descending command to the target muscle, leading to strength gains in elderly people.

Keywords: aging, motor imagery, muscle strength, maximal voluntary contraction (MVC), motor activity-related cortical potential (MRCP), EEG frequency power

Mental Toughness in Sports: Construct, Measurement and Prospect

Song Gu, Changsheng Wang, Jie Zhu, Zourmand Gholamreza
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Abstract: Mental Toughness is a personality trait, where athletes in various contexts adapt to sports situations to overcome pressure, to stay focused and to stay self-confident in order to achieve their goals. At present, Mental Toughness is the most common proper noun used to describe the excellent psychological quality of athletes. However, relative to the important status in competitive sports, the concept and

components of Mental Toughness is still at the primary stage. This article reviews the definition of Mental Toughness, its concepts and development of components, and how to measure it.

This article first traces the concept of Mental Toughness in sports and describes the perception of current views from other scholars studying Mental Toughness. Then a summary of the three time waves in studying the components of Mental Toughness will be presented, followed by a focus on the current Mental Toughness measurement tool (8-item questionnaire).

This article first traces the concept of Mental Toughness in sports and describes the concepts of current views from many scholars in Mental Toughness. It includes the relationship between the individual Mental Toughness and athletic performance, how individual athletes deal with pressure and adversity differently, and the cultivated issues of Mental Toughness of athletes. The three time waves in studying components of Mental Toughness in sport is summarized, including new components of Mental Toughness , the components of Mental Toughness in competitive sports, the components of Mental Toughness of athletes in different sports, and the effect of Mental Toughness in favorable circumstances in sports. There was also a focus on the current Mental Toughness measurement tool (8-item questionnaire).

Limitations include the differentiation and analysis between Mental Toughness and resilience in concept, and other problems in the study of Mental Toughness. Future prospects include that the field is confirmed and operations defined of Mental Toughness, establishing the ecological view of training plan and the application research in other areas.

Keywords: mental toughness, competitive sports, athletes, measurement, prospect

Mental Health Diathesis of Chinese University Students and the Promotion Relationship of Physical Activity

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Abstract: In the background of mental health diathesis research, this study built the mental health diathesis model based on the reference of domestic and international mental health diathesis theory and measurement tools. The aim of this research was a survey of mental health diathesis and the promotion relationship of university students in China.

A survey of mental health diathesis and the promotion relationship of 1463 university students from eight universities in China were simultaneously conducted using the University Students Mental Health Diathesis Questionnaire, physical activity rating scale and the BFS mood scale, which were based on the Statistics Software SPSS 17.0 and AMOS 17.0 in order to enrich the mental health diathesis education and improve the theoretical system of physical exercise, and provide a reference for the quality of the educational practice.

The results show that: (1) Mental health of university student was constructed by the factors of cognition, emotion, personality and adaptation. (2) Male students scored significantly higher than female students, city students scored significantly higher than rural students, and health diathesis scores rose consistently from freshman to senior years. (3) Level of physical exercise and mental health diathesis scores were positively correlated, and on the cognition, emotion, and adaptation factors significantly related. (4) Mental health diathesis scores of university students were significantly related to their mood

state, particularly in the factor of positive emotions where they were significantly correlated.

If the coach wants to increase mental health and mood state, they can increase physical fitness.

Keywords: Chinese university students, mental health diathesis, physical activities, promotion relationship

Thoughts and Questions of Mental Services in Chinese Sports Teams

Yang Ali
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Abstract: Based on the inspiration of mental services' experience with the Chinese half-pipe snowboarding team, the study proposes ten thoughts and questions of mental services in Chinese sports teams. Through literature review, questionnaire surveys, interviews, and case analysis, researchers put forward some views and suggestions, and then provided references for mental service workers. Ten thoughts and questions are: 1) Athletes' negative thinking: What are the central nervous system's mechanisms and brain's work mode involved with negative thinking? How do they lead to mistakes? 2) Problems in controlling arousal level: Different sport projects or stages of a sport project require different arousal levels. Since athletes' arousal performance show considerable variation before or during the game, how can it be controlled effectively? 3) Application of family therapy technology in sports teams. This refers to the migration problem of psychological consulting technology. Is validity the most important evaluation criteria? 4) Carrying out intervention when the counselor is on the court. Is the intervention allowed on the court? If so, if the result is not good, who is responsible? What is the position of the sport counselor, on or off the court? 5) Issues of professional ethics of sports counselors: the conversation between counselor and athletes. Should we let coaches and team leaders know? Sometimes they want to know, what should we do? 6) Relationship of the coaches' attitude and the athletes' acceptance on mental services: What is the correlation coefficient? How can we make the coaches approve of the mental workers? 7) Mental services after the Olympic Games. This relates to continuity and long-term mental services. What have the sports teams done? 8) Problems with the local teams' mental services: What is the present situation of local teams' mental services? What should they do? 9) Problems with performance evaluation of mental services: What are the successful and unsuccessful mental services? How should we evaluate them? 10) Future of sports teams' mental services: psychological workers must improve the scientific level of mental services to sincerely convince the coaches and athletes, and implementing mental training methods to be used effectively by athletes and coaches.

Keywords: mental services, thinking, Chinese sports teams, half-pipe snowboarding team

Impact of Mind Mapping Training on Athletes' Coping Styles

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Abstract: When athletes face a stressful situation, they do not know how to cope effectively. From the CPT model, we know that changing cognition can help athletes form the correct way of coping. This study explores an alternate cognitive training method by self-organization, the mind mapping training method, and investigates the influence of the method on coping skills.

The study adopts the superior feature of "mind mapping", which

focuses on the visual thinking characteristic, emphasizing the hierarchichal structure of the CPT model as the structural design basis of the mind mapping training method. Based on this, the mind mapping training method software was created.

The author chose 15 players from the Tianjin women's hockey team for the research, using SCSQ as a measurement tool. The age of the athletes, the way to deal with sports' fixed number of athletes a year, masters, and the basic characteristics of athletes' ways of coping were all described. RESULTS: In the foundation of learning the characteristics of the hockey players, the mind mapping training method software to train the athletes' thinking was used. With this we could understand further the coping response of the athletes, for example those who trained shorter had more emotion coping and problem coping (F = 1.95, P <.01).

Conclusion: 1. The method of mind mapping training can reduce the negative emotions and be used frequently on processing core emotion coping ways. 2. A significant effect in the reduction of the proportion of coping styles is seen when young athletes choose to adopt a "withdrawal response" and "emotional response" through the mind mapping training method during training. 3. The mind mapping training method can train athletes' coping styles focused on solving problems.

Keywords: mind mapping training, coping styles

Athletes' Diaries as a Psychological Training Skill

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Abstract: The research aims at the problems which traditional psychological training skills encounter in practice, such as, the scarcity of sports psychology experts who serve the sports teams, and the means of training them are limited by time and space and so on. Researchers have developed a new psychological training skill which is suitable for each athlete's self-organizing practice. Firstly, researchers made sure the target problems can be solved by skills on the basis of analyzing the demand (as described in the introduction). Secondly, according to the results of analyses, researchers were guided by the complex system of self-organization theory to adopt modularization ideas in software design to design a new psychological training skill from two dimensions — form modules and functional modules. The design of form modules follows the cognitive psychology theory to establish a means by which the skill is adopted and forms in which training contents are presented. The design of functional modules follows theories related to psychological training and consulting to establish the functions which are assumed by the skill. Meanwhile, the principles of choosing the specific content of psychological training follow Constructivism Learning Theory. Finally, the arrangement of the training contents' structure follows sports training theory.

The bearing form of diary-athletes' psychological training skill is technical manuals. The means of adoption is to have athletes keep diaries. Its technical framework is a combination of different functional modules and form modules. The functional modules include imagery training modules, the modules of competition goals' orientation and regulation, relaxation training modules, and reasonable thinking training. The form modules include text module, graphics modules, and comic modules. Training contents should correspond to athletes' experiences and the level of cognition. The characteristics of the training schedule are that the contents of athletes' psychological training are divided into daily practices and are designed respectively according to before and during the competition. These characteristics reflect the principles of appropriate training load, gradual and orderly in progression and periodicity.

Diaries as athletes' new psychological training skill can strengthen the effect of training, promote the performance of sports, solve athletes' psychological problems, relieve the present difficulties caused by a lack of sports psychology experts, break through time and space limitations of traditional interviews, lectures and other forms of psychological training technology, make the innovations come true in terms of psychological training theory and application of the achievement means.

Keywords: diary, psychological training skill

Review and Prospect of Sports Vision: Concept, Tracing and Training

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Abstract: Sports vision is relatively a newer issue in the field of sport psychology, and has been used without a well-accepted definition at home or abroad. For athletes, sports vision is not merely the first phase of information acquisition, but also an important part of the whole cognition, thinking and motion perception system. It has great explanation value for the process of cognition, thinking and perception in sports, and has close relationship with performance enhancement. It is a highly potential research area.

This article adopts the literature search method using "sports vision" and "eye movement training" as key words Full text search of the articles published in the most important sports class publications at home and abroad between 1984-2012 were used. It also reviews the change and development of sports vision research over the last 30 years in the field of sports.

This article reviews the definition of sports vision' s concept, but still finds the description of concept and components vague. The concept should be applied to different types of motion and their requirements on vision ability and skills. The specificity of sports vision index in different sports is summarized into three developing processes of research topics, including the relationship between basic ability of sports vision and performance, the specificity of vision index in different sports, and the relationship among sports vision tracing ability, information utilization and performance. There is no significant correlation between basic ability of sports vision and performance, and significant correlation among sports vision tracing ability, information utilization and performance. This article also introduces the research methods of sports vision and training methods to develop sports vision ability, and finally puts forward the research limitations, problems in research and future prospects. The limitation of sports vision covers the discrimination of concept, problems within the sports vision research, future prospects includes changing research subjects from athletes to non-athletes, developing research conditions from pure laboratory to field study, closer integration between research on athlete's central-peripheral awareness and sports, and the applied research in other fields.

The research topics of sports vision have experienced three developing processes. Researches show there is no significant correlation between basic ability of sports vision and performance, and better sports vision tracing ability, information utilization skills can improve performance. This article summarizes the training methods and future prospects of profound guiding significance for practice.

Keywords: sports vision, sports vision tracing, information utilization, eye movement training

Improving Young Elite Athletes' Coping: A Multimodal Psychological Skills Training as Key to Success

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Abstract: The permanent burden between typical school tasks and the demands of competitive sports has led to increasing stress and strains for young elite athletes. To manage this situation, young athletes need to learn how to control the stressors and other coping skills (Lazarus, 1966). Therefore, multimodal Psychological Skills Training (PST) programs should be implemented into their daily routines. However, this is rather untypical for young athletes in Germany. For example, only a few German sports schools have implemented PST programs. Furthermore, a systematic scientific evaluation of such programs is even less often accomplished. The evaluation of the effectiveness of PST programs should be indispensable but is often an overlooked aspect of PST realizations (Weinberg & Gould, 2010).

This study used a quasi-experimental design (pre-, post- and follow up testing; EG = 62 athletes, CG = 71 athletes; age: M = 14.26 yrs, SD = 1.42). The experimental group received a PST program which included arousal regulation (e.g. autogenic training, safe-place, breathing techniques), concentration (e.g. routines, self-talk, winning-feeling) and goal setting techniques (e.g. SMART criteria, life-time goals, long-time goals). In addition to ten group sessions, each athlete in the PST program received one individual consultation. The program was administered for 12 weeks. The control group completed normal practice sessions and did not receive any PST. The dependent variables included general and sports specific self-efficacy, competitive anxiety, volitional and recovery-stress states of athletes, measured by standardized questionnaires.

As expected analysis of variance (pre to post) revealed a significant Group x Time interaction effect for the experimental group ($F(1,124) = 11.427$, $p = 0.00$, $\eta^2 = 0.08$) for general self-efficacy. Moreover, results of Wilcoxon tests showed significant differences between pre- to post-test scores for four subscales. The experimental group scored higher than the control group on social recovery ($p < .01$), positive self-motivation in practice ($p < .01$), goal recollection ($p < .05$) and lack of concentration ($p < .05$).

Results support the effectiveness of the PST program. Follow-up analyses are needed to obtain more information about the maintenance of intervention effects.

Keywords: coping resources, effectiveness, self-efficacy

Effect of Imagery Training on Shot Put Skills Intervention

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Abstract: Background: A number of researches show that imagery training can effectively improve the training effect of exercise; in practical training, mental training has become one of the main means of auxiliary training. The mental training effect has reached an agreement by researchers and coaches, with the theoretical researches and practice researches penetrating into various fields of sports. While much research has been done on training, physiology, biomechanics and other aspects in power events like shot put, there are few studies of psychology research on the event. The study of imagery training in shot put provides a strong basis for the practice of learning the skill, training, improving the formation, consolidation and automation of the back gliding shot skill, and obtaining better results. Subjects and methods: The study used independent group design in a single variable between subjects. The subjects for the study were 24 students of sports education and training specializing in shot put from Tianjin University of Sports; the average age was 21.3 years, the average number of training was 3.2 years. They were randomly

divided into a control group and an experimental group. The two dependent variables, changes of back gliding shot put throwing technique evaluation scores and throwing performance standards, were observed during the imagery training intervention. The control group used normal training methods and procedures while the experimental group used imagery training methods. The experiment was carried out over three months. The independent samples t-test was used between two sets of test results at the end of the experiment by SPSS 17.

Results: The experimental group and the control group in the throwing performance standards ($t=2.437$, $df=22$, $p<0.05$) and throwing skills scores ($t=3.142$, $df=22$, $p<0.05$) have significant differences; the experimental group throwing performance standards and throwing skills scores were significantly better than the control group.

Conclusion and suggestion: 1) Imagery training can promote mastery of sports skills of the shot put, and enhance athletic performance, which is a self-improvement and effective auxiliary method of perfect technical action; 2) Students or athletes should be guided by imagery training in practice.

Keywords: imagery training, shot put skills

The Study and Application of Mental Training and Adjustment of Chinese Boxers in the 29th Olympics Games

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Abstract: Mental strength is the key to whether boxers can bring their skill into play under stressful circumstances. The objective and purpose of the following research was to provide psychological consulting and assistance to Chinese boxers during the 29th Olympics Games through systematic mental training, in order to ensure their potential skills and tactics were fully utilized and win the gold medals. Research participants were key Chinese national boxing athletes such as Zhou Shimming and Zhang Xiaoping.

Research methods included questionnaires, face to face consultations, diagnoses of key areas to focus on, mental training techniques, etc. Procedure and outcomes: Consultation was over a period of half a year, working closely with the team and athletes. The program was divided into the following stages: diagnosis, training and adjustment, mental preparation, testing and appraisal. Cognitive adjustment and improvement included lectures, discussions, and face to face consulting activities. The excellent performance of the Chinese boxers was not only for their mastery of boxing skills, but also for their psychological character including their spirit, mental style, confidence, will, and sense of purpose. It is believed that the athletes' good and stable psychological condition was a major aspect in their success in winning two gold medals in the 48kg and 81kg classes during the 29th Olympic Games.

Keywords: mental training, mental adjustment, boxing athletes

A Study on the Key Psychological Factors Affecting Peak Performance in Rowing

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Abstract: The formation of peak performance and the excellent

coordination of rowers are correlated with key psychological factors such as the integration of “rower, boat (blade), water” and special psychological abilities of “rower-boat coordination” and “rowers' cooperation” in competition. The so called “rower-boat coordination” is the integration of rower, blade, boat and water; “rowers' cooperation” means the coordination between rowers. Subjects: 51 rowers from the Guangdong rowing team

This study, based on the psychodynamic theory, utilized the grounded theory to do semi-structured interviews on the rowers of the Guangdong rowing team. Open coding, relational coding and core coding methods to code the results of the interviews were used.

This study found the key psychological factors which affect the “rower-boat coordination” and “rowers' cooperation”, they are: The tacit cooperation degree of “rower-boat coordination” is correlated with the psychological factors of the rower's sense of control (sensation of force, entry and exit angle of the blade, balance and speed of the boat), body state (size of generalized force, rhythm free, scope clean and breathing rhythm), emotional state (excitability, self confidence, comfort and lightness during row). The tacit cooperation degree of “rowers' cooperation” is correlated with psychological factors including team cohesion (common goal, be comfortable with others, mutual help), communication ability (various ways of communication, timely communication, good communication effect). Based on this finding, this study puts forward several key psychological factors which affect the peak performance in rowing competition, and provides reference to improve the training quality and performance of rowing.

Keywords: peak performance, key psychological factors, psychodynamics theory, grounded theory

Adversities on Free Throws in Basketball: Experimental Study on Coping Training

Zhipeng Wang, Ying Zhang
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Abstract: The free throw is an important part of a basketball game; it could be the key to winning a close game. Based on the theories of coping adversity and simulation training in theory, we used surveys to learn about the adversity on free throws in competitions among members of a women's basketball team from ShaoXing University. (Adversities include problems from physical decline and the transition of movement from stillness, the problem from dispersion or concentration caused by disturbed attention, the problem from mood disorder caused by tension or indignation, etc.). Through our investigation, coping training contents for different adversities in basketball free throws were formulated. We used surveys to conduct an annual coping training for adversities on basketball free throws. The experimental result suggested that after the targeted training, the players made obvious progress in their free throw percentages in competitions.

Keywords: free throws in basketball, coping adversity, coping training

The Effect of Emotion Suppression and Expression on Athletes' Ego-Depletion

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Abstract: The ability of self-control is essential for athletes to cope with stresses from many aspects successfully. As a limited cognitive resource, self-control can be depleted. According to ego-depletion theory and the theory of ironic effect of mental control, it was hypothesized that emotion suppression needed more self-control resources than emotion expression, resulting in more self-control depletion. The aim of this study was to test the effects of emotion suppression and emotion expression on athletes' ego-depletion.

Thirty-eight football collegiate students participated in Experiment 1. Fifteen tennis collegiate students, three badminton, and eleven table tennis players participated in Experiment 2. They were randomly assigned to the emotion suppression group, the emotion expression group and the control group. After 8 minutes and 30 seconds of the emotion control task, participants in Experiment 1 finished the Stroop task, and participants in Experiment 2 finished the Visual-CCPT task. MANOVA results showed significant differences on error numbers of unmatched Stroop task ($F(2, 35) = 13.359$, $p = .000$, partial $\eta^2 = .433$) and commission numbers of Visual-CCPT task ($F(2, 26) = 5.627$, $p = .009$, partial $\eta^2 = .302$) between different groups. Post hoc multiple comparisons found that the emotion suppression group had more error numbers of unmatched Stroop task than the control group and the emotion expression group, and the same result appeared in the commission numbers of Visual-CCPT task.

Consistent with the theory of ironic effect of mental control, the results suggested that expressing was a better strategy than suppressing when athletes faced negative emotions. This strategy could save energy and provide guarantee for the subsequent control task.

Keywords: self-control, ego-depletion, athletes, emotion suppression, emotion expression

My Sport Performance Is Excusable: The Utility of Self-Handicapping Strategies in Sport

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Abstract: Self-handicapping is a defensive strategy that an individual usually adopts to set impediments for an upcoming failure before undertaking certain tasks. On the surface, self-handicapping strategies appear logical; they may realistically portray the circumstances surrounding an upcoming performance and gain understanding and sympathy from others who may think the performance failure was caused by extenuating circumstances. At a deeper level, however, employing self-handicapping strategies could represent an attempt at impression management and self-presentation. In the field of sports, the significance and uncertainty of the results, and direct openness of performance in the competition provide an ideal scenario for athletes to use self-handicapping strategies (Deppe & Harackiewicz, 1996). Therefore, athletes often self-handicap in such stressful situations. However, how this strategy works, the results are not consistent.

To investigate the utility of self-handicapping strategies, the authors summarized the effects of self-handicapping strategies on athletes' self-worth protection, impression management, emotions and sport performance through reviewing the existing researches about self-handicapping in sport. Our study, in hopes of advancing future research on self-handicapping, will focus on the following aspects: (1) broadening the subjects of study in this area from the specific contents of coaches' self-handicapping and their impact on the performance of athletes; (2) developing more scientific and feasible measures to increase the comparability of results; (3) examining the relationships between implicit self-esteem, physical self-esteem,

anxiety direction and self-handicapping; (4) exploring the utility of self-handicapping strategies from the perspective of observers; and (5) developing more longitudinal researches.

Keywords: self-handicapping, self-worth, impression management, sport performance, athlete

SPCS Influence on College Golfers’ HRV

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Abstract: The purpose of this study was to apply the Self-generated Physiological Coherence System,SPCS,in psychological biofeedback training on college golfers to explore the change and the trend of golfers’ heart rate variability (HRV). By using biofeedback training, college golfers can master psychological training methods such as deep breathing, attention focusing and emotional stability. Method: Ten college golfers (6 males, 4 females) who participated in the 2012 World University Golf Championship were involved in the training. This study used four kinds of biofeedback projects (Measurement, Pipal, Archery, Smart and Clever) as training and feedback form. After four months of training in different situations of difficulty, the change and trend of golfers’ HRV was reported. Conclusion: The results of time domain index and frequency index of HRV showed that the projects of Measurement, Pipal and Archery could improve the golfers’ HRV and enhance their vagal tone (SDNN,RMS-SD and PNN50 raised significantly, p<0.01, p<0.05). The sympathetic and parasympathetic nervous system were also balanced effectively (LF/HF and LFnorm reduced). With the enhanced difficulty, golfers’ HRV was evidently decreased (p<0.01, p<0.05). And their HRV was increased again and maintained stable after training in the same level of difficulty. Because of the repeated stress, golfers’ HRV in the project of Smart and Clever was decreased and instable. Because of the small sample capacity, this study lacks generalization and representativeness. The writer will continue to study and overcome this limitation in the next research.

Keywords: college golfer, training, HRV

The Effects of Internal and External Imagery Training on Taekwondo Learners’ Decision-making

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Abstract: To investigate the effect of internal and external imagery training on decision-making of taekwondo learners, 21 taekwondo athletes and 30 common students were invited to a 2x2 experiment, in which the independent variables were training method (internal and external) and level of study (beginners and athletes), and dependent variables were reaction time, accuracy and confidence of action in decision making. Ten athletes accepted external imagery training by watching taekwondo action video clips, while 11 athletes in the internal group performed internal imagery of the same action following instructions. Beginners accepted a 1-hour basic taekwondo lesson each time before imagery training, then were divided into two groups (13 external, 10 internal) to perform imagery following the instructions. The imagery training lasted 10 minutes each time. Dependent variables were tested after the experiment with self programmed E-prime software. Variance analysis showed that level of study had significant effects on accuracy,F=16.778, p=0.000) and reaction time,F=12.777, p=0.001, while training method only had an effect on reaction time (F=6.535, p=0.016). Also, interaction was detected on reaction time ,F=6.988, p=0.013, with both

kinds of imagery training having different influence on learners in different stages. Descriptive statistics revealed that external imagery training helped reduce reaction time for the beginners,Mean external=5946.69, Mean internal=9259.56, and internal imagery training had a positive effect on improving accuracy (beginners: Mean external=10.62, Mean internal=12.38; athletes: Mean external=14.33, Mean internal=16.33). Based on the theory of mirror neuron system, we suppose that different imagery training may activate different processes of the mirror neuron system. External imagery training may help the immediate recognition of action signals while internal training may enhance comprehension of the actions. Therefore, a suggestion about using appropriate imagery training for different targets in taekwondo teaching is proposed.

Keywords: imagery training, decision-making, mirror neuron system, taekwondo

The Psychological Interpretation of a Dark Horse in the Field of Sports

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Abstract: It is not unusual to see that some outstanding performances are achieved by unknown athletes who are called dark horses. Although the appearance of a dark horse enables competitive sports to be more exciting, it begs the question of what kinds of psychological elements facilitate the phenomenon of a “dark horse”. In this study, a dark horse is defined as the athlete who initially failed to rank top three in previous competitions, namely the Olympic Games, World Championships and World Cup Finals, but wins a gold medal in the following Olympic Games. Through analyzing the last four Olympic Games, it turns out that there were 21 Chinese dark horse athletes. This paper makes a case analysis of the media reports which occurred immediately after the athletes won the gold medal. The results found that: First, the results are in accord with recent studies from Lyn Roberts and Kristiansen—“ dark horse” athletes endure less mental stress, and the coach’s support is an important factor. For example, Cai Yalin said, “It is just a very ordinary game. We are not appointed to win the gold medal in the men’s rifle event, so I have little mental stress.” Wang Dexian, Xing Huina’s coach, told her that, “You are a little one; there is no need to be nervous so just take an easy run.” Second, dark horses own a low level of self-positioning. For example, Lin Qingfeng said. “I’m a nobody, only by sparing no efforts can I win the gold medal”. Third, dark horses concentrate on the process of the whole competition. As Wang Liping said, “I kept reminding myself to pay all my attention to the action in the sprint”. Hong Man said, “Everytime when I compete, I always hold the attitude of trying my best, ignoring who will be the winner”. Finally, dark horses are task-oriented and emphasize their personal effort. Meng Guanliang and Liang Wenjun said, “In short-distance programs, we regard ourselves as the biggest rivals. If we overcome and conquer ourselves, we will be able to defeat all competitors”. This study suggests that the mentality of dark horses is the best state of athletes’ mentality, that they should reduce their self-positioning before the competition, pay more attention to the process of the game and emphasize individual’s efforts and task-involvement if they are to perform well.

Keywords: dark horse, mentality of athletes, self-positioning, individual efforts

Chinese Culture and Athletes’ Mental Training

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Abstract: The purpose of traditional Chinese philosophy is to mold ideal personality and nurture individuals’ spirit. The core of such kind of philosophy is to regulate and control both body and mind. Chinese culture contains not only a system of thoughts but also a system of practice methods. This integration is the quintessence of Chinese culture. It includes both insight of good thoughts and specific behavioral methods leading to the ideal. It educates people with useful ways leading to a spiritual world. This paper made a summary of practical and specific methods rooted from thoughts of Confucianism, Buddhism, and Taoism for athletes’ mental training program. These methods include 1) introspection and reading for control of thinking and attitude, 2) meditation, counting of breaths and standing Qigong for control of deliria and disturbing thoughts, and 3) training of mindfulness and learning of guqin, Go, calligraphy and Chinese painting for control of emotions. The difficulties for introducing thoughts and methods of Chinese culture into athletes’ mental training program come from a lack of researchers in this direction, a lack of research in Chinese culture heritage and misunderstandings of traditional Chinese culture.

Keywords: mental training, athlete, Chinese culture, meditation, introspection, mindfulness training

Psychological Events that Influence Performances of Badminton Players

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Abstract: A critical event can change the winners and losers in a match. This study was to explore psychological events that influence performances of badminton players. Open-ended questionnaires were conducted among 83 badminton players. The collected data was analyzed by inductive content analysis and content validity was investigated through group meetings participated by badminton coaches and sport psychologists. As a result, 603 cases of psychological events that influence performances of badminton players were collected and content analyzed. The 603 raw data was categorized into 26 specific domains, and the 26 specific domains were categorized into 8 general domains. The eight general domains are: my good play, opponent’s good play, momentum, significant others, scores, psychological states, and environments. The eight general domains were then divided further into positive psychological events and negative psychological events. The implications were drawn by comparing the positive and negative psychological events that influence the performances of badminton players. In sum, this study looked at objective information related to psychological events and the situation variables which improve or weaken the performance of badminton players during games. Subsequent research which investigates relationship between psychological events and athletic performance are expected to be conducted in the future.

Keywords: psychological events, performance, badminton

The Expansion of Sport Psychology Application: Mentoring for Soccer Players

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Abstract: Much effort is being conducted in order to diversify the methods of sport psychology application. As a method of training the next generation, mentoring has received much attention as it could pass on professional knowledge and useful personal experience. Also, a mentoring program for badminton players was discussed (Jeon & Yun, 2012). As a life span perspective, theory and knowledge of

sport psychology should be utilized for not only training or competition but also for a player’s daily life and their retired life as positive resources. Thus, a multifaceted intervention strategy is needed to help the players in all aspects. The purpose of this study was to verify the applicability of a mentoring program which is focused on enhancing soccer player’s performance and personal development. In this study, mental, physical and life management programs were conducted with a total of 80 soccer players who were elementary, middle and high school students. The programs were once/one-half a week and lasted for 34 months from April 2010 to February 2013. In the mental program, a mentor who has lots of experience in sport psychology counseling and was a soccer player gave theory and heuristic knowledge, to keep psychological stability during the drills and real game. In the physical program, strength and flexibility exercises were carried out using Pilates. In the life management program, a coordinator who has wide experience in sports passed on know-hows, which are necessary for players to develop habits of how to record and manage their training. Also, one graduate student studying sports psychology supported the program.

The study results revealed that players’ understanding about performance of soccer was enlarged and psychological strategies (which enable them to improve performance in daily life), training and matches were improved. Also, participants continually monitored their ability of measuring and checking up on physical and psychological factors, and the coach utilized it to set up the discipline guideline. However, there was a limit due to the lack of mentors; unable to consider each of the players’ development, focus was on the team rather than the individuals. To remedy this, it is necessary to explore an appropriate personnel setup of mentor and mentee, and age-specific programs based on players’ growth should be imposed. Through this study, it is expected that mentoring as a method of application would be under active discussion.

Keywords: mentoring, soccer player

The Influence of the Exploration of Details in Badminton on the Badminton Bottleneck among College Athletes

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Abstract: The appearance of badminton athletes is affected by their physical fitness, skills and psychological qualities. The aim of this article was to help badminton athletes go through the bottleneck period successfully in their training process when their physical training and skills training reaches saturation by mental training. It explores the details in badminton, which can help the athletes break the bottleneck.

A total of 42 college athletes (all the athletes’ performances were stable) were selected for this study. We chose 30 participants who were at similar levels to be involved in the experiment, through the method of competing and being randomly paired. The participants consisted of 18 men and 12 women, whose average age is 22.03 years old. The experimental group was made up of 15 people (9 men and 6 women) and the control group had the same structure. The experimental group received training to optimize the ability of finding the details. There were three methods to train them. (1) Athletes record the process of sports and describe it in more details. (2) Construct a competitive situation for the athletes. (3) Athletes apply their own thinking time to strengthen the training of sport skills. A 30-day training was conducted in the above three ways. In that period, we made sure that all the athletes completed their daily training tasks. All the strategies above enabled the athletes to find details they did not notice before. After the 30-day training, the two groups were

tested to serve to a designated area and smash the shuttlecock. The result was that the experimental group's average accuracy was higher than the control group (serving to the designated area test: 5.72%, smashing the bird test: 4.65%); the average accuracy of the experimental group was improved. The average accuracies in the test of serving to the designated area and smashing the bird were higher (5.69%, 4.59%) than before. We did three contests with the two groups before and after the special training. The control group's appearance was not developed. The results of later contests were: 10:5, 10:5, and 9:6, while the former contest's results were: 7:8, 8:7, and 7:8. So we drew the conclusion that the exploration of details in badminton plays a forceful role in promoting the college athletes to break through the badminton bottleneck.

Keywords: exploration of the details, badminton sport, college athletes, bottleneck

Application of a Neuro-Linguistic Programming Model in Sports Psychological Counseling

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Abstract: The Neuro-Linguistic Programming Model recognize that people's perception of the world is based on the sensory nervous system. The sensory nervous system selects and filters some information from the environment, which can also distort, generalize and delete signals from the "real world", affecting the representation of the real world. Language also shapes our perception. Language that has been analyzed can offer a method of checking individual representations of the world. Morbidity and sorrow can be attributed to the unfortunate representation of reality; these can be identified by analyzing the clients' language patterns. Changing clients' unfortunate language representation is a way to produce personal change. The operation of coding change and excellence to an individual's nervous system involves imitation. In this paper, researchers used biathlon counseling as an example, and elaborated on the specific application of the Neuro-Linguistic Programming Model in sports psychological counseling. The steps of the sport psychological counseling were guided by the Neuro-Linguistic Programming Model, these steps were: developing a harmonious relationship, establishing counseling goals, observing neuro-linguistic patterns represented by the clients, using the language analysis process to identify the surface structure and deep structure of clients' language and applying strategies that can change representation. The Neuro-Linguistic Programming Model has certain value of application and promotion in psychological counseling.

Keywords: neuro-linguistic programming model, sports psychological counseling, application, biathlon

Mental Training for Team Sports Currently Undertaken in Japan and Suggestions for the Future

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Abstract: Many attentions have been paid to Collective Efficacy as a factor of constructing performance of team sports in sport psychology in recent years. For example in Japan, the practice report and research on group skill have commenced by Mental Management Research Group consisted of Sports Medicine and Science Committee of Japan Sports Association (JASA). However these studies have not yet been able to obtain results which can

apply to the field of athletic. Because, the purpose of these studies were restricted to create collective efficacy scales or consider the concept of collective efficacy.

It is proposed that the studies about athletics should effectively be utilized in athletic fields. Although the study of mental training (MT) to team sports in Japan isn't behind as compared to the rest of the world, the development in the field has been stagnant for the past 30 years. The reason may be due to the fact that it has been widely considered that there were no exchange between research and practice in this field. However, it is now the time for us to prove the relationship between MT of team sports and the study of teamwork to further develop this field of study and practice.

The purpose of this research was to examine past studies on mental training (MT) for teamsports and its actual practice in Japan, and then to give suggestions to extend its practice further based on the findings. Four areas were investigated: (1) studies focusing on the construction of scale relating to collective efficacy; (2) books on MT that are targeted at teamsports; (3) research on mental managements in team sports conducted by the JASA; and (4) practical reports and studies on MT for team sports.

The results revealed four shortcomings in past research and practice. First, only a small number of studies contained descriptions of the athletes' actual experiences during MT. Second, cooperation between basic research and intervention research is limited. Third, group dynamism has not been taken into account in previous research and current practice. Lastly, there is a lack of sharing of athletes' experiences during MT. Given these findings, it is concluded that in order to enhance the effectiveness of MT for teamsports, it is necessary to increase opportunities to examine individual cases. To this end, it is suggested that the content and style of case studies relating to MT should be specified to a certain degree so as to allow comparative and in-depth examinations to be carried out based on common ground. These efforts can be expected to lead to further developments of MT for teamsports in Japan.

Keywords: mental training, team sports, Japan

Application of the Mindfulness-Acceptance-Commitment (MAC) Protocol on Chinese Gymnastic Athletes—A Single Subject Design

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Abstract: This study presents the cases of L & Z, two Chinese gymnasts from Guangdong province who received the Mindfulness-Acceptance-Commitment (MAC) intervention for performance enhancement. Conducted in seven individual sessions, the intervention targeted attention management and value-driven behaviors to enhance focus, poise, and overall gymnastic performance. The Acceptance and Action Questionnaire (AAQ-2) and The Five Facet Mindfulness Questionnaire (FFMQ), which were used to measure the changes of Acceptance and Mindfulness, were administrated in pre- and post-intervention. Athletes' gymnastics performances were assessed via self-report and coaches' evaluation. Results indicated both athletes scored higher in AAQ-2 in the post-test, which meant they had an increase in experiential acceptance compared to the pre-intervention. In the five items of FFMQ, both athletes scored higher in four items, which meant they had increase mindful awareness, mindful attention, and flow comparing to pre-intervention. Meanwhile, the assessment on gymnastics performance of both athletes showed improvement, which indicated that MAC intervention could enhance their performance. This study of two

athletes supports the applicability of the MAC protocol in Chinese gymnasts.

Keywords: mindfulness, acceptance, commitment, performance enhancement, intervention

How to Realize the Specialization, Personalization, and Actualization of a Competition Plan: An Example from China's Badminton Team

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Abstract: Having a competition plan, as one part of mental preparation for competition, seems to be a critical factor for athletes' success. Most Chinese teams use competition plans to prepare for the Olympic Games. A significant problem, however, is how to realize the specialization, personalization, and actualization of the competition plan in order for it to be effective. The purpose of the current study was to introduce how to use a competition plan to help China's badminton team prepare for the London Olympic Games. Firstly, a team of sports psychologists worked out three versions of the competition plan, and connected sport psychology knowledge with badminton to realize the specialization of the plan. Secondly, by means of professional knowledge learning, the sports psychologists mobilized the coaches' supervising function, and explored the athletes' participation consciousness to realize the internalization of the sport psychological knowledge from external to internal, and to realize the personalization of the competition plan. Thirdly, in the daily tactic training, the sports psychologists asked the athletes to apply the competition plan to realize the actualization of the competition plan. At the same time, in the process of cooperating with the coaches, the sports psychologist team introduced a new training concept, "compete against tactic using special psychology, and compete against psychology using special tactic". This connected psychology with tactic and added some new simulation training measures on the traditional whole game training system, such as opening tactics, pursue score tactics, and key point tactics. All the services were cheerfully welcomed by the coaches and athletes of China's badminton team.

Keywords: competition plan, competition mental preparation, specialization, personalization, actualization

Effects of Different Types of Self-Talk in Archery Performance

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Abstract: Performing archery successfully requires not only experienced skills, but also robust mental abilities, including maintaining appropriate concentration and commitment levels. Research has indicated that self-talk, a central type of mental skill could regulate these positive mental states. While many studies have examined the relationship between self-talk and sport

performance, and have found a positive association, a majority of these studies targeted only positive self-talk in terms of instructional and motivational types. That being said, few of such studies have compared multiple types of self-talk with positive and negative types, which have resulted in knowledge gaps. The purpose of this study was to advance this kind of knowledge by examining the effects of different types of self-talk during archery performances. Specifically, five types of self-talk were included: Positive Instructional Self-talk (PIS), Negative Instructional Self-talk (NIS), Positive Motivational Self-talk (PMS), Negative Motivational Self-talk (NMS), and Non-Related Self-talk (NRS). Seven elite college-aged archers were recruited. They had averaged 6.8 years of archery experience and won at least one medal in the national competition. Participants were requested to perform archery for five sets, using six arrows per set. Prior to each set, participants were instructed to conduct a specific type of self-talk for 10 seconds which was randomly chosen by lottery. Each participant then performed the archery. A one-way ANOVA was conducted to analyze the performances among these five self-talk conditions. The results indicated that PIS had a significant superior performance compared to NIS, PMS, NMS, and NRS, while none of these differences were found among these four self-talk conditions. These findings suggest that PIS can be considered a useful type of self-talk for archery performance. It is speculated that PIS could lead the archer to feel less stress, experience increased self-confidence, and therefore enhance the archery performance.

Keywords: archery, instructional self-talk, motivational self-talk

Research on the Arrangement of a Psychological Diary for Chinese Female Water Polo Players

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Abstract: With the rapid development of competitive sports, there is little or no difference among high level professional athletes. Having good mental quality is playing an increasingly important role in competitions. How to adjust athletes' mental state to ensure that their capabilities can be fully exhibited is always a concern for coaches and athletes. Through document analysis, deductive reasoning and expert interviews, this article attempts to analyze the basic psychological quality of Chinese female water polo players. Instead of the image of an old and boring diary, we created a new one which is fresh both in form and in content, to improve the psychological quality of the water polo players effectively. The arrangement of the diary is as follows:

(1) In order to attract players' attention, one of her best photos is on the cover of the diary and others are used as illustrations.

(2) According to the Chinese female water polo players' psychological quality that they usually have, such as team work, self-confidence, perseverance, mental fatigue and attention, etc, the new diary contains four different platforms: the operation of psychological training, the communication of emotion, the implementation of mental health education and the promotion of action. For example, Attention Training, Imagery Training and Confidence Training are arranged in the first platform.

(3) The new psychological training diary will include some fun psychological tests, little cartoons, humorous stories and so on.

(4) In small sections of the pages, some lifestyle tips and famous phrases will be included to increase players' knowledge.

(5) The new diary gives a brief introduction of the country, city or competition venue where the players are planning to go. It also offers other interesting things such as famous tourist attractions, characteristics of local snacks, historical stories and so on.

Keywords: arrangement, psychological diary, Chinese female water polo players

Influence of Pressure on a Linear Positioning Task

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Abstract: The purpose of this study was to investigate the influence of pressure on spatial accuracy of a linear positioning task. Participants (N=21) were asked to draw lines (length of 10cm, 20cm, 30cm) with eyes closed. All participants had a total of 60 acquisition trials. Then they were separated into two groups and had 10 test trials: 11 participants drew straight lines without pressure (non-pressure group); 10 participants drew straight lines under pressure (pressure group). The pressure group received pressure instructions: 1) the best performer will get an extra reward of JPY 2,000. 2) You will have to start the experiment all over again on another day if your performance is poor. 3) You will be videotaped during the test. Constant error (CE), variable error (VE) and absolute error (AE) were calculated as dependent variables. Heart rate and visual analog scale (VAS) of anxiety were measured to check pressure manipulations. Group (2: pressure/non-pressure) × block (3: two acquisition blocks and a test block) ANOVAs used for heart rates and VAS showed no significant main effect or interaction, indicating that pressure manipulations were not successful in invoking psychological stress in this study. Group (2) × block (3) × length (3) ANOVAs for CE, VE and AE showed significant main effect of length for AE and CE. Post hoc tests for AE revealed that AE was smaller for 10 cm than that for 20 cm and 30 cm. Post hoc tests for CE revealed that CE for 10 cm was biased toward a positive value and CE for 30 cm was biased toward a negative value, suggesting that the participants undershot for 30 cm and overshot for 10 cm. In summary, this study failed to examine the influence of pressure on spatial accuracy but found the influence of length on response bias in spatial configuration.

Keywords: pressure, linear positioning, spatial accuracy

A Case Study on a National Taekwondo Athlete's Mental Skills Training for the 2012 London Olympics

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Abstract: The purpose of this study was to identify the effect of a systematic Mental Skills Training (MST) for a taekwondo gold medalist in the 2012 London Olympics. This systematic MST (including self-talk, imagery, goal setting, negative thinking, emotional control, anxiety management, and condition) was based on the MST of other sports. This study took place from April 25th, 2011 to August 20th, 2011 to prepare the participant for the 2012 London Olympics. A female Korean national athlete participated in this study. A single subject A-B design was used to examine the intervention effects of the MST. The instruments used in this study included the Test of Performance Strategies (TOPS; Kim, 2003; Kim & Oh, 2002), Sport Attributional Style in Korean Athletes (SASKA; Kim & Yun, 2003), and interviews. The pre-test mean score and post-test mean score of both the TOPS and SASKA were compared. Interviews recorded the athlete's psychological characteristics. The results were as follows: Excluding 'activation', the MST improved all of the participant's psychological skills: self-talk (M = 4.25 to 5), emotional control (M = 3.75 to 4.5), automaticity (M = 3.75 to 4.25), goal setting (M = 4.5 to 5), imagery (M = 4.25 to 5), negative thinking (M = 3.25 to 4.75), anxiety management (M = 4.5 to 5), and conditioning (M = 4.5 to 5),

resulting in the achievement of an Olympic gold medal. The national taekwondo athlete's MST increased the participant's psychological skills, which positively influenced performance. Thus, the MST was concluded to be beneficial to athletic performance.

Keywords: taekwondo, mental skills training, 2012 London Olympics

An Exploratory Study on Self-Talk Use among Japanese Collegiate Athletes

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Abstract: There have been a number of studies on self-talk worldwide (e.g., David et.al. 2011; Theodorakis, 2000). However, few studies have investigated self-talk in Japan. It is still unclear how self-talk is utilized by Japanese athletes and the characteristics of their self-talk. The purpose of this study was to examine the use of self-talk among Japanese collegiate athletes. The participants were 108 collegiate athletes (male: n =71, female: n =37) from a wide variety of sports (team sports: n =48, individual sports: n =60). We translated the Self-Talk Use Questionnaire (STUQ; Hardy, 2005) into Japanese. The STUQ assesses content and function of self-talk in different temporal phases (before, during, and after) and settings (practice and competition). To examine differences in the content of self-talk between sex (male vs. female), we conducted single-factor between-groups multivariate analyses of variance (MANOVA). Another MANOVA was tested to examine the differences between sport types (team vs. individual sport). In addition, to examine the effects of temporal phases, settings, and sex on general frequency of athletes' self-talk, a three-factor (3×2×2) mixed-model analyses of variance (ANOVA) was computed. We also conducted another three-factor ANOVA to examine the effects of temporal phases, settings, and sport type. Also to examine the effects of setting and sex on the specific functions of self-talk, a two-factor (2×2) mixed MANOVA was tested. We then computed another two-factor mixed MANOVA to examine the effects of setting and sport type. The result revealed no multivariate main effect for sex [Pillai's trace F (6,101) =1.508, n.s., partial η^2 =.082, power=.561] and sport type [Pillai's trace F (6,101) =.861, n.s., partial η^2 =.054, power=.324]. In the examination of athletes' general frequency of self-talk, the relevant three-factor mixed ANOVA did not reveal a significant main effect for sex and sport type; however, we found significant main effects for setting [F (2,212)=37.724, p η^2 =.282, power =1.00] and temporal phase [F (1,106)=51.156, p η^2 =.326, power=1.00]. Moreover, the results from the MANOVA on specific functions of self-talk showed that there was a significant main effect for sex [Pillai's trace F (12,94)=2.227, p η^2 =.221, power=.930]. The follow-up univariate tests showed that female athletes scored higher than male athletes on seven items (e.g., relaxation, nerve control). In sum, the study suggests that male and female athletes in Japan use self-talk differently. When teaching self-talk to athletes in mental training, one must consider possible gender differences.

Keywords: mental training, psychological skill, cognitive strategy

Korea's Short Track Speed Skating: What Made Them the World's Best

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Abstract: Short track speed skating was a demonstration sport in the 1988 Winter Olympics and officially adopted in the 1992 Winter Olympics. Since then, Korea has won 19 gold medals.

How do you create the world's best short track speed skating athletes? I have 18 years experience as a short track speed skater, and an athlete member of Korea's national team for 10 years. I won a gold and a silver medal in the 2002 Salt Lake City and 2006 Torino Winter Olympic Games respectively. Skaters' experience is based on personal experience, skills, tactics, fitness, and the performances in terms of components of the hearing to draw. The competitiveness of the Republic of Korea's short track speed skating has relied on the amount of training, fitness and technical skills, and also on the continuous development of new technologies; the fruits of these efforts have been recognized nationally and internationally. With a unique training approach of over 10 hours a day, high-intensity training, and development of new training programs, the skaters' stamina improves. Departure interval kinematic study of departure techniques, technical analysis of the behavior of short track speed cornering, research, etc., have been studied as a way to enhance the skills and techniques of the skaters. Development of various academic studies and video analysis of opponents have also been applied to develop creative strategies and tactics for victory. In addition, the research on psychological characteristics and thorough self-management training is applied in order to maximize skaters' own investment and spirit in everyday life, such as the United States, the United Kingdom, Russia, France, the team leader of the Koreans. In addition, the performances of the country, the leaders of Korea are constantly evolving. Korean short track speed skating skills and leadership support the world's best.

Keywords: performance enhancement, Korean short track speed skating, world's best

Training Researches on Biathlon Athletes' Psychological Adjustment Ability

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Abstract: The psychological condition of biathlon athletes is a primary factor which influences their performance. In the competition, if the athlete can improve his/her psychological adjustment ability, he/she can achieve good results. In this paper, the Self-generated Physiological Coherence System (SPCS) for focus attention, relaxing regulation, emotional stability, and other psychological adjustment ability training were used on 14 athletes from the biathlon national team. The study found that the Self-generated Physiological Coherence System (SPCS) can better evaluate athletes' psychological relaxation ability, significantly enhance the athletes' psychological skills such as attention, anti-interference, psychological adjustment and so on. It is a good tool for promoting biathletes' shooting scores to increase, and it provides relevant research evidence for the application of heart rate variability (HRV) in the field of sports, as well as research support for the application of biofeedback training in athlete groups.

Keywords: biathlon athletes, psychological adjustment ability, Self-generated Physiological Coherence System (SPCS), Heart Rate Variability (HRV)

Study of Mental Strategies and Attention Process in Elite Tunisian Athletes

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Abstract: This research is part of a study that highlighted the

importance of mental strategies in sports (Richard et al., 2006) and it proposes to: a. clarify the relationship between these strategies and the attention process (as cognitive component) of the athlete and b. search for a possible relationship between the mental strategies and the attention process according to the nature of sport (team sports vs. combat sports), the age group (cadets-juniors vs. seniors) and the two profiles of strategies (training and competition strategies) in relation to team sports and combat sports.

This study was conducted on a sample of N = 87 all top male Tunisian athletes, average age 18.5, SD= 3, practicing team sports and combat sports. For the purpose of our study, the test of performance strategies (Thomas et al., 1999) and the Victoria-Stroop-Test (Bayard et al., 2009) were used.

Results showed that athletes in combat sports, unlike their counterpart in team sports, use fixation of goals and activation strategies in training, while no difference in competition strategies was found. The cadets-juniors were more anxious to seek better strategies of training and competition than seniors. However, the top athletes used mental strategies in the training phase (internal dialogue, activation, and setting of objectives) much more than their counterparts in the two types of sport. Our study also found positive correlations between the quality of attention and the imagery strategy, relaxation and automaticity.

These results can be explained by the fact that combat sports require more energy, wakefulness and mental concentration to perform the appropriate gesture. They are consistent with the literature, which states that athletes in combat sports have a strong desire to do their best more than athletes in team sports (Singer, 1970). On the other hand, athletes who have more automaticity in training achieved a good score when testing in Stroop-Victoria. With competition strategies, imagery and relaxation are well correlated with a high level of attention: the more relaxed the athletes are in competitions, using the imagery strategy, the more they manage to perform better in a more serious way to use the strategies of relaxation, imagery and automaticity to optimize sport performance in top Tunisian athletes.

Keywords: mental strategies, attention process, Tunisian elite athletes

Competitive Trait Anxiety and Response Inhibition: Examination of Attentional Control Theory

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Abstract: Processing efficiency theory (PET) and attentional control theory (ACT) have adopted new perspectives to explain anxiety-performance relationship: working memory and executive functions. There are two key points for PET: anxiety impairs processing efficiency more than performance effectiveness; anxiety impairs the central executive system of working memory. ACT is a major development of PET. There are also two key points for ACT: anxiety impairs the goal-directed attention system; anxiety impairs efficiency of the inhibition and switching functions. The anxiety-performance relationship is one of the most important issues in competitive sport. There are already several studies exploring the application of ACT in competitive sport, most of which focus on the first key point of ACT. The present research aimed to examine the other hypothesis of ACT, anxiety impairing efficiency of the inhibition function, to provide evidence for the application of ACT in competitive sport.

Study 1 hypothesized that competitive trait anxiety would impair efficiency but not performance of inhibition function. Twenty-five

athletes were divided into the competitive trait anxiety high-score group (HG) and low-score group (LG), and both groups performed the antisaccade task. Two indicators were recorded: antisaccade latency indicating processing efficiency and accuracy rate indicating performance effectiveness. No significant difference was found between the two groups on antisaccade latency or on accuracy rate. The hypothesis was just partially supported. Study 2 was designed to examine the hypothesis that competitive trait anxiety would impair efficiency but not performance of inhibition function in stress conditions. Twenty-three athletes were divided into HG and LG, and both groups performed the antisaccade task in stress and non-stress conditions, the sequence of which was balanced with ABBA design. The stress condition was induced by competition and reward. The result demonstrated that HG exhibited significantly longer antisaccade latency than LG in both the stress and non-stress conditions. No significant difference on the accuracy rate was found between the HG and the LG. The results not only supported the hypothesis in study 2, that competitive trait anxiety impaired efficiency but not performance of inhibition function in stress conditions, but also that in study 1. In conclusion, the present research demonstrated that competitive trait anxiety impaired processing efficiency more than performance effectiveness, and competitive trait anxiety reduced processing efficiency of inhibition functions. All in all, PET and ACT are applicable for explaining the anxiety-performance relationship in the sport field.

Keywords: competitive trait anxiety, processing efficiency, attentional control, inhibition, antisaccade

Research on the Application of Music “Induction” For Sport Psychology

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Abstract: The research is focused on the music "induction" as an auxiliary training method, discussing how music impacts the athletes' psychology, providing scientific basis for athletes' psychological training by music "induction". One hundred participants (18-22 years) were selected from 10 kinds of sports: athletics, basketball, tennis, football, aerobics, gymnastics, dancesport, martial arts, boxing and judo. Each team selected 10 athletes of the same training period and level. Accompanied by music "induction" for 8 weeks before and after sport training, these participants were tested with the self-made "Athletes' mood scale", which includes the items of performance, mood, self-esteem, attention ability, psychomotor activity, interest and emotion. According to the results, we found that the athletes' scores were much higher than those before music "induction" training. In particular, the effect on aerobics, gymnastics and dancesport is much more obvious than that of other teams. Research results suggest that music has a special utility function and an intuitive reflection influencing the psychology and performance of athletes. Therefore we should choose different "induction" music according to the sport's characteristics.

Keywords: music

Unifying Team Emotions by Applying the IZOF Model

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Abstract: Emotions such as anxiety influence the sports performance greatly. The IZOF (Individual zone of optimal functioning) theory by Hanin (1997) suggests that there are individual differences in the appropriate emotional state for sport performance. In other words, there is individual variation in effective emotions and in the optimal level of emotions for performance. The IZOF model

is designed for an individual, but it is thought that the appropriate emotional states of a team exists if the team is considered as one unit. Therefore it was also thought that the idea of an appropriate psychological state is different depending on individuals could be applied to a team. There are individual performances and team performances in rhythmic gymnastics. In order to perform well in the team performance, it is important to unify the team's feelings. Therefore, this study is intended to apply the IZOF theory to the team, trying to improve the team performance. Specifically, we aimed to improve and stabilize the team performance by controlling the antecedents of key emotions.

Subjects were a girls' rhythmic gymnastics team from high school (five athletes). Procedure: First, the best performance and the worst performance of the team were identified. Next, the emotions (key words) that were related to the team performances were extracted through discussions with the team. Then emotional states and the performances of each official competition were evaluated. The survey was done three times. After the competition had ended, the team's emotional states before and during the competition were evaluated. The emotions and the terms that strongly influenced the team performance were "Confident", "Worried", "Enjoy", and "Motivated". The antecedents of these emotions were analyzed by team discussion. It was clarified that "Confident" was related to the expression on their face, "Worried" was related to the switching of feelings, "Enjoy" was related to the chanting of the spectators, and "Motivated" was related to the unity of the team. An attempt was made to control the emotions in the competitions by controlling the behaviors related to the antecedents. As a result, the performance was more stable compared to before. It was suggested that controlling antecedent behaviors led to better integration of the team, thus enhancing team performance. It is thought that it will be necessary to examine the effective methods for appropriately controlling the strength of key emotions, and to use it in other competitions in the future.

Keywords: IZOF, emotion, team performance

Forensic and Psychological Intervention in an Elite Athlete with an Associated Psychopathology

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5. Andalusian Center of Sports Medicine

Abstract: This paper presents a case study in which an elite athlete developed a sports-associated psychopathology, interfering with his athletic career. The subject was a 21-year-old male athlete and an Olympic participant. After receiving medals in a top competition, the subject entered into an unusual state of anxiety, nervousness, and apathy. His condition was entirely debilitating, and he completely stopped participating in physical activity for five months. During this time, he neglected ADAMS system controls, failed three controls, and was quoted by WADA (Doping Panel) to make legal arguments in his defense. He was soon diagnosed with Relapsing Serious Depressive Disorder (269.3x, DSM-IV-TR, 2002) and a GAF between 45 and 50, with a burnout syndrome (Catlin and Garcés de los Fayos, 2010; Garcés de los Fayos andMedina, 2012). The symptoms recorded were: depressive behavior for most of the day, very marked decrease in interest or the capacity for finding pleasure in all or almost all activities, significant increase in appetite, hypersomnia, feeling of uselessness, and recurrent thoughts of death without a specific plan of suicide. An intervention was implemented over a five month period

in the form of weekly sessions. It was based on three main pillars: a) Short-Term Psychodynamic Psychotherapy (ISTDP) (Trujillo, 2002, 2005, 2006; Jaenes, 2010); b) Teaching effective use of well-adapted coping strategies; c) Social support from his family, sports club, trainers, and the National Federation of his sport. In the time before the Panel Control Committee reached a decision regarding the athlete's continual participation in competitions, the subject had intensive sessions with his sports psychologist and continued his athletic training. After hearing the sport psychologist's explanations, the Doping Panel Committee reached a consensus allowing him to compete. Only four days later, he won an international gold medal in his specialty. As an important result, he has continued his athletic career to the present day.

Keywords: psychopathology, depression, burnout, doping, sport psychology

Examination of the Movement Detection Test in a Chinese Elite Athlete Sample

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Abstract: The Movement Detection Test (MDT) is a sports-specific test within the Vienna Test System. It was developed by Hackfort (2010) for the purpose of measuring movement detection ability – an important ability for most sports. Conceptually, movement detection includes both detecting the occurrence of movement without regard to the movement direction, as well as identifying the direction of movement. The main variables in the MDT include (1) cognitive reaction time, which refers to the time from stimulus start to move until the participant's finger leaves the rest button; (2) motor time, which refers to the time from when the participant's finger leaves the rest button until the finger presses another reaction button; (3) and detection time, which refers to the time from stimulus start to move until the reaction button is pressed. Obviously, cognitive reaction time is concerned with cognitive components and motor time is simply concerned with motor components. The aim of the present study was to examine the reliability and validity of the MDT in a Chinese elite athlete sample. One hundred and twenty-seven Chinese elite athletes were administered with the MDT, and 87 of them were also administered with the Reaction Time Test (RT) in the Vienna Test System to examine the correlation between the MDT and RT. The results indicated that: (1) the internal consistency values of cognitive reaction time, motor time, and detection time were .95, .88; (2) the split-half values of cognitive reaction time, motor time, and detection time were .92, as well as .96, .92, and .87; (3) the correlation between cognitive reaction time and detection time, motor time and detection, as well as cognitive reaction time and motor time were .75**, .66**, and .04; (4) the correlation of cognitive reaction time and reaction time in RT, as well as motor time and motor time in RT were .57** and .64**;

(5) the difference in cognitive reaction time and detection time between athletes who participated in open-skill sports and closed-skill sports were significant. These results indicate that the MDT has good reliability and validity and can be used to measure athletes' movement detection ability.

Keywords: movement detection test, reliability, validity

Research on College Athletes' Imagery Use and Mental Skills

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Abstract: This study investigated the differences in gender differences

and type of sports on athletes' use of imagery and psychological skills, and imagery use for the prediction of psychological skills. Participants were 162 student-athletes (males=66, females=96) aged 20.36 years recruited from the northern part of the university of Group A players. The sample comprised of competitors in the sports of weightlifting, gymnastics, swimming, track and field, football, tennis, basketball, and volleyball. By consent of the participants, they filled in the "Chinese Version of Sport Imagery Questionnaire" and "Athletic Psychological Skills". Data obtained in this study were analyzed by two-way MANOVA and multiple regression analysis. The major findings were as follows: 1. In the psychological skills, males athletes were found to use "Confidence", "Peaking under pressure" and "Coping with adversity" psychological skills more frequently than female athletes. Athletes in closed skill sports used "Motivation", "Coachability", and "Concentration" psychological skills more frequently than athletes in open skill sports. 2. In imagery use, males athletes were found to use imagery more frequently than female athletes except for cognitional general. Athletes used "Cognitional general imagery" more frequently in closed skill sports than in open skill sports. 3. In the prediction of psychological skills, "Cognitional specific", "Motivational general-arousal" positively predicted "Confidence", "Peaking under pressure" and "Coping with adversity". 4."Motivational general-arousal" and "Motivational general-mastery" positively predicted "Motivation". 5. "Motivational specific" negatively predicted "Coachability". This study is based on the results of the discussions and suggestions.

Keywords: imagery, mental training, types of sports

A Qualitative Study of a Clutch Athlete Model

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Abstract: Clutching is a phenomenon typically opposite to choking, inferring athletes' perfect performances at the critical moments. From the phenomenological perspective, this article discusses performance under pressure and analyzes the features of an athletic clutcher's capabilities to perform.

The aim of this article is to provide a theoretical reference for training and selecting elite athletes. The article suggests that there is a phenomenon of polarity in performance under pressure, in which choking infers negative results of performance while clutching reflects positive results of performance. From the perspective of features, choking explains the state performance while clutching shows the trait performance. Clutching addresses the athletic capabilities to perform under pressure, which often occurs in elite athletes. This article suggests that there is an existence of clutch performers and discusses an explaining model of clutchers' capabilities to perform under pressure by analyzing the cases of clutch performances and reviewing related research findings. The model mainly includes "specific capabilities to perform sports", "capabilities to cope with the cognitive pressure", and "athletic personalities".

The current study also investigated the characteristics of "clutch" athletes in detail. Personal interviews were conducted with six coaches, six athletes and six scholars from the Zhejiang College of Sports. The analyzing procedure consisted of the following phases: ideas analysis, piles sorting, multidimensional scaling, hierarchical cluster analysis, production of maps and interpreting the maps. Results indicated that the characteristics of "clutch" athletes included 8 dimensions: sensitivity of cognitive pressure, coping ability under pressure, mental ability, capability of movement, mental aggression, positivity of attitude, mental toughness, and self confidence.

Keywords: performance under pressure, capabilities to perform, concept mapping

The Effect of Imagery Training Procedure on Enhancing Shooting Averages in Basketball

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Abstract: Imagery is described as an experience that mimics real experience, and involves using a combination of different sensory modalities in the absence of actual perception. This study investigated whether imagery training could enhance shooting averages in basketball and which procedure of imagery training and physical training has better effect on shooting averages. The participants were physical education freshmen and sophomores majors (26 males and 18 females, age from 16 to 22) specializing in basketball. The participants were divided into three groups in which two of them were experimental groups using imagery training and the other was the contrast group (21 participants). One of the two experimental groups which consisted of 10 participants used imagery training before physical training; the other group included 13 participants who used imagery training after physical training. The experiment lasted for about 8 weeks and the shooting averages were recorded 3 times. The first data was collected at the beginning of the experiment when the participants had no awareness of imagery training and was used as the baseline, the second data was collected in the middle of the experiment which was after 4 weeks imagery and physical training and the last data was collected at the end of the experiment after 8 weeks of imagery and physical training. The results showed that: 1) Imagery training could significantly ($F(1, 86) = 6.144, p = 0.017$) enhance students' shooting average; 2) The results of using imagery training before physical training was nearly significantly ($F(1, 44) = 3.348, p = 0.082$) better than using imagery training after physical training. The conclusions were as follows: 1) Imagery training had an impact on enhancing shooting averages of students learning basketball; 2) Doing imagery training before physical training had better effects than doing imagery training after physical training on enhancing shooting averages of students learning basketball.

Keywords: imagery training, imagery training procedure, basketball, shooting average

Athletes’ Pre-match “Superstitious” Behavior and its Significance to Self-Control

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Abstract: Superstitious behavior in the sports field is a kind of repetitive, ritualistic and continuity behavior which is different from technical performance. In this study, seven senior athletes (6 males and 1 female from three sports projects including basketball, tennis and taekwondo) were semi-structured interviewed to explore the characteristics, influence factors and consequences of superstitious behavior before the competitions. The data was bottom-up analyzed with grounded theory and discourse analysis method.

The results showed that there are two different categories of superstitious behaviors before competitions: (1) Doing something implying success, such as special warm-up activities using the props which were used previously in some successful situation, attaching the behavior with successful meaning and so forth. (2) Avoiding doing something implying failure. The influence factors for doing superstitious behavior before competition include: (1) recalling a previous successful experience; (2) assimilating and imitating the behavior of an idol; and (3) the significance of the competitions. The

consequences of the superstitious behaviors are: (1) adjusting the athletes to the competition by influencing the psychological comfort level, affecting the distribution of cognitive resource or having impact on the psychic energy and self-efficacy; (2) behavioral reinforcement; (3) generating the feelings of repression. It could be concluded that athletes take advantages of these “superstitious” behaviors as a metaphor of success to promote their performance in the competitions. If the superstitious behaviors are broken, the athletes will adjust themselves and mobilize more cognitive resources to facilitate self-control in order to reach a better mental state before the competition.

Keywords: athlete, “superstitious” behavior, self-control, qualitative research

The Analysis of Psychological Issues in Basketball Players’ Core Skill Training Process

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Abstract: Recently, in the field of scientific basketball training, the role and value of sports psychological training have gained high attention and wide recognition in the sports circle. It has been proven that during the process of basketball players' core skill training, giving consideration to psychological training can effectively improve players' competitive condition to a great extent when they are in the competition environment. Thus, the players can maximize their potential and enjoy the charm of basketball.

Compared with the basic skills such as dribbling, passing, defending and rebounding, shooting and free throwing are regarded as the core skills in the training process. Basketball players should pay more attention to strengthening their sports psychological training when they practice shooting and free throwing. The sports psychological training includes imaginary training while shooting, attention training and instructions, psychology and action program training while free throwing and so on. The characters of mass and confrontation in basketball games and training require that players should have a strong team spirit and perseverance. Based on this, it is necessary for the sports teams and athletes to grasp the correct psychological and specialized skills in practice.

In the future of basketball players' core skill training, we need to develop further discussion on subjects concerning the proper time of the psychological training, the binding mode of skill training and psychological training, and the scientific evaluation of psychological training effects.

Keywords: basketball player, core technology training, psychological issues

Pre-game Preparation for National Junior Tennis Group Game: An Action Research Case Study

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Abstract: Most of the time, tennis is an individual or two-person sport. This makes the preparation for a group game a special task for both coaches and players, especially in China where the significance of group honor is highly regarded. Action Research endorses consensual, democratic and participatory strategies to encourage people to examine reflectively their problems affecting them (Bruce,

2001). This method is rarely used in sport teams in China because most of the teams are managed in a parental style where players rarely have rights to decide.

This 12-week research aimed at evaluating the preparation process of the National Junior Tennis Group Game, through systematic reflection and action of the whole team consisting of the first author (who was a psychologist working on a team for more than 3 years), two coaches and eight players aged 15-16 years.

First a meeting was held where the whole team collaboratively identified the areas in which preparations should be improved for the final target: winning the gold medal.

Then, a 7-point ITGAS scale, the Group Environment Questionnaire and an open-ended questionnaire were used every week one day before the weekly meetings, capturing players' feedback on group role clarification, self/team preparation and performance in physical, technical, psychological, tactical and environmental domains.

The analyses of the feedback, together with the behavior observation records by the first author, were discussed in weekly meetings and action plans for the following week were made through open discussion. Meeting records and feedback materials were analyzed by extracting themes that described the events that occurred during the 12 weeks.

Results suggested that as the players were having more rights to make decisions about their training plans and communicating more with each other and the coach, the group goals, the group roles and goal settings became more and more clear and scientific, and reflections, commitments, social cohesion and responsible behavior kept growing during the whole period.

The game preparation built a democratic team climate and high task cohesion, which helped the team get the gold medal in the end after four rounds of very tough games. The results were discussed in relation to the Chinese sport management system and the unavoidable changing of team climate nowadays in sport teams in China, suggesting that the revolution in team managing styles is urgent for the sake of both the sport system and the athletes and coaches.

Keywords: action research, team climate, mental preparation, tennis

The relationship between athletic experience and ability of movement imagery in Japanese athletes

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Abstract: The movement imagery has been used for athletes to acquire and to refine their movement skills. The movement image is defined as "those quasi-sensory and quasi-perceptual experience about the body exercise that produced by a visual, a kinesthetic, a somatic sensation, and a sensible memory stored by past exercise experience". Therefore, it is expected that the quality of athletic experience affects athletes' movement imagery ability .The purpose of this study was to assess the difference of the movement imagery ability related to the competition level and years of competition experience. In this study, I set three imagery modalities. They were an external visual imagery (EVI), internal visual imagery (IVI), and a kinesthetic imagery (KIN). In the conventional study, there has been confused conceptualization between the IVI and KIN. So some researchers had unclear distinction among two modalities. However, a recent investigation using transcranial magnetic stimulation supports this separation, as difference in corticospinal activity between IVI and

KIN have been obtained (Fourkas, Ionta & Aglioti, 2006).Consequently, IVI and KIN were considered as separate modality in this study. In this study, 166 participants were administered Vividness of Movement Imagery Questionnaire Japanese edition (VMIQJ) which Ohata (2009) developed. The VMIQJ is to assess the ability to visually and kinesthetically imagine a variety of movement, and comprises 10 items by one modality. The EVI modality asks a participant to imagine the item as if 'you are watching yourself performing the movement' from an external perspective. The IVI modality asks a participant to imagine the items as if "you are looking out through your own eyes. 'The KIN modality asks a participant to' imagine your body feeling (e.g.muscle) yourself doing the movement." To measure the vividness of each image, the 5-point Likert scale was used. One-way analysis of variance was used to determine group difference (i.e. competition years of experience and competition level) in imagery ability at each imagery modality. As a result, the imagery ability of the long competition years of experience group was significantly higher than the other group (short and nonathlete group) at all the imagery modalities. Especially, at KIN modality, the difference was large. And the group with the high competition level was significantly higher imagery ability than the other group (low level and nonathlete group) at the KIN modality. These results suggest that the movement imagery ability of KIN modality become higher at the long competition years of experience and the high competition level athlete.

Keywords: movement imagery ability, imagery modality, Japanese athlete

Hypnotic Time distortion as tool for performance enhancement

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Abstract: Hypnotic Time Distortion first was described and researched by the pioneers of clinical hypnosis Milton Erickson and Lynn Cooper in the 50ies of the last century. Also Philip Zimbardo later did experiments. This trance phenomenon can be used for faster healing in rehabilitation but also to improve performance advancement in sports and performing arts. The lecture will give a brief introduction to this technique.

Keywords: performance enhancement, rehabilitation, time distortion, hypnosis

A case study of cyber counseling for tennis players

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Abstract: The purpose of this study was to investigate the effectiveness of cyber counseling through the emailing of tennis players. A secondary aim was to observe and examine any problems that could be associated with the administration of this sports psychological counseling. One female professional tennis player, suffering from lack of control during competition and anxiety, participated in this study after the study's requirements and objective were explained to her and her coach. Based on a description of her possible instabilities 5 objectives for her counseling were made. Counseling was performed over a total of 8 sessions, each 70 minutes. The second to the seventh were done every week through email. There was a positive improvement in her attitude and daily lifestyle, and it helped her to be motivated to accomplish her goals. Thus it was deemed that cyber counseling (emailing) could be a feasible method for counseling. Some of these problems were noted, including the limit of communication through emailing, and the difficulty of matching schedules as the players have both training

and competition appointments. Future studies should try and develop methods to overcome these difficulties.

Keywords: cyber counseling, tennis players, E-mail, psychological skills

Mood and emotion in sport Emotion Intensity and Functional Responses among Olympic Archers

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Abstract: Emotion intensity is a quantitative characteristic of psychobiosocial state which is functionally related to effort, energizing(de-energizing) and organizing (disorganizing) aspects of performance processes(Hanin,2000).

Study 1: To examine which IZOF (Individual zone of optimal functioning) emotion category (P+, P-,N+,N-) and intensity is the best predictor of performance outcome among Malaysian Olympic Archers. Study 2: To compare individual emotion intensities during Olympic competition with previously established optimal zone.

Study 1: Olympic archers (n=4) provided the emotion content and intensities(IZOF) during two simulated competition. The score for each arrow was registered for a full FITA round (90m, 70m, 50m, 30m). Target and consistency error were calculated based on the deviation from the target and mean score. Correlation and regression analysis was calculated for each emotion category in relation to the total score, target error and consistency error. Study 2: Recalls of Olympic archers (n=3) were used to develop an individualized emotion profile (content and intensity) during previously successful performance. The athletes' emotion intensity on previously established emotion content (successful competition) was obtained during London Olympics to examine the in-out zone concept.

Study 1: Total score (r = -0.94) and target error (r = -0.93) showed significant negative correlation (df =5, p< .01) with negative dysfunctional (N-) emotion category. Despite interactive affects, the variations in performance score was largely explained by the N-emotion intensity (R2 =0.877 and R2 =0.868 respectively). Study 2: Results show that only one athlete who reached the quarterfinal of Olympics was close to his optimal zone. The emotion intensity of the other two athletes was outside the optimal zone.

Collectively the trend indicates that the intensities of N- emotions are better predictors of performance score (in Malaysian Archers) than the other emotions. Performance is likely to reach a high level if emotional experiences are within the individual optimal zones.

Keywords: performance, consistency, optimal zone

Stress, Coping and Emotions in Malaysian Professional Bowlers during Training and Competition

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Abstract: This study examined the stressors encountered, coping strategies employed and their effectiveness as well as the emotional responses during training and competition in elite professional bowlers. A total of 12 professional bowlers completed diaries on 3 occasions. They reported the stressors, coping and emotions on

the days leading up to the competition and during the competition. Results showed that the total number of stressors reported prior to competition (n = 393) was not much different than those reported during competition (n = 425). Little variation was also observed in the type of stressor reported. Problem focused coping strategies were the most reported in particular during pre-competition (251 vs. 208). During competition more emotion focused coping strategies were reported (78 vs. 139) by the bowlers although they were perceived to be less effective than prior to competition (3.08 vs. 2.83). Little differences were observed for the number of avoidance coping strategies reported (64 vs. 78) or their efficacy (2.92 vs. 2.88). A similar number of positive and negative emotions were reported during the pre- and competition period. However, negative emotions (6.94) were rated as less intense than the positive emotions (7.67; p< .001; Eta2 = .07). Finally, emotions were rated as more intense during competition (p = .01; Eta2 =.01).This study provides evidence for the notion that periods leading up to a competition are also stressful to elite athletes. In addition, it suggests that in particular emotion-focused coping strategies might be less effective during bowling competition. Practitioners should consider the development of specific interventions for different periods during the season.

Keywords: stress, coping, emotions, bowling, training, competition

Factorial Validity and Reliability of the Persian version of Brunel mood scale 32 items

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Abstract: The purpose of this study was to determine validity and reliability of the Persian version of Brunel mood scale 32 items (2007). In order To confirm the construct validity of the Brunel mood scale, 423 (216 male and 207 female) athletes with different skill levels (novice, non-elite and elite) in 10 team and individual sports, selected by random sampling and then the questionnaires were completed. First, face and content validity of Persian version of mood questionnaire by three professional sports psychology and three specialist teaching English by using a translation - back translation method, was confirmed. Then in order to determine the construct validity of questionnaire, confirmatory factor analysis based on structural equation modeling, internal consistency and temporal reliability (response stability) based on Cronbach alpha coefficients and inters-class correlation coefficients (ICC) in test-retest method with two weeks interval, were used. The results of first and second confirmatory factor analysis showed that fit indexes of the measurement model of 32 items (RMSEA = 0.08,CFI = 0.94, TLI = 0.93), internal consistency (tension= 0.74, vigor= 0.80, confusion=0.72, fatigue = 0.76, happiness = 0.77, calmness = 0.78, depression= 0.70, anger = 0.72 and the total = 0.78) and temporal reliability (tension= 0.90, vigor= 0.87, confusion=0.84, fatigue = 0.86, happiness = 0.87, calmness = 0.86, depression= 0/88, anger = 0/86 and the total = 0/88) was acceptable, which shows good reliability and validity of Persian version of Brunel mood scale 32 items. Therefore, the Persian version of the Brunel mood scale can be characterized as a tool to study and evaluate the mood and emotional of Iranian athletes will benefit.

Keywords: mood states, construct validity, temporal reliability

Controlling Emotions at Sporting Events

Dominic Uzodimma Ikwuagwu

Uniqueultimate sports & academy

Abstract: My observation and experienced whenever I sit at a stand ground level, or stand beside a pitch or stand by my TV and watches Football/ Soccer games in full flows, I marveled at the development of the game.

But there are some challenges facing Soccer Coaches, Players and Supporters in controlling their emotions during Soccer games.

Below are lists of the 3 top emotional reactions and lots of composure in Soccer games;

1. Perfectionism: when your team doesn't perform perfectly you loses composure because you become frustrated and then focus too much on your errors or lost instead of the tasks needed to perform well.
2. Irrational Beliefs: Irrational beliefs cause you to stay stuck in old, ineffective patterns of behavior. "Thinking that my team mates will blame me or everyone will hate me."
3. Fear of Failure: Fear is based on your intense need to win and causes you to worry too much about losing or failing. This can lead to you play defensive and tentative instead of composed and free. It becomes easier to get frustrated and lose emotional control, which will not help you stay composed after failure. Below is a list of 3 ways to developing Players' confidence in a Soccer games;

Below are lists of 3 top solutions to Emotional reactions in Soccer games;

1.) Control: There are only three areas that an athlete has absolute control over during training and games: a.) attitude, b.) body language, and c.) work ethic. Attitude is the internal thoughts and confidence held by an individual or team; body language is the external behaviors by a player or by the team that can be seen by competitors; and, work ethic is giving 100% of whatever you've got on that day.

2.) Concentration: This is the mental quality to focus on the task in hand. If the Players lack concentration then their athletic abilities will not be effectively or efficiently applied to the task. Research has identified the following types of attention focus.

3.) Confidence: Confidence results from the comparison an athlete makes between the goal and their ability. The athlete will have self-confidence if they believe they can achieve their goal. You only achieve what you believe in three categories, mental skills can be developed to help increase soccer players' mental toughness. Confidence, managing behaviors or self-control (especially when a referee makes a bad decision in a game), focus/concentration, motivation, positive self-talk, letting go of mistakes, etc.

With these practices, you can always become more aware of your emotions and able to use psychological strategies to manage your performance. Practicing sport skills using these solutions can help you deal with these emotional challenges. With regular practices, you can learn to manage your negative and strong emotions can also be harnessed to enhance your sports performance.

Keywords: control, coping, consistency, concentration, confidence

Changes of Preparatory Postural Adjustment in a Self-Paced Single Forward Step under Pressure

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Abstract: The purpose of present study was to investigate the influences of pressure on the preparation phases (initial posture phase and Anticipatory Postural Adjustment (APA) phase) of a single forward step. Fourteen participants made a single step toward a

circular target (10cm in diameter) in a self-paced manner in non-pressure and pressure conditions. In performing the task, participants were required brevity of stepping movement and accuracy of landing position on the target as task performance. Pressure was induced by presence of a small audience and false instructions of starting over the same experiment on another day and the presentation of video-taped performance in a sport science lecture if performance does not reach a criteria. Results showed that state anxiety (state-trait anxiety inventory: STAI Y-1) increased from 39.7 (±7.49) to 49.2 (±8.6) (p<.01), and heart rate also increased from 77.6 (±8.9) bum to 86.0 (±7.2) bum (p>.05), a significant trunk inclination in initial posture phase was observed under pressure (pashas increased under pressure. These findings suggest that pressure altered initial postural preparations of a self-paced single forward step.

Keywords: anticipatory postural adjustment, initial posture, pressure, self-paced

Analysis of Mood, Cohesion and Collective Efficacy with Performance among Professional Soccer Players

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Abstract: There are vast amount of anecdotal evidence suggesting that good performance in sports is associated with a number of intervening psychological factors. The quest for sport psychologist working with teams is to identify constructs that relate with performance and manipulate these constructs to improve performance. The present study was an exploratory investigation of mood, cohesion and collective efficacy with performance among professional soccer players. For the purpose of the study, four professional soccer club teams participating in the I-league championship in India during the season 2009-10 were selected. The data on mood states (Brunel Mood Scale by Terry and Lane, 2003); cohesion (Group Environment Questionnaire (GEQ) by Carron et al, 1985); and collective efficacy (Collective Efficacy Questionnaire for Sports (CEQS) by Short, Sullivan and Feltz 2005) were obtained by meeting the players before or after the practice session prior to the competitive matches. Performance satisfaction was assessed by interview rating by a self reference measure of performance comparing performance of individual with his/her previous performance. The data were obtained on two occasions of winning matches and losing matches for the four professional soccer teams. The data were compared for significance of differences among teams and for the matches won and matches lost by using ANOVA and t-test. Correlations, regression analysis and prediction were used to identify significant predictor variables to performance. The results indicated significant differences on the selected variables for the comparison among the professional soccer teams; and significant differences were also found on the selected variables for the comparisons between matches won and matches lost. The study identified mood variables such as depression and vigor as significant predictors of performance for soccer players.

Keywords: mood, cohesion, collective efficacy, soccer performance

Influence of Perceived Stress on Levels of Pre-Competitive Anxiety in Judo Athletes

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Abstract: Guided by the multidimensional anxiety theory (Martens,

Vealey, & Burton, 1990), the present study examined the relationship between the level of perceived stress and the pre-competitive state of anxiety in judo athletes (N=35; 17-female, 18-male) depending of gender and sports results. They are part of the Bulgarian national team of senior boys and girls and junior men and women. All subjects completed the Questionnaire for perceived stress (PS-1) (Cohen, Kamarck, Mermelstein, 1983) and the CTAI-2D - combined questionnaire, including the Competitive State Anxiety Inventory-2 (CSAI-2; Martens et al., 1990), which assesses levels of cognitive anxiety, somatic anxiety and self-confidence and the direction of anxiety scale (Jones et al., 1994). Repeated testing was done one week before the tournament, 2 days before, and half an hour prior to concrete games. The results showed that one third of judo athletes have a high level and only 8% have a low level of perceived stress in the past month. There are changes in the dynamics of the components of pre-competition anxiety - pre-measured levels of cognitive and somatic anxiety are lower, and self-confidence – higher. Half an hour before the competition values of cognitive and somatic anxiety are increased, and confidence - reduced. Women and athletes ranked after third place are more sensitive to stress, they have higher values than men and medalists from 1st to 3rd place. The levels of cognitive and somatic anxiety are higher for women than for men, where the level of confidence is higher. Prevalence estimates for the direction of the impact of cognitive and somatic anxiety in a series of tests are that they have a debilitating effect on performance. Perceived stress has the biggest impact on the levels of cognitive anxiety in athletes studied.

Keywords: competitive state anxiety, perceived stress, judo athletes

Anxiety in Officiating Football among Norwegian Top-Class Referees

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Abstract: According to Helsen & Bultynck (2004) the most important aspect of football refereeing is the decision-making process. Officiating can also be emotionally challenged, of the referees personality and/or anxiety. Because of these reasons the referees need great communication skills and a calm attitude when explaining their decisions to players. Referees who have a high trait anxiety view more situations as more threatening than those with lower trait anxiety and so respond with a higher state anxiety. The aim of this study is to measure Norwegian top-class referees' anxiety in officiating before and during a football match. This cross-sectional study was conducted as a part of the "Norwegian Elite Referees in football"-study. A total of 83 from 98 (84.7 %) top-ranked referees (73 males and 10 females) from age 20 to 46 (mean age 33.3 years) completed a questionnaire using, SurveyXact, a web based program for electronic questionnaires. The questionnaire required referees to provide demographic information (age, gender, civil status) and details relating football playing experience, refereeing experience, and current referee status. All the referees were former football players. Refereeing experience varied from 4 years to 33 years. Anxiety level among top-class referees showed that all values are within 20 and 45 (STAI-Y (Spielberger, 1983)), and this score is in line to findings in different elite sports (Hanin, 2000). Mean score was 28.03 and the standard deviation was 5.44. The correlation analyses revealed only a significant inverse association between refereeing experience and level of anxiety ($r = -.24$, $p = .03$). The analysis also revealed that more experienced referees reported An Experimental Study of Tai Chi Exercises' Effect on Emotion lower level of anxiety. Norwegian top-class referees have both a solid practical background as players and officiating experience. The anxiety level among the referees suggests that officials experience no more than a moderate amount of stress in their officiating. Moreover, the lower level of anxiety among more experienced referees are in line with the results

of the study by Hoseini et al. (2011) regarding referees working in Iran's premier league. Officiating experiences may enable these top-class referees to recognize the debilitating and facilitative effects of competitive anxiety symptoms on their performance, and thereby how to determine their perceptions and choice of coping and self-regulation strategies.

Keywords: anxiety, football refereeing, football match

The Impact of Athlete's Inability to Identify and Verbally Describe Emotions on Their Career Development

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Abstract: The inability to identify and verbally describe emotions is defined by the concept of alexithymia, which includes an inability to distinguish feelings from bodily sensations, and an externally oriented way of thinking. Various studies linked Alexithymia with others different psychological traits, including less creativity, lower verbal skills, general intelligence, between many others. But, little research has been found exploring the relationship between Alexithymia and career development. Career development is considered an ordered, predictable and continuum process in which the individual must fulfill a number of developmental tasks. The precise nature of these tasks and the way he fulfills them reveals their career's maturity. This research aims to verify the impact of the alexithymia (measured by the Toronto Alexithymia Scale, TAS-20) on career maturity (measured by the Career Educational Questionnaire, CEQ). The sample consisted of 108 Brazilian university athletes, both sexes (M = 68; F = 40) with ages between 17 and 24 years old. A set of four Multiple Regression Analysis (MRA) was conducted to evaluate how well the three dimensions of Alexithymia measured by TAS-20 (difficulty in describing feelings, difficulty in identifying feelings, and external-oriented thinking) predict each one of the four dimensions of career's maturity measured by CEQ (self-knowledge, information sources, career planning, and decision factors). Results indicated only one Alexithymia dimension (difficulty in identifying feelings) meet the entry requirement to be included in the equation to explain the Decision Factor's dimension of the career maturity. The multiple R shows a moderate correlation ($R = .43$) between these two dimensions. The R-square value indicated that about 18% of the variance in Decision Factor's dimension is explained by the Difficulty in Identifying Feelings dimension. The low scores on the decision factor (capacity to identify qualities and flaws of one's personality in order to choose a career) can be moderately explained by a higher difficulty in identifying one's feelings. These results are particularly interesting to sports psychologists interested to initial stages of athletes' career development.

Keywords: sport psychology, emotions, alexithymia, TAS-20, career maturity, career decision

Psychobiosocial States in Elite Athletes: Multimodal Assessment and Functional Impact on Performance

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Abstract: A psychobiosocial state is conceptualized as a situational and multimodal manifestation of total human functioning. Psychobiosocial states can be manifested in eight interrelated modalities that are: cognitive, affective, motivational, volitional, bodily,

motor-behavioral, operational, and communicative (Hanin, 2000, 2010). The purpose of this study was to examine these eight state modalities in elite level athletes. Specifically, the study examined: (1) the intensity of athletes' psychobiosocial states prior to their most successful and most unsuccessful performances; (2) the perceived functional impact of these states upon their performances.

Participants were 16 elite-level athletes (9 male, and 7 female), ranging in age from 17 to 35 years (M = 26.06, SD = 5.23), involved in judo, taekwondo, and wrestling. Their sport experience ranged from 8 to 26 years (M=16.63, SD=5.95), having all competed at major international competitions. Athletes' psychobiosocial states were assessed on the Psychobiosocial States (PBS) Scale. The PBS scale consists of 20 rows of synonym items (3-4 per row) that are functionally helpful and harmful for performance. Emotion modality included six rows of items of helpful and harmful descriptors for pleasant, anxiety-related and anger-related emotions. The athletes were asked to recalled their three most successful and three most unsuccessful matches, and to identify their psychobiosocial states prior to each of these performances. Then they rated on a 10-point scale the intensity and helpful or harmful impact on performance of these states. Top-4 descriptors selected by all athletes for helpful states prior to most successful matches were fighting spirit, focused, confident, and physically-charged with intensities ranging from 7.8 to 8.7, and functional impact ranging from 7.3 to 8.6. These words were also mostly describing states prior to unsuccessful matches. However, athletes reported lower intensities (ranging from 6.5 to 7.2) and functional impact (from 1.7 to 5.2). Top-4 adjectives describing harmful states prior to successful matches were worried, indecisive, pleased, and uncertain. Descriptor intensities ranged from 2.1 to 5.8, and impact from -2.9 to 6. Similarly, these words were mostly used to describe states prior to unsuccessful matches. Descriptor intensities were low (from 3.4 to 4); however, the perceived impact was mostly negative (from 0 to -4.3). Overall, these findings provide support for the practical utility of the PBS scale in individualized multimodal assessment of emotional and non-emotional experiences. The findings are presented but not limited to the group level comparisons. Thus, idiographic within-individual PBS profiles are recommended for practical work with the athletes.

Keywords: emotion, idiographic assessment, high-level performance

Comparisons between Pre, During and Post-match Mood States of Female Field Hockey Players

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Abstract: Mood states are believed to predict sporting performance under certain conditions, whilst long-term negative shifts in these scores may have debilitating affects on the psychological well-being of athletes. The aim of this study was to compare the mood state scores (measured 60 minutes before, during and 10 minutes after matches by means of the Stellenbosch Mood State questionnaire of Terry et al., 2003), as well as to determine the effect of the match outcome on the observed mood fluctuations among 15 female field hockey players (mean age: 19.90 ± 1.23 years). Data was collected for each of five tournament matches played over a five day period. Tension levels were shown to decrease significantly from pre to post match, irrespective of the match outcome. Depressed mood and Anger levels increased significantly from pre to post-match following the two losses, whereas changes in Vigor and Fatigue scores were inconsistent and only occurred during certain matches. The observed mood state changes provide coaches and sport psychologists with a better understanding of the feelings and emotions experienced by players prior to, during and after matches, enabling more effective pre-match and half-time team talks and routines, post-match

feedback and subsequent debriefing sessions aimed at increasing recovery and subsequent performance. Future studies (with larger participant groups) could investigate the possible effect of playing position, starting status, injury status and experience level on mood state fluctuations.

Keywords: tension, depressed mood, anger, vigor, fatigue

The Effects of Positive and Negative Virtual Environments on Inducing Emotions

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Abstract: In the area of emotion and cognition research, how to induce emotions effectively is a key aspect. Emotion pictures, sounds, and videos were mostly used by researchers, and standard pictures and sound systems were developed both in China and abroad. Virtual reality technology has been used in foreign psychological therapy field for decades, and has proven effective on relieving psychological symptoms. This indicates that virtual environments can induce emotions. This is why it is effective for people with phobias, such as the fear of flying, spiders and heights. The purpose of this study is to investigate the effect of positive and negative virtual environments on inducing emotions. We suggest that virtual environments can induce emotions successfully in the general population.

This study used the 2x2 within subject experimental design. Thirty male college students were randomly selected to take part in this experiment; 15 in the positive and 15 in the negative virtual environment. The subjects' ages were between 22 and 25. In addition, we took an ABBA design in order to balance the sequence effect of positive and negative conditions. Before and after viewing each virtual environment, subjects filled psychological questionnaires (POMS STAI PAD) in order to estimate the emotion change. Physiological indices such as heart rate variability (HRV), respiration rate (RESP), skin conduction (SC) and skin temperature (TEMP) were recorded before and during viewing the virtual environments.

Psychological data showed that the intensity of negative emotions such as tension, fatigue, and state anxiety in positive virtual environments decreased compared with the baseline; positive emotions increased after viewing positive virtual environments, and the intensity of negative emotions such as tension, anger, depression, and state anxiety in negative virtual environments increased, while positive emotions decreased. Physiological data showed that SC decreased and high-frequency HRV increased significantly at the end of viewing positive virtual environments, which indicates that vagus nerve activity increased, physiological arousal level decreased and subjects felt relaxed; SC, RESP and low-frequency HRV increased and high-frequency HRV decreased significantly at the end of viewing negative virtual environments, which indicates that sympathetic nerve activity increased and physiological arousal level increased. In all, the change of psychological and physiological data shows a significant correlation of emotional states. It indicates that positive virtual environments can induce positive emotions and negative virtual environments can induce negative emotions. Virtual reality technology is an effective method of inducing emotions.

Keywords: virtual reality technology, positive virtual environment, negative virtual environment, emotion inducing

Negative Experience of Sports Activities and the Countermeasures

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Abstract: An experience is the psychological reaction of the body and mental stimuli. It is one of the important products of motion activities. The experience will affect our participation behavior in sports. As we know, a positive experience will encourage sports performance, and a negative experience has damaging effects on our motion activities. It has been proven that the negative experience is the main harmful reason for our behavior in not exercising, training, or doing physical education and sports. The previous researchers have studied various experiences of motion activities and their effects, such as the experience of anxiety, self-efficacy, and flow state, etc. But there is still no special research which considers such experience in its entirety. This research investigates the negative motion activities experience.

In this study, 28 excellent Chinese mountaineers were investigated (23 were interviewed and 25 answered a special questionnaire). We chose mountaineers as samples because the mountaineering process includes multiple motion activities. This study found that the negative experience of motion activities can be divided into two dimensions: the negative body experience (pain, fatigue, discomfort) and the negative emotion experience (sadness, anxiety, irritability, difficulty, fear, despair, can't continue, negative imagery and lower self-efficacy). The motion environment and equipment damages, physical exertion, poor sports performance and the result is worse than the target, which are the main causes of the negative experience in sports. According to this investigation, we suggest that: (1) Good conditions should be provided to support people's motion activities as much as possible; (2) People should be encouraged to do sports with a partner; (3) Energy supplements should be taken on time; (4) Sport performance should be appreciated with a positive attitude, and negative information neglected; (5) Athletes should be guided to enjoy the competence process, and ignore the results. Understanding the negative experience in sports is the basis for looking at stimulated countermeasures.

Keywords: negative experience, sports activities, countermeasures

Influence of Psychological Factors on the Crouch Start Movement Mechanical Index [Modified]

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Abstract: The purpose of this research was to better guide athletes to complete movements combining sports psychology and action technique. The crouch start includes three stages: “on your marks”, “set”, “gun fired”. Eighty track and field students were divided into two groups. One group consisted of 40 professional athletes who had been training for more than one year. The other group consisted of 40 novice athletes training for less than a year. They were tested on the starting blocks in turn. Data were tested through the P test, and were valid and available. The front pedal of the starting blocks with the floor was 40 ° -50 °, and the back pedal of the starting blocks with the floor was 60 ° -75 °. According to $F_x = \sum F \cdot \cos \alpha$, reducing the angle could make the explosive force (F_x) increase at a certain time ($\sum F$) to obtain the maximum starting velocity and maximum power ($P = F \cdot V = w/t$). According to research and analysis, from “on your marks” to “gun fired”, the professional athlete's attention was narrow-internal, paying attention to the process and controllable factors instead of caring about winning and losing. Adjusting the shoulders and arm angle to 80 ° -90 °, anterior knee angle at 90 ° -100 ° and after knee angle 110 ° -130 ° would provide the greatest advantage of the start action. The novice athlete's attention, however, was pointing outward. When the gun was fired, the athlete's attention was focused on perception sensing and the actuating signal. The auditory center was strongly

excited, yet the sports center was under a certain degree of inhibitory condition. The reaction type was perception-oriented, and reaction time was longer, proven by $I = \int F \cdot dt$. Simultaneously, due to excessive anxiety spread across the body through nervous conduction, the action was out of shape, compromising muscle strength and leading to small impulse (by the formula $\int F \cdot dt = mv$). It greatly affected starting velocity.

In conclusion, the movement mechanics index should be improved through mental training, e.g. concentration training, cognition-regulating training, systematic desensitization training, etc. Before the competition, athletes should be able to control their own state of psychological preparation to avoid excessive anxiety that leads to motion deformation. Athletes' trained velocity directional sprint are subjected to the “practice effect”—the more one practices, the faster the response becomes—while acknowledging the process is gradually reduced. Combining emotion with motivation is yet another way to cultivate and stimulate motivation.

Keywords: crouch start, movement mechanics index, movement technology, psychological factor, mental training

Affective Priming Effect of Exercise-Related Stimulus

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Abstract: The behavior change theory which focuses on cognitive factors is deficient in explaining the intention to behavior. Emotion in this process plays a key role. Based on the reflective-impulsive model, there is an automatic association between behavior and affective experience. In this research, the affective priming paradigm was used to study the difference of affective priming effect between inactive people and exercisers. This study tries to understand how affective priming plays a role in the happenings and insistence of exercise.

The following research hypotheses are put forward: In the conditions that exercise-related words or pictures are used as priming stimuli, exercisers have the association of physical exercise activities and positive emotional experience--positive affect is activated. Inactive people have the association of physical exercise activities and negative emotional experience, or no priming effect. Active physical exercise activities connected with a positive emotional experience helps increase physical activity behavior.

In the first experiment, exercise-related words were used as primers with Korean words as the target stimulus. The positive response ratio on the target stimulus and the value of priming effect was tested. The results showed that in the condition with exercise-related words as the priming stimulus, there was a significant difference between exercisers and inactive people in the priming effect and the positive response rate on the fuzzy target stimulus; exercisers were greater than inactive people. There were no significant differences between exercisers who did not participate in sports specific training and exercisers who continued to participate in sports specific training. The priming effect was successfully used to predict reported amounts of exercise.

In the second experiment, exercise-related pictures were used as primes with the emotional valence of words as the target stimulus. The reaction time on the target stimulus and the value of priming effect was tested. The results showed that in the condition that exercise-related pictures as the priming stimulus, the exerciser who continued to participate in sports specific training responded slower to positive words, and the reverse priming effect emerged. There were no significant differences between inactive people and exercisers in the priming effect. Inactive people responded significantly faster to

the tired, injury type words than exercisers who continued to participate in sports specific training.

In the third experiment, exercise-related video was used as active material, the indices for the increase in acts of physical activity behavior. The results showed that activation of the established association between exercise activities and positive affection may contribute to the increase of physical activity behavior. Conclusion: 1) Affective priming effect of which exercise-related priming stimulus to exercisers was found. 2) Fatigue, injury as the major emotional factors may prevent people from exercise. 3) Active association between physical exercise activities and positive emotions can help increase physical activity behavior.

Keywords: exercise, affective priming effect, reflective-impulsive model

Characteristics of Emotion Regulation Strategy for College Athletes in Different Sports

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Abstract: The emotion regulation strategy is an important aspect of psychological research in sport. The appropriate use of emotion regulation strategy is closely related to the Sports Racing Results. The main purpose of the present study was to investigate the characteristics of emotion regulation strategy for college athletes in specific sports, exercise periods, campaign levels and gender. The participants involved college athletes; in total, 739 subjects (505 males and 234 females) participated in the questionnaire investigation. Data were examined for differences in the specific sports, exercise period, campaign level and gender. The research indicates that: 1) There are significant differences in specific sports in the use of cognitive reappraisal strategy; athletes of skill use it more frequently than physical athletes, except expression of suppression strategy; 2) Athletes who have long exercise periods prefer to use cognitive reappraisal strategy, whereas there are no significant differences in expression suppression strategy; 3) The differences in campaign level show no significant usages of both cognitive reappraisal strategy and expression suppression strategy; 4) ANOVA also revealed a significant difference in gender in both cognitive reappraisal strategy and expression suppression strategy. According to the investigation, it would be better for college male athletes to use cognitive reappraisal strategy and expression suppression strategy than females.

Keywords: college athletes, emotion regulation strategy, cognitive reappraisal strategy, expression suppression strategy

Effects of Emotion and Emotion Regulation on Decision-making of Soccer Players

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Based on the risk-as-feelings model (Loewenstein, 2001), the process model of emotion regulation (Gross, 2002) and the self-control depletion theory (Baumeister, et al, 1998), three serial studies were designed to examine the correlations among emotion, emotion regulation, self-control and decision-making of soccer players with the help of the soccer players' decision-making test system. Study 1 adopted emotion (2) × decision-making task (2) mixed-design

to investigate the influence of emotion (positive, neutral, or negative) on the quality of decision-making of soccer players. Forty-three college soccer players participated in the experiment; the average age was 20.79±2.63. The results suggested that the decision-making speed of soccer players was significantly quicker under positive emotions than under neutral emotions; the decision-making accuracy was significantly higher under positive emotions than under negative and neutral emotions.

Study 2 adopted emotion regulation strategies (5) × decision-making task (2) mixed-design experiment, and utilized emotion regulation strategies to regulate negative emotion to discuss the influence of emotion regulation strategies (reappraisal, rumination, expressive suppression, expressive revealing) on the quality of decision-making of soccer players. Fifty-three college soccer players participated into the experiment; the average age was 21.27±3.00. The results suggested that the decision-making accuracy of the reappraisal group was significantly higher than that of the expressive suppression, expressive revealing and control groups.

Study 3 adopted self-control ability (2) × decision-making task (2) mixed-design and tried to explore whether the self-control ability could influence the effect of the reappraisal strategy under negative emotions. Eighteen college soccer players participated into the experiment; the average age was 23.11±2.74. The results suggested that the effect of the emotion regulation strategy was influenced by the self-control ability: (1) self-control ability moderated the relationship between the decision-making task and the quality of decision-making; (2) decision-making accuracy of soccer players with high self-control ability was significantly higher than those with low self-control ability.

Keywords: emotion, emotion regulation, self-control, decision making

The Relationship between Individual Traits and the Coordination of Whole-Body Movements under Pressure

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Abstract: Previous researches suggest that pressure has a negative effect on performance (Murayama et al., 2007; Tanaka et al, 2009). However, it is necessary to understand that the influence of pressure differs by individual trait. Therefore, the purpose of this study investigated the relationship between individual traits and the coordination of whole-body movements under pressure. The study investigated the effects of performance by being observed from a significant other. First, the participants (male collegiate athletes, n=37) completed the State-Trait Anxiety Inventory Japanese version (Hitano et al., 2000) to measure their individual state and trait anxiety score. Based on their scores, they were categorized into two groups (high anxiety group; n=10, low anxiety group; n=10). The two groups performed “Kozara”, which is a basic technique of Japanese bilboquet as the performance task, performing four blocks (1 block was 15 trials). The first two blocks were practice runs and the next block was a control condition to measure their performance. In the last block, the participants performed under the pressure of being observed from a significant other. The significant other was the head coach of their team. After the test, participants completed a survey for recognition of the task performance (ex: Did you feel pressure from a significant other? Did you feel something change in your body by the pressure?). In the results of this study, there were no significant changes of state anxiety scores by pressure in both two groups. In contrast, for the low trait anxiety group, the task performance success rate was significantly increased under the pressure (p<.05). From

a recognition survey, the results indicated that the high trait anxiety group significantly felt an observer than the counter group (p<.05). These results suggested that there was a relationship between the individual traits and the coordination of whole-body movements under pressure, and the pressure influenced an increasing performance by being observed from a significant other. The results were discussed in the content and the study suggested various viewpoints of pressure for further research in the future.

Keywords: pressure, significant other, individual

Effects of Different Acute Exercises on Mood

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Abstract: Most studies have shown that acute aerobic exercise has a positive effect on mood, but also some studies indicate that aerobic exercise does not reduce negative emotions or increase positive emotions. In these studies, moderate intensity aerobic exercise was often selected, and less so of strength training, so exercise intensity was not clearly defined and measured.

This study selected four kinds of platform walking aerobic exercises and a slow speed muscle strength exercise. Telemetry heart rate equipment (polar 400) was used to measure exercise intensity. Fourteen healthy male college students participated in the study (age 22.1 ± 1.6 years old, height 176.4 ± 5.4 cm, weight 66.5 ± 6.2 kg). Aerobic exercise included 15 minutes of steady walking (exercise intensity 5.5 km/h, average heart rate was 104 ± 10.3/min), 30 minute of steady walking (exercise intensity to 5.5 km/h, average heart rate of 111 ± 10.5/min), 15 minutes of fast walking (starting speed at 4 km/ h with 1 km/h incremented every two minutes until the speed of 10km/ h, average heart rate 107 ± 12.1/min), and uphill walking (constant speed of 4km/h, initial slope of 0, with 2% slope increment every two minutes). The experiment lasted five days with only one exercise session per day. The POMS standard questionnaires were used to assess mood state at the beginning and end of the exercise.

The results show that: the type of aerobic exercise and strength training did not have an impact on mood. For 15 minutes of steady walking the anger score was lower than the uphill walking (P <0.05), depression score is lower than fast walking (P <0.05). 30 minute steady walking scores were higher than fast walking and uphill walking (P <0.05).

Keywords: mood, acute exercise, exercise psychology

A Bayesian Network to Study Motivation, Motivational Climate and Anxiety in Young Competitive Team Players

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Abstract: The objective of this study is to find out the level of relations between self-determination, goal orientation and perceived motivational climate in young team players, and their impact on the somatic and cognitive components of competitive anxiety, and the

acceptance of use of cheating and gamesmanship in sports.We administered the PMCSQ-2, TEOSQ, BRSQ, CDED and SAS-2 to a population of 270 soccer, handball and basketball players (M = 14.67, SD = 1.53). Probabilistic relations of dependence and independence among the variables were established using a Bayesian network (BN) implemented with Netic and Tetrad IV. Subsequently, we instantiated hypothetical probability values in dependent variables of the BN to analyze the impact and change on the probabilities of the independent variables. Results showed that the causal impact of self-determined motivation on competitive anxiety is quite different from achievement motivation; also demonstrated is a controversial relationship between perceived motivational climates and players' goal orientations (task and ego). The marginal causal role of somatic anxiety and the instrumental role of acceptance of the use of cheating were also confirmed. Results also confirmed the validation of the BN for this study.

Keywords: anxiety, motivational climate, Bayesian networks, Bayesian likelihoods, self-determination, goal orientation, youth sports, football

Impact of Acupuncture on the Psychological Status of Young Weightlifting Athletes before Competition

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Abstract: With the development of competitive sports, mental state is an increasingly important influence on weightlifting competition results. This study uses acupuncture therapy as an intervention for weightlifting athletes before the competition. Effects of acupuncture on the pre-competition psychological state of weightlifting athletes were observed, so as to provide a simple and effective method to regulate the psychological state for weightlifting training in order to improve the training and competition performance.

This study selected young weightlifting athletes from a training center in Shandong province as subjects. With the original special and mental training unchanged, respectively in two times the size of the same game, three days before. Measurements of Competitive State Anxiety Inventory, the index of heart rate, dopamine and so on were done. Acupuncture intervention was put into effect 28 days before the second competition. Changes in the psychological state and physiological and biochemical indexes before and after the acupuncture intervention were observed.

There are significant differences between the same indicator of the weightlifting athletes before and after the intervention:(1) The score of cognitive state anxiety is 15.03±3.246 and the score of body state anxiety is 16.78±4.265 in the Competitive State Anxiety Inventory, both of them decreased significantly; the anxiety condition of athletes improved significantly; (2) the heart rate after intervention(67.45±5.25) was lower(P<0.05)than before intervention(72.45±4.304); (3) Comparing before(213.45±2.367)and after(189.63±2.585)the intervention, dopamine levels declined(P<0.05) after the intervention.

Acupuncture plays a significant role in easing the pre-competition anxiety state, and it is certainly useful in regulating the anxiety-related indicators of the weightlifters before the competition.

Keywords: Acupuncture, Athletes, Weightlifting, Pre-competition Psychological State

Cortisol and Tennis Performance – A Single Case Study

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Abstract: Changes in cortisol concentration before and after competition and its relation to outcome or performance have been one of the main interests of psychoneuroendocrinological research in sport so far (Ehrlenspiel & Strahler, 2012). The common pattern reflects a rise in cortisol before and after a competition. In addition, some studies suggest the cortisol level before and after competition is higher in losers than in winners (e.g., Filaire et al., 2009) whereas other studies find no relation between cortisol and performance and/or outcome (e.g., Robazza et al., 2012). Since findings are contradictory, this study aims to observe cortisol and performance during a real tennis match in a detailed fashion and connect cortisol with specific performance parameters, e.g., unforced errors, serving rate or winners. To do so, two healthy, non-smoking male tennis players (age: 28 and 39 years old) competed against each other in an official tournament. The match was videotaped for objective analyses of performance parameters. Salivary cortisol, self-reported questionnaires and self-evaluation of performance were measured before, during and/or after the match. The fluctuation of cortisol showed great differences between player A and B. Player A had very little changes whereas player B had a significantly higher increase in cortisol in comparison to the individual baseline for each half a set (t(6) = 2.66, p = .037, d = 2.18). In regard to performance, player A showed significantly less unforced errors with respect to each half a set (t(6) = 3.04, p = .023, d = 2.48). More detailed correlations between performance and cortisol revealed a significant positive relationship between direct points won and cortisol (r = .73, p = .039) for player B and a significantly negative relationship between the ability to score the point after making the first serve and cortisol (r = -.77, p = .026) for player A. The common pattern of a cortisol rise before and after competition was also found. The findings underline individual differences in cortisol changes due to competition and its effects on individual performance and outcome. Even though one has to be particularly careful in stating causal effects, further investigations about cognitive and motor processes involved during sport performance are warranted in order to clarify individual performance differences due to cortisol.

Keywords: real tennis competition, cortisol, ecological settings

The Influence of Emotions on Temporal Duration Estimations in Basketball

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Abstract: The study aims to investigate whether emotions influence basketball players' temporal duration estimations such as 3s (offensive and defensive three-second violation), 5s (five-second violation), 8s (backcourt violation), 24s (24-second violation) under prospective paradigm, by recording the duration estimation errors they make. We adopted a mixed design in this study. The 60 male students majoring in basketball from a sport university participated. They were required to make estimations of four durations, namely 3s, 5s, 8s, and 24s respectively after their emotions having been elicited (positive, neutral, negative). To avoid order effect, each duration was estimated three times continuously by employing a Latin square design. The findings indicated that the interaction between emotion and duration estimation was significant (F (6,114) =7.488, p=.001). The main effects of both emotion (F (2, 57) =4.446, p=.016) and duration estimations (F (3,114) =94.009, p<.01) were significantly different. Therefore, emotion has an influence on temporal duration estimation among basketball players. Either positive or negative emotions lead to inaccurate duration estimations, while neutral emotions

predict accurate duration estimations. These findings highlight that basketball players are likely to make more violations if they are in a positive emotion or a negative emotion. Hence, in routine training or competition, coaches should pay more attention to players' emotions and timely remind them in case of more faults resulting from their mood swings.

Keywords: basketball, duration estimation, emotion, prospective paradigm

Trust in Sports – Validation of a Trust Scale for Sport Context

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Abstract: Trust is an important topic in several areas of sport: trust in teammates, other athletes' behavior, referees or sport federations; it is a major research field in sport science. Whereas validated scales about interpersonal trust exist in the research of cohesion (cf. Carron, Bray & Eys, 2002), there is no transfer of trust models from organizational psychology (Mayer, Davis & Schorman, 1995) into sport science. In this study the validity of a translated and adapted to sport context questionnaire about the main antecedents of trust - ability, benevolence and integrity - (Mayer & Davis, 1999) was tested. The aim of this questionnaire was to help understand athletes'

and sport-recipients' trust in different aspects of sport (e.g. team cohesion, athlete-trainer-relationship) and sport organization (e.g. anti-doping-work, fight against corruption).

The questionnaire was translated into German by the forward-backward translation method. Moreover, items were adapted for sport setting. In sum, fifteen items on a 5-point-Likert-scale on the three latent scales of ability (6 items), benevolence (4 items), and integrity (5 items) were chosen for the validation. A pre-validation was made with 41 gymnasts (Mage = 15.93, SD = 4.44) and 30 volleyball players (Mage = 21.50, SD = 4.90) who evaluated the trust in their coach. Analyses were made for reliability of the latent scales. A confirmative factor analysis (CFA) was conducted.

Analysis showed good reliabilities of subscales (Cronbach's α ability = .789, benevolence = .867, integrity = .804). CFA quoted a three-factor-solution with a good model-fit (χ^2/df = 1,708). For external validity, comparison between gymnasts and volleyball-players showed significant differences for trust in coaches between the two groups. Gymnasts had higher trust in their coaches than volleyball players (t (69) = 2.892 p = .005). Latent scales of benevolence (t(69) = 3.644, p = .001) and integrity (t(69) = 3.429, p = .001) showed significant differences between the sport types. There was a significant correlation for trust and duration of sport club membership (r = .354). The specific analysis of antecedents of trust in sports is a relatively new research area. Presented results give evidence that the new questionnaire can be a useful tool for future research regarding trust in different fields of sport, like trust in federations, coaches, teammates or referees. Trust antecedents may be a large research field in specific topics like anti-doping or corruption. Because our results were based on a small sample size, further validation studies with larger sample sizes will be necessary.

Keywords: trust, integrity, benevolence, ability, validation

Construction and Validation of an Emotion and Sport Performance Questionnaire

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Abstract: The central idea of the Cognitive-Motivational-Relational Emotion Theory of Lazarus (1991) is that an individual can only understand the emotional life, considering the person and context as inseparable units and that they establish a relationship in an adaptational encounter. The stimuli that occur at this encounter only generate emotion from the moment in which a person evaluates them and gives them meaning. Since sports performance can be measured as a process, the present study aimed to identify, name and describe emotion triggers and sport performance factors influenced by the emotions experienced by 16 senior footballers in situations of training and competition. The content analysis of 144 interviews identified two categories of systems. One on the triggers of emotion, consisting of 1114 units registered of which 354 were grouped in the category championship, with two subcategories: features related to the journey (284) and unique characteristics to the journey (70). Also in this category system, 211 registration units were grouped in category training, with two subcategories: features related to training (184) and unique characteristics to training (27). In the category of climate group, 314 registration units were identified with two subcategories: positive climate (264) and negative climate (50). Finally, the miscellaneous category had 235 registration units. The second category system is relative to the factors of sports performance influenced by emotions, and found a total of 909 units of registration. Of these, 602 were grouped in the category resources mobilized, consisting of four subcategories: psychological skills (444), social skills (82); physical fitness (51); motor skills (25). The category results, with 137 units of registration, generated two subcategories: positive effects (137) and negative effects (30). Of the 909 registration units, 170 were grouped in miscellaneous categories. The evidence of the data shows that sports performance is the process of executing a task/motor behavior that results from mobilization of individual resources (psychological skills - 49.34%, social skills - 8.97%, physical fitness - 5, 47%, motor skill - 2.63%) facing the constraints. It occurs in three stages: before, during and after the task. Culmination in a particular successful outcome (positive effects - 11.71%) or failure (negative effect - 3.28%) occurs in training and in competition. The data indicates that the stimuli trigger emotions (training and competition), which in turn influence the resources mobilized by the players in the execution of a task/motor behavior and consequently influence sport performance and vice-versa.

Keywords: emotion, sport performance

Sport Performance and Emotion Stimulus in Training and Competition

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Abstract: The central idea of the Cognitive-Motivational-Relational Emotion Theory of Lazarus (1991) is that an individual can only understand the emotional life, considering the person and context as inseparable units and that they establish a relationship in an adaptational encounter. The stimuli that occur at this encounter only generates emotion from the moment in which a person evaluates them and gives them meaning. Since sports performance can be measured as a process, the present study aimed to identify, name and describe emotion triggers and sport performance factors influenced by the emotions experienced by 16 senior footballers in situations of training and competition. The content analysis of 144 interviews identified two categories of systems. One on the triggers

of emotion, consisting of 1114 units registered of which 354 were grouped in the category championship, with two subcategories: features related to the journey (284) and unique characteristics to the journey (70). Also in this category system, 211 registration units were grouped in category training, with two subcategories: features related to training (184) and unique characteristics to training (27). In the category of climate group, 314 registration units were identified with two subcategories: positive climate (264) and negative climate (50). Finally, the miscellaneous category had 235 registration units. The second category system is relative to the factors of sports performance influenced by emotions, and found a total of 909 units of registration. Of these, 602 were grouped in the category resources mobilized, consisting of four subcategories: psychological skills (444), social skills (82); physical fitness (51); motor skills (25). The category results, with 137 units of registration, generated two subcategories: positive effects (137) and negative effects (30). Of the 909 registration units, 170 were grouped in miscellaneous categories. The evidence of the data shows that sports performance is the process of executing a task/motor behavior that results from mobilization of individual resources (psychological skills - 49.34%, social skills - 8.97%, physical fitness - 5, 47%, motor skill - 2.63%) facing the constraints. It occurs in three stages: before, during and after the task. Culmination in a particular successful outcome (positive effects - 11.71%) or failure (negative effect - 3.28%) occurs in training and in competition. The data indicates that the stimuli trigger emotions (training and competition), which in turn influence the resources mobilized by the players in the execution of a task/motor behavior and consequently influence sport performance and vice-versa.

Keywords: emotional triggers, sport performance, individual resources

Emotion, Sport Performance and Well-Being in Senior Football Players

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Abstract: According to the Cognitive-Motivational-Relational Emotion Theory of Lazarus (1991), the emotional process can occur at an intra- and interpersonal level and form a set of interdependent variables: personality and context, cognitive activity, trend for action and coping, and short or long term outcomes. We studied 15 emotions: anger, anxiety, fear, guilt, shame, sadness, envy, jealousy, joy, pride, relief, hope, love, gratitude and compassion. The players seek outcomes that can be seen when they are motivated, active, focused, and confident in their ability, competitive and in cohesion with the team. Once the emotion has resulted and the meaning attributed to the stimulus, the Sports Performance Emotion Questionnaire identified the emotions and their intensity (evaluation: 0 to 9) and their influence in sport performance (evaluation: -4 to +4). Through interviews it was sought to determine what triggered the emotions, what influenced sport performance, the importance of the game and situations beneficial/detrimental to the players' welfare. The sample was two senior footballers and for each player it was made up of four gatherings. The data allowed realization of the constant dialectic between football players and the competitive environment in the pursuit of well-being. As an example we analyzed two emotions. Shame was an emotion experienced by player 1 only in the first collection, during the game, with intensity 5, having been triggered by the team. The centre of this emotion was that the player lives in accordance with what he thinks would be ideal; his welfare is jeopardized because he believes that the team did not play according to his ideal. Stating that "there was a player who was not in his best condition, and did everything to play and some players might have had a bit of consideration", this team behavior is incongruent with the

goal that they intended to achieve. This emotion positively influences his sports performance (+2), particularly in attitude. Player 2, during the first collection, before and during the game felt compassion with intensity 6, having been triggered by a colleague who played sick; he considered this situation as having positive implications for his well-being because the awareness of the colleague's sickness made him willing to help, which was congruent with the goals of competition. This emotion influenced positively (+3) his sport performance, specifically on his will and solidarity. It is therefore natural that compassion also had positively influenced the climate group that is fed by self-help behaviors. The meaning attributed to the triggering of emotion takes the player to act consistently with that meaning and the respective emotions.

Keywords: well-being, outcomes, trigger evaluation

Development and Pre-Testing of a Native Chinese Sport Affective Picture System

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Abstract: As mood changes play important roles in athletes' sporting achievements, it is necessary to develop a native Chinese Sport Affective Picture System (CSAPS), especially for sport neuroscience researches which use cognitive brain imaging methods, such as event-related potential technique. Eighty-seven negative, 95 neutral and 100 positive sport emotional pictures were collected from the Internet. Pictures included a variety of sports scenes including athletes in basketball, baseball, badminton, gymnastics, etc. One hundred and five college students (48 female), all from a sport university, volunteered to rate the valence and arousal of these pictures by using the 9-point Self-Assessment Manikin scale. Based on these ratings' data, some pictures were excluded, but 73 negative, 70 neutral and 82 positive emotional pictures were left to constitute the rough Chinese Sport Affective Picture System. Data showed that the score distribution on the dimension of valence and arousal was wide in the CSAPS; there were significant differences among valences of negative, neutral and positive pictures; negative pictures included basic negative emotion categories, like sad, fear and disgust. Results indicate that the CSAPS can be widely used in sport studies.

Keywords: Chinese Sport Affective Picture System, valence, arousal

Different Sports Majors' Nostalgia and the Nostalgic Atmosphere for Basketball Games

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Abstract: Nostalgia is an abundant and complex social emotion that yearns for the past and is associated with self-awareness. It contains not only happiness and warmness, but also has a sorrow component. Therefore, it can not be simply divided into positivity or negativity, but should be considered as a mixture of positive and negative emotions. As a basic sensation in human, much attention has been paid on nostalgia by many scholars in different areas. It is mostly concentrated in the field of advertising and marketing, including advertising design and branding, scale establishment, as well as advertising and marketing strategies for specific consumer groups. In recent years, reminiscence therapy associated with nostalgia has

applied in elderly care, but the area is relatively limited. Therefore, been gradually exploring nostalgia in a broader field of psychology has become more prevalent. Considering the above mentioned reason and also the researcher's knowledge, this study is divided into two experiments to explore nostalgia in the field of sports.

Experiment 1: Investigate the differences in the different sports majors' nostalgia. The questionnaire "14 nostalgic attitude measurement scale" prepared by Lu Manman in 2008 was used to test basketball majors, non-basketball majors and other discipline students. The results showed that there were no significant differences among basketball majors, non-basketball majors and other discipline students in individual subscale, personal and social subscale, family subscale and overall nostalgia.

Experiment 2: Retrospective analysis of the phenomenon of nostalgia in the NBA Hardwood Classics Nights (HWC night) activities; find information from season 2005-2006 to season 2011-2012, and investigate whether HWC nights' games (wear throwback jerseys) are more intense (score difference and the sum of the score) compared with the other games (wear ordinary jerseys). The results showed that the same two teams' score in the HWC night's games were significantly higher than the screening games in the same season, but there was no difference between the two teams' score difference. The study results showed two facts: Nostalgic mood has nothing to do with the sports majors and under nostalgic atmosphere, the basketball teams became more offensive and had stronger attack desire.

Keywords: nostalgia, sports majors, basketball games

The Relationship between Imposter Syndrome, Self-Efficacy Beliefs and Emotional Regulation of Shiraz Athletes

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- 2. Sirjan Azad University
- 3. Amin Institute

Abstract: The current study intends to investigate the relationship between imposter syndrome, self-efficacy beliefs and emotional regulation. The participants of the study were athletes from Shiraz; 140 of them were chosen according to stratified random sampling. They performed the emotional regulation questionnaire, general self-efficacy questionnaire and imposter syndrome questionnaire (IP Clance). The findings of the study indicate that there is a strong relation between imposter syndrome and self-efficacy beliefs. There is no relationship between imposter syndrome and emotional regulation. Also there is a strong relation between self-efficacy beliefs and emotional regulation (P<0.05).

Keywords: imposter syndrome, self-efficacy beliefs, emotional regulation, athletes

Examining the Relationship between Flow Experience and Coping Strategies

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Abstract: The concept of flow refers to a self-rewarding experience characterized by a sense of control, high level of enjoyment, centering of attention, total immersion in the performed activity, perception of control over actions and environment, and perception of superior functioning. A prevalent aspect of flow theory is that when the challenges and skills are perceived as being in balance, at a high level, the athlete experiences flow (Csikszentmihalyi, 1982). Many studies have examined the association between the ways of coping and the level of negative emotions (e.g., anxiety) experienced by the athletes during their sport participation (Eubank & Collins, 2000; Jerome & Williams, 2000). However, limited research has appeared regarding the relationship between positive emotions, such as flow, and the ways athletes use to cope in a competitive situation. The purpose of the present study is to examine the relationship between flow experience and athletes’ coping strategies.

Three hundred and twenty (320) athletes (179 men, 141 women) with a mean age of approximately 20 years (SD = 4.29) volunteered to participate in the study. The athletes completed the Flow State Scale-2 (Jackson & Eklund, 2004), the Ways of Coping Checklist (Kakkos, 2001) and two 11-point Likert type scales measuring the challenge of the competition and athlete’s perceived skills. The athletes completed the Flow State Scale-2, the Ways of Coping Checklist and the two single-item scales 30 minutes after the competition based on how they felt during the competition. The results indicated that active coping and positive appraisal were positively correlated to FSS-2 factors, whereas passive coping and seeking social support revealed null to negative correlations with flow experience. Additionally, challenge of the game as well as skills of the athlete indicated positive correlations with active coping and cognitive appraisal. On the other hand, passive coping showed negative correlations with skills of the athlete. Based on the above, it seems that coping strategies are correlated with athletes’ flow experience. Athletes using “positive” coping strategies (active coping, positive appraisal) estimate the competition as more challenging, feel more skillful and, ultimately, the quality of the experience is more positive. From a theoretical and practical standpoint, the results of the study are indicative of the prominent role of the athletes’ coping strategies in experiencing positive emotions during competition.

Keywords: flow experience, coping

Study and Evaluation of the Exercise Self-Confidence Scale for University Students

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Abstract: The purpose of this study was to carry out a preliminary study of the university students’ Exercise Self-Confidence Scale ESC-scale and evaluate its reliability and validity.

This paper first defined the theoretical construct of university students’ sub-health, based on literature analysis, interview and questionnaire survey. 1797 students of Yangzhou University were involved in this test and item analysis, exploratory factor analysis and factor analysis were used in order to validate the rationality of this scale.

After pilot testing, a 25-item ESC-scale was constructed. It consisted of 5 factors such as whole exercise capacity, communication in exercise, physical ability, health and figure. The eigenvalues were 4.697, 3.825, 3.648, 2.451 and 2.197 respectively, and the cumulative variance contribution rate was 67.27% of the five factors.

By analysis of two order factor, a second-order factor, the cumulative rate was 64.295%. The confirmatory factor analysis showed that the goodness-of-fit-test of the second-order factor model was valid, the figures of which are $\chi^2=361.36$, $P < 0.001$ $df=249$, $\chi^2/df=1.451$ CF I=0.962, TLI=0.955, SRMR=0.049, RMSEA=0.048. Their Cronbach coefficients ranged from 0.745 to 0.845, and their test-retest reliability were from 0.68 to 0.746. The correlation coefficients of the 5 sub-scales and total scale were 0.862, 0.854, 0.839, 0.717 and 0.711 ($P < 0.001$) respectively, confirming the university students’ ESC-scale has good construct validity.

Preliminary completion of the university students’ ESC-scale and confirmatory analysis demonstrates that this scale has good reliability and validity.

Keywords: exercise self-confidence, exploratory factor analysis, reliability and validity, confirmatory factor analysis

College Students Doing Tai Chi Chuan Exercises: Effect on Mood

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Abstract: In the research of exercise psychology, it has become common knowledge that sports will promote mental health. The previous researches were mainly on intense aerobic exercises. Tai Chi Chuan, with an obvious demonstration of oriental culture, emphasizes a “static” health preservation concept, while aerobic exercise popular in western countries emphasizes a “dynamic” health preservation concept. Will these two kinds of exercises result in the same psychological effects? The main purpose of this study is to explore the effect on college students’ mood when they take part in Tai Chi Chuan exercises, and to find the differences between the two kinds of exercises from the perspective of mood improvement. In the study, 71 college students were recruited and organized to participate in an 18-week Yang-style Tai Chi Chuan exercise (five days a week, 2 hours a day), and mood indexes were acquired with the help of BFS. The findings showed that after doing Tai Chi Chuan exercises, the overall level of mood improved significantly, mainly displayed in the following aspects: negative mood, anger, excitement, and depression significantly decreased. However, one month after finishing practicing Tai Chi Chuan, the positive mood and the negative mood of college students then did not show clear differences compared to those before the exercise. Therefore, the findings are: Tai Chi Chuan exercise can significantly improve college students’ mood state mainly displayed in the decrease of negative mood, which is different from the increase of positive mood in aerobic exercise. The effect of mood improvement disappeared in a month after finishing practicing Tai Chi Chuan. This also shows Tai Chi Chuan, as a sport emphasizing the “static” health preservation concept, requires continuous participation to ensure a constant mood improvement effect, which is similar to other aerobic exercises.

Keywords: college students, Tai Chi Chuan, aerobic exercise, mood

A Study on the Relationship between Mood State and Performance of China’s Elite Mountain Bike Riders

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Abstract: Mountain biking is a typical endurance sport. This study used the multiple regression analysis to discuss the relationship between mood state and the performance of China’s elite mountain bike riders, and constructed a mood state model of China’s elite

mountain bike riders.

Special psychological characteristics of elite mountain bike riders questionnaire was explored after two rounds of factor analysis; cross-validation method was carried out to test the reliability and validity. The questionnaires ABQ, POMS and EPQ were used to survey 40 Chinese elite mountain bike riders (20 males and 20 females); the data was analyzed by using the Statistics Software SPSS 17.0 and AMOS 17.0.

Results: (1) The mood state model of China’s elite mountain bike riders was composed of emotional state, state of fatigue and degree of anxiety; personality traits affected the factors. (2) The mood state of male riders was significantly better than female riders’; with the improvement of their performance, riders’ mood state section got close to the iceberg profile. (3) Elite mountain bike riders’ performances and their degree of mental fatigue were significantly correlated; premature entries of fatigue state and overtiredness were correlated with performance. (4) Elite mountain bike riders’ performances were significantly correlated with mood state, and there was a negative correlation between negative emotion and physical exhaustion. (5) Pathway analysis showed riders’ personality traits had a directive function to mood state, and riders’ mood state had a directive function to mental fatigue.

Chinese elite mountain bike riders’ performance was affected by multiple factors. Personality trait affects riders’ performance through mood state and degree of fatigue. Mood state was an important mediating factor in the model where personality traits affect rider’s performance. Simultaneously, mood state and degree of fatigue had an interaction effect on mountain bike riders’ performance.

Keywords: elite mountain bike rider, mood state, mental fatigue, performance

An Experimental Study of Tai Chi Exercises’ Effect on Emotion

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Abstract: The purpose of this study was to investigate the effect of Tai Chi exercise on emotion. Method: A total of 120 volunteers, including 59 males and 61 females, participated in this study where they were randomly assigned to either the experimental group, placebo group, or control group. Volunteers’ ages ranged from 16 to 45 years old, with an average age of 30.5 years. Volunteers assigned to the experimental group practiced 24-style Tai Chi for three months; those who were assigned to the placebo group practiced broadcasted exercises also for three months; while those assigned to the control group were not requested to practice anything. By applying the Profile of Mood States (POMS) and the skin resistance transcutaneous electrical instrument, the psychological and physiological indicators of volunteers’ emotion were examined. Results: By using SPSS 19.0 version, independent sample t-test and ANOVA were conducted. The results showed that after three months’ Tai Chi exercise, statistically significant differences ($p < 0.05$) were found in the experimental group and placebo group from the control group on POMS mood value with regard to factors of TMD, tension, anger, fatigue, confusion, and self emotion. Despite the significant difference on the depression factor between the experimental group and the control group, this difference was not found between the experimental group and placebo group ($p > 0.05$). The skin resistance test showed statistically significant differences on the wave and amplitude of baseline, stimulus, and relaxation values at the first minute as well as on the amplitude of relaxation value at the fifth minute between the experimental group and control group ($p < 0.05$). Conclusion: Tai Chi exercises have a significant effect on ameliorating emotional indicators such as tension, anger, fatigue, confusion, and self-esteem; however, Tai Chi has no

significant advantage over other general exercises on the effect of ameliorating depression. Moreover, emotion’s physiological indicator showed the significant effect of Tai Chi on mood, especially on rapid emotional relaxation and emotional self-regulation. Finally, the results indicated no noteworthy improvement on energy produced by practicing Tai Chi.

Keywords: Tai Chi, emotion, POMS, skin test instrument

Influence of Music Relaxation Training on the Anxiety of Top Athletes

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Abstract: Emotion is an important psychological phenomenon which plays a key role in people psychological and real life activities. At present, the research on emotions’ influence on athletes is a popular point of discussion in the emotional area. Anxiety is the most prevalent emotional problem encountered by athletes before their competition. It will have a great impact on their performances, and crucial to the event’s results.

Relaxation training is an effective training strategy for emotional adjustment. However, there are a few researches on relaxation training in sports psychology in recent decades. Based on the research of relaxation training and its development, this research aims to analyze its use for top athletes’ psychology, and discusses its effect on the state anxiety of different sports athletes.

This research did an experiment with 30 top-level athletes from three teams of high jump, free combat and rhythmic gymnastics from Sichuan province by using the Competitive State Anxiety Inventory (CSAI-2) and music relaxation therapy instrument. All the athletes would attend the 12th National Sports Competition, and this could be the best opportunity to study their state anxiety’s situation.

Each athlete was tested by CSAI-2 first and then divided into different groups for music relaxation training. There were 12 training sessions in total, meeting 3 times a week for 30 minutes each time time. The CSAI-2 questionnaire was filled in again after the training. Comparing the state anxiety levels before and after music relaxation training of the athletes, the results showed that:

1. Musical relaxation training had a marked effect on different athletes’ cognitive anxiety and body anxiety, with the competitive rhythmic gymnasts’ cognitive anxiety changing higher than the other two teams, and the free combat athletes’ body anxiety and confidence state higher than the other two teams.

2. The effect of music relaxation training was clearest with the competitive rhythmic gymnasts’ cognitive anxiety, with the free combat athletes’ body anxiety, and with rhythmic gymnasts’ confidence state respectively.

3. Music relaxation training has a remarkable adjustment to the athletes’ cognitive anxiety and confidence sate.

Keywords: music relaxation training, athletes, anxiety

The Main Factors Affecting the Golf Feeling

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Abstract: The feeling in golf is characterized by the fine perception

of the club and ball by the perceptual system, which precisely controls the club, club head and the ball, as well as the running spatial location, direction, route, magnitude, flexibility, and strength in the swinging/putting process. Therefore, a good feel gradually forms a high keen sense by means of proprioceptors. The more skilled, the stronger the ability to control and dominate the club and ball. A golfer with a stable psychology normally can judge the distance between the greens and bunkers, accurately controlling the ball, speed, strength, etc. However when attention wanes, the ability to feel in control would decline, and negative emotions can significantly decrease perception ability directly leading to a bad feel. The ability to adapt to different climates and terrain conditions is the foundation of a stable feel. Having a special awareness has an impact on the outcome of a situation by adjusting perception, thinking, judgment and decision-making intention in the game. Accurate actions play an important sign which reflects a good feel or bad one.

Conclusion: The golf feel affects contact ability regarding precise control of the club and ball. The golf feel is relevant in understanding the instrument, the law of mastering motion, environmental adaptation, and judging ability. The feel would be improved with enhanced technical proficiency, but various factors can weaken the athletes' knowledge and skills improvement.

Keywords: golf, golf feeling, main factors

Self-regulating of Fatigue Mood State of Olympics Boxers

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Abstract: The aim of this work was to present a fatigue self-regulating program to 06 boxers of Brazil Olympic Team already classified to 2008 Beijing Olympic Games during the periodization of physical training. Previous studies that investigated the mood state of athletes and performance involving the measurement instrument, The Profile of Mood States (POMS), indicated that there is a positive correlation between them and it also can be used as psychological monitoring of sports training, preventing overtraining. It was used in this work, The Profile of Mood States (POMS), adapted to Brazil for the sport adult high performance. In this adaptation fatigue was defined as a state of mood that represents a low energy level, apathy and exhaustion. Studies available, defined the self-regulation of mood states as thoughts and behaviors that are aimed at removing, maintaining or changing emotional states. Researches available, about strategies for the mood states regulating, indicated listening to music as being an effective intervention to regulate the fatigue as well as relaxation techniques. The boxers that took part in that program had an average of 24 years of age, and after the physical training periodization, the program was developed into two weeks with strategies of fatigue self-regulating mood state. It was used in this work the Muscular Progressive Relaxation Training. The relaxation music was used in this work according to the identification of each boxer with their favorite music artists and with a maximum of 90 beats per minute. The average scores of pre-test was 42.6 percentile and post-test was 36.8 percentile measured after 15 days of intervention. These results represented for each boxer a significant reduction in fatigue mood state. In conclusion, monitoring of sport psychology with their strategies and taken part of the athlete's system of training was efficient and appropriate. Intervention strategies such as pre and post measurement, the application of music, relaxation and rest, regulated the fatigue mood state of Olympics boxers.

Keywords: Mood state, Boxing, Fatigue, Relaxation

Morality in sport
Early Years Moral Development: The

Ambivalent Roles of Sport among Children in Botswana and Nigeria

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Abstract: In Africa, traditional games are one of the tools being used to offer unquestionable avalanche of moral values entrenched in cultural exhibitions to children. This is because moral uprightness is a virtue of high esteem in African society. And going further to the focus of sports in schools apart from physical development is to foster social as well as moral development in, with and among children as it has been pointed out that sport participation wittingly or unwittingly has a link with sound moral development. What become unclear to us nowadays are the moral virtues attributed to sport participation by children. `Does sport participation foster moral development among African children? How do African children react to emotional issues relating to sport participation? How should we resolve the ethical conflicts created by sport and moral fabric of the society? (n=1000) children and youth (Age +/-10 years) from two nations: Botswana and Nigeria who have participated in schools sport, responded to the Instrument on 'Early Years Morality via Sport (EYMVS)'. The descriptive survey employed simple percentage, mean and standard deviation to provide answers to the questions raised. The results however confirmed sport as social vehicle for moral development with its attendant negative and contradictory roles to African morality. This has implications for child rearing practices and moral development of children through sport participation.

Keywords: early years, moral development, sport emotional reaction, sport participation, African children

Effects of Peer Tutoring on Self-Regulatory Skills of Tutors and Tutees in Elite Sport

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Abstract: Several studies have shown that self-regulatory skills (e.g., resistive and affective self-regulatory efficacy, social efficacy) may be protective factors against transgressions (e.g., d'Arripe-Longueville et al., 2010; Bandura et al., 2001, 2003). These skills are particularly important in competitive contexts, which give rise to experiences of stress, negative effect, and transgressive behavior (cheating, doping) (Shields & Bredemeier, 2001). This study examined the effects of a peer tutoring intervention undertaken by athletes preparing for the London Olympic Games and their younger and less experienced peers. We focused on the self-regulatory skills of both tutors and tutees.

Six elite athletes were selected as tutors and 99 students were selected as tutees. Participation was voluntary; participants' average age was 15.2 years (range=13-17). The procedure comprised four phases: (a) contact and receipt of official approval, (b) training of tutors (Legrain et al., 2003), (c) peer tutoring intervention including testimony and role playing, and (d) completion of four questionnaires: the affective self-regulatory scale (Bandura et al., 1996), the resistive self-regulatory efficacy scale (SSRS, Gresham & Elliot, 1990), the moral disengagement in sport scale (Corrion et al., 2010), and the social efficacy scale (Bandura et al., 1996). All scales were adapted to the sport context.

The results showed that the peer tutoring intervention had significant

effects: (a) for the tutors themselves, who showed a decrease in moral disengagement and an increase in affective self-regulatory efficacy and resistive self-regulatory efficacy, and (b) for the tutees, which showed a decrease in moral disengagement and an increase in resistive self-regulatory efficacy.

These findings demonstrate that the act of tutoring can significantly improve certain self-regulatory skills (i.e., resistive and affective self-regulatory efficacy) and reduce moral disengagement. These results are in line with the existing literature on peer-assisted learning (Legrain et al., 2003; Ginsburg-Block et al., 2006), and they extend this literature to new self-regulatory and moral variables. The finding that tutoring also has an effect on the tutees lends support to the strategy of using peers in health and citizenship education programs (Hoey et al., 2008). More research is needed, including longitudinal studies to confirm these preliminary results.

Keywords: self-regulatory, transgression, competitive context, tutoring

Prediction of Empathy in Spanish Physical Education Students

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Abstract: The aim of the study was to know which variable of achievement goals 2x2 (social goals and physical self-concept) predict empathy more strongly. For this purpose, 269 students (131 boys and 138 girls; M age = 15.66, SD = 2.26) from seven high schools in the Castilla-La Mancha region (Spain) completed a questionnaire to assess achievement goals 2x2, social goals, physical self-concept and empathy. Descriptive statistics, reliability analysis, correlation analysis, and a stepwise linear regression analysis were performed. The results show that the variable that more strongly predicts empathy was the relation, followed by physical condition, performance-avoidance, physical strength, and responsibility. The others variables (mastery-approach, mastery-avoidance, performance-approach, sport competence, appearance, general physical self-concept, and general self-concept) did not influence the empathy. The data suggests that social goals should be enhanced in physical education classes in order to improve the empathy of the students. Also, the relevant impact of some factors of physical self-concept in empathy was highlighted.

Keywords: physical education, empathy, social goals, achievement goals 2x2, physical self-concept

Morality in Sport: Correlation among Sportspersonship, Self-Confidence, Self-Esteem and Locus of Control

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Abstract: Moral behavior in sport, which includes respect for opponents, rules and officials, and social conventions, is referred to as sportspersonship (Vallerand, Deshaies, Cuerrier, Briere, & Pelletier, 1996). Sportspersonship has been extensively studied, particularly the factors that influence athletes to exhibit certain behaviors. In the attempt to interpret them, researchers investigate personality variables which may affect athletes' behavior on the sport field, such as goal orientation and motivation. The purpose of the present study was to explore the relationship among sportspersonship and individual characteristics, such as self-confidence, self-esteem, and locus of control. These characteristics that might affect the athletes'

sportsmanlike behaviors have not been studied before as variables. The participants in the study were 212 athletes aged 18-37 years old from different sports with an athletic experience ranging from 2 to 25 years, who participated in competitions from 10 to 850 times. To assess the sportspersonship, the Greek version of Multidimensional Sportspersonship Orientation Scale (MSOS; Vallerand, Briere, Blanchard, & Provencher, 1997) was used. Self-confidence was assessed with the Trait Sport-Confidence Inventory (Vealey, 1986), self-esteem with the Self-Esteem Scale (Rosenberg, 1965), and locus of control with a list of behaviors with internal and external locus of control of performance. Furthermore, participants completed the short form of the Social Desirability Scale (SDS; Crowne & Marlowe, 1960) in order to exclude athletes who present a socially desirable profile (scored more than nine in SDS; Durand-Bush, Salmela, & Green-Demers, 2001). The results demonstrated a statistically significant positive correlation among sportspersonship and self-confidence (r=.299, p= 0.01), self esteem (r=.212, p= 0.05), and internal locus of control (r=.299, p= 0.01). Correlation among sportspersonship and external locus of control was a statistically significant negative (r= -.188, p= 0.05). Results demonstrated the tendency of athletes with high self-confidence and high self-esteem to show higher levels of sportspersonship, thus highlighting their effort to approach success based on their personal characteristics rather than unsportsmanlike behaviors. Results also showed that when the athlete has positive feelings about himself/herself, he/she would be more likely to behave in accordance to sportspersonship, with respect for the sport environment. The relationship among sportspersonship and external locus of control indicates the inclination of these individuals to demonstrate negative behaviors when affected by external factors such as opponents, coaches, and spectators. The findings for the relationship among sportspersonship and individual characteristics would be helpful for future programs which focus on behavior in sport.

Keywords: morality, sportspersonship, individual characteristics

The Development of the Moral Disengagement Scale in Chinese Athletes

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Abstract: Moral disengagement is one of the most important psychological mechanisms of explaining unethical behavior in sports. In order to develop a suitable Chinese athletes' moral disengagement measure tool, this study involved 75 and 254 Chinese athletes for item analysis and exploratory factor analysis respectively, with the aim of forming the initial structure of the scale. Secondly, a confirmatory factor analysis was conducted on a selection of 283 athletes in China. Finally, we formed five factors for the Moral Disengagement in Sport Scale. The results showed that: 1) The Moral Disengagement in Sport Scale contains 5 dimensions, namely moral justification, advantageous comparison, dehumanization, euphemistic labeling and displacement of responsibility; 2) The Moral Disengagement in Sport Scale consists of 20 items, and has good measurement properties. In conclusion, the new scale can be used to measure reliable moral disengagement in the sport context.

Keywords: Chinese athletes, moral disengagement in sport

Relation between Moral Disengagement and Pro- and Anti-Social Behavior in Sport

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Abstract: In order to validate the relation between moral disengagement and pro- and anti-social behavior in sport, 306 Chinese athletes were investigated by means of the Prosocial and Antisocial Behavior in Sport scale and Moral Disengagement in Sport scale. Multivariate analysis showed that gender and sport types, gender and athletes' grade and sport types for moral disengagement, interaction effects are significant. Hierarchical regression analysis showed that:1) Displacement of Responsibility and Euphemistic Labeling can reliably forecast negatively the pro-social behavior (teammates) in sport, and the prediction degree of the displacement of responsibility is better than euphemistic labeling; 2) Displacement of Responsibility and Advantageous Comparison could predict negatively the pro-social behavior (opponents) in sport, and the prediction degree of the displacement of responsibility is better than advantageous comparison; 3) Euphemistic Labeling, Moral Justification and Dehumanization could forecast positively anti-social (teammates and opponents) in sport. In terms of the anti-social behavior (teammates), Euphemistic Labeling is the best indicator with respect to the anti-social behavior (opponents); moral justification is the best index.

Keywords: moral disengagement in sport, Pro- and Anti-social Behavior in Sport

Relation between Moral Disengagement and Pro- Anti-social Behaviour in Sports

Dong Wang, Zuo Song Chen
Fujian Normal University

Abstract: In order to validate the relation between moral disengagement and pro- and anti-social behavior in sport, 306 Chinese athletes were investigated by means of the Prosocial and Antisocial Behavior in Sport scale and Moral Disengagement in Sport scale. Multivariate analysis showed that gender and sport types, gender and athletes' grade and sport types for moral disengagement, interaction effects are significant (Wilks'λ=0.938, F=1.902). Hierarchical regression analysis showed that on the basis that demographic variables were controlled, Displacement of Responsibility and Euphemistic Labeling could account for the pro-social behavior (teammates) in sports (R2=16.6, F=13.113); Displacement of Responsibility and Advantageous Comparison could explain the pro-social behavior (opponents) in sports (R2=17.4, F=13.845); Euphemistic Labeling, Moral Justification and Dehumanization could account for the anti-social (teammates and opponents) in sports respectively (R2=26.5, F=19.306; R2=44.7, F=42.069).

In conclusion : 1) There are gender differences in terms of Moral Justification (F=6.313) and Advantageous Comparison (F = 5.071); 2) Moral Disengagement can account reliably for the pro- anti-social behavior (teammates and opponents) in sports; Displacement of Responsibility (Beta = -0.307,t = -5.806; Beta = -0.276, t = -5.267), which is the best variable, could forecast negatively pro-social behavior (teammates and opponents) in sports; Euphemistic Labeling (Beta = 0.228, t = 4.164), which the best variable, could forecast positively anti-social behavior (teammates and opponents) in sports; Moral Justification (Beta =0.245, t=5.326), which is the best variable, predicts positively anti-social behavior (teammates and opponents) in sports.

Keywords: moral disengagement in sports, pro- anti-social behaviour in sports

Social Attitudes in Sport of High School Students

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Abstract: In recent years, new trend was found in attempt to define a concept of personality, a trend which led to the study of Lee et al. (2008) in putting together a concept of social attitude to ones personality, a concept discussed as in psychology.

In this study, there thought be a socialistically preferable and non-preferable attitude existing in sport. Intentionality of sense of value and motivation of accomplishment was assumed as a fundamental. This research stand on the basis of the study by Lee et al. (2008), and examined how sport activity influences intentionality of social attitude, sense of value and motivation of accomplishment, over high school students, a time thought to be of an importance in character building.

Based on the Japanese translation as its measures, factor analysis was conducted over the intentionality of social attitude, sense of value and motivation of accomplishment, of high school students. This analysis has led to a finding of social attitude to be structured by 3 factors, where as in research of Lee et al. mentions 4 factors. Other factors have shown to be nearly common. Relationship between factors has shown a high correlation in both, subject intentionality and preferable social attitude, and egoistic intentionality and non-preferable social attitude.

Keywords: ethical attitudes

Motivation in sport
Correlation of Eidetic Memory and Enthusiasm for Sports Excellence of Males and Females

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Abstract: Eidetic Memory is one kind of memory responsible for human image and visual information storage. It features the ability of a person to organize and perceive vast amounts of visual information. Little is known about it and this study has investigated how eidetic memory and enthusiasm on sports excellence correlate. Using a survey as a tool through a quantitative design, data were collected from college national athletes, students with sports-related occupation and without sports related occupation. Images that feature numerous details were used as test stimuli for respondents before answering a questionnaire regarding the images and their enthusiasm for excellence. Results showed a low r of 0.033 where relationship between eidetic memory and enthusiasm on sports excellence is not significant in 0.05 level of significance. However, the study revealed that relationship among males is close to its critical value 0.38, with r equal to 0.32. On contrary, females had a negative correlation of -0.12 with an r critical of -0.36. It also revealed that students/respondents without sports-related occupation have significantly lower enthusiasm in 0.05 significance level compared to the other two groups. Though not significant, it is perceivable that National Athletes have a generally higher eidetic memory scores compared to other groups.

Keywords: Eidetic Memory, Enthusiasm, Visual Information

Construct Interactions among Teachers' Feedback, Ability Belief and Self-Handicapping in Physical Education

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Abstract: It was hypothesized that individuals using several self-handicaps would use more internal attributions and report greater gains in perceived ability belief following success than individuals using few self-handicaps. Self-handicapping is a maladaptive behavior which undermines students' achievements, but the antecedents of self-handicapping are not well studied in physical education. The aim was to examine the relations of implicit theory of teacher's feedback, ability beliefs, and self-handicapping in physical education. Two hundred and ninety-eight high-school students answered the questionnaire for feedback, ability belief, and self-handicapping using convenient sampling method. Data which is obtained through self-administration was analyzed using by CFA, and SEM with AMOS 18. The three main findings are as follows: (1) knowledge of performance/positive nonverbal feedback of teachers positively influenced incremental belief while negative nonverbal feedback negatively influenced incremental belief, and negative nonverbal feedback influenced entity belief; (2) teacher's negative nonverbal feedback influenced students self-handicapping; and (3) student entity belief influenced on self-handicapping. The findings, therefore, provide support for the potential short-term benefits of self-handicapping through the teacher's positive feedback in physical education, although further research is required to examine the long-term implications of self-handicapping.

Keywords: feedback, ability belief, self-handicap, P,E

Behavioral Regulation in Exercise Questionnaire-2: Evidence from Mainland China University Students

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Abstract: The present study was designed to further examine the psychometric properties of the Chinese-translated Behavioral Regulation in Exercise Questionnaire-2 (CBREQ-2, Chung & Liu, 2012) among Mainland China (MC) and Hong Kong (HK) Chinese university students. A sample of MC university students (N=191) and a sample of HK university students (N=194) were invited to take part in this study. Confirmatory factor analysis was employed to examine the factorial validity among the MC sample, and the results supported the 18-itlem 5-factor structure of the CBREQ-2. Examination of the 95% confidence interval of the inter-factor correlations suggested that the CBREQ-2 assesses related but distinct constructs, which provided support for the discriminant validity. Composite reliability values of subscales were all over 0.70, which suggested that internal consistency reliability of CBREQ-2 was acceptable. Examination of the pattern of inter-factor correlations between different regulations suggested that the simplex-like pattern was displayed, which provided evidence for the nomological validity of CBREQ-2. Examination of the correlations of different regulations with affective and behavioral outcomes provided further support for the nomological validity. Multi-group confirmatory factor analysis was conducted to examine the invariance of CBREQ-2 across MC and HK sample, and the results suggested that the factor loadings of the CBREQ-2 measurement model to be invariant across MC and HK participants. Overall, the study provided further psychometric evidence for the CBREQ-2 among Chinese university students.

Keywords: self-determination theory, exercise motivation, behavioral regulation, Chinese

Motivation as Predictor of Task and Ego Orientation: A Self-Determination Perspective

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Abstract: The purpose of this study was to examine the relationship between motivation and task and ego orientation in sport competition. This study employed a self-determination approach in order to assess the association between intrinsic, extrinsic, and amotivation with athletes' propensity toward task or ego orientation. Previous research identified intrinsic motivation linked to task orientation (Harwood, Spray, & Keegan, 2008), but less research examined extrinsic and amotivation as potential antecedents. The sample consisted of 94 athletes (nfemales = 41; nmales = 53) between 18 and 22 years of age (M = 19.54; SD = 1.17). On average, participants have been involved in their sport for 12.18 years (SD = 3.67) and in competition for 9.23 years (SD = 4.12). Participants completed the Sport Motivation Scale (SMS-28; Pelletier et al., 1995) measuring seven subscales that reflect intrinsic motivation (IM to know, accomplishment, experience), extrinsic motivation (EM identified regulation, introjected regulation, external regulation), and amotivation; and the Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda & Nicholls, 1992) with regard to their experiences in competition. Canonical correlation analysis revealed two dimensions underlying the relationship between motivation and task-ego (TO-EO) orientation. The first canonical root explained 45% and the second root 35% of the variance. Positive predictor loadings were found for the first variate (TO .77; EO .64), whereas a substantial negative loading was found for the second variate (EO -.76). Intrinsic motivation loading were particularly strong in the first canonical variate (experience .82; accomplishment .79), whereas extrinsic and amotivation were dominant in the second variate (amotivation -.72; external regulation -.46). Two separate linear regression analysis showed significant findings with motivation subscales as predictor variables and task orientation (accomplishment: b = .344, p< .05) and ego orientation (external regulation b = .344, p< .05; amotivation: b = .344, p< .05) as criterion variables. Motivation explained a total of 41% of the variance in task orientation and accounted for 39% of the variance in ego orientation. Results confirmed one intrinsic-motivation dimension underlying task orientation, and one extrinsic-amotivation dimension underlying ego orientation in sport competition. The findings support previous theoretical implications (Duda, 2001). Based on the intrinsic and extrinsic dimensions underlie athletes' task and ego orientations, practitioners and sport psychologist could develop interventions to facilitate positive experience and enjoyment in sport competition in order to improve athlete performance.

Keywords: intrinsic motivation, extrinsic motivation, amotivation

Leadership Styles as Predictor of Athletes' Motivation in Different Age Groups

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Abstract: The purpose of this study was to examine whether there are significant differences in the relationship of motivation and leadership in 16-18 year old swimmers and Masters Swimmers (19 years and older). Leadership is a process involving an individual, for instance a coach, influencing other individuals to achieve a common goal (Northouse, 2001). The leadership style portrayed by the coach has a direct effect on the form of motivation indicated by the athlete (Horn, 2008). The three main forms of leadership in sport are autocratic, where the coach has full control of the session and decision making; democratic, where coaches and athletes share control of the decision making, and delegative, where athletes have more control over the decision making (Northouse, 2001). The younger age group consisted of 47 athletes (males = 19; females = 28) who had been with their coaches on average for 17.91 months, and they spend 3.71 hours training with their coaches per week.

Master swimmers (n = 46; males = 22; females = 24) have been working with their coaches for a mean of 44.04 months and training with them for about 3.07 hours per week. Athletes completed the Sport Motivation Scale (SMS; Pelletier, Fortier, Vallerand, Briere, Tuson, & Blais, 1995), reflecting on their extrinsic, intrinsic motivation and amotivation in sport, and the Leadership Styles in Sport (LSS; Chelladurai & Saleh, 1980), reporting on their perception of leadership styles used by their coaches. Multiple regression results showed only some significant results, indicating a positive relationship between instruction and intrinsic motivation, $b = .367$; $p < .05$, for the younger age group. Additionally, instruction was a significant predictor of extrinsic motivation for the younger, $b = .302$; $p < .05$, and the older age groups, $b = .669$; $p < .01$. Final regression analysis indicated that instruction was a significant predictor of amotivation in the master swimmer group, $b = .455$; $p < .05$. The way coaches use instructions can be perceived differently by athletes of various ages groups, indicating that the type of instructions are positively related to athletes intrinsic, extrinsic, and amotivation. It appears that younger athletes might be more susceptible to coaches' instructions affecting their intrinsic motivation. This finding is potentially important for sport psychologists and practitioners who would like to improve athletes' long-term involvement in their sport.

Keywords: intrinsic motivation, extrinsic motivation, leadership, coaching

From Interest to Motivation to Passion

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Abstract: Passion is a positive aspect of motivation wherein people find an activity to be important, highly valued and for which a significant amount of time and energy is invested. There are two types of passion, namely harmonious and obsessive passion. Harmonious passion represents a motivational force that enables an individual to participate in an activity willingly with no contingencies attached, whereas obsessive passion is a motivation force that urges the person towards the activity with certain contingencies attached. The aim of this study was to explore the subjective experiences of social support and environmental determinants for development of passion for preferred physical activity. Two people with types 2 diabetes mellitus acted as participants 1 male and 1 female, aged 57 and 53 years respectively, who are perceived to have passion for their respective physical activity for managing diabetes, volunteered for the study involving semi-structured interviews. Although individual differences existing among the participants, both the male and female participant reported that their respective social support had a significant role in their initial introduction and continued persistence (motivation) in physical activity, leading to internalization of the activity (passion development) into their identity. Both individuals also ascertained that the environment in which they did their exercise had considerable effects for their adherence to exercise. In line with the Dualistic Model of Passion (Vallerand et al., 2003), social support could facilitate the development of interest in the activity, such that it could become highly valued and meaningful, facilitating autonomous internalization, leading to harmonious passion. Favorable environmental conditions perceived and possessed at a cognitive level, could also be a key element for perseverance for exercise as it enables a personal preference, valuation, and internalization of the activity for a healthy lifestyle in people with type 2 diabetes mellitus.

Keywords: passion, motivation, subjective experience

A Test of Self-determination Theory and Intention of Maintaining Sports

Participation in School Team Sports

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Abstract: Self-determination theory (SDT) defines intrinsic and extrinsic sources of motivation and their respective roles in cognitive and social development. SDT has been the base for various researches in the context of sport psychology. One of the basic assumptions underlying all elements of the SDT framework is the concept of basic psychological needs (competence, autonomy, and relatedness). Recent studies have demonstrated the existence of important associations between perceived basic psychological needs satisfaction (PBPNS) and support for basic psychological needs (SBPN). The SBPN is the main predictor of the PBPNS, and this last is the main predictor of the more autonomous regulatory styles of motivation (intrinsic and identified regulation). The relationship between the elements of the SDT framework and the ability of athletes to maintain sports participation has remained unexplored in the Brazilian context. The aim of this study is to verify if the intention of maintaining sports participation in school can be explained by a set of elements from the SDT framework (intrinsic motivation, identified regulation, external regulation, amotivation, support for basic psychological needs, and perceived psychological basic needs satisfaction). For the present study, a sample of 517 students (303 boys and 214 girls), ages ranging from 13 to 19 years old, from private and public schools, participating in sports in schools, answered four inventories: the PBPNS inventory for athletes, the SBPN inventory for athletes, the Self-determination Inventory for athletes (SDI), and the Intention of Maintaining Sport Participation Scale for athletes (IMSPS). All instruments were previously validated for the Brazilian population. Structural equation modeling revealed that students, who demonstrated high levels of support for basic psychological needs, experienced greater levels of perceived basic psychological needs satisfaction in sport. This last, predicted intrinsic motivation, which in turn, was positively correlated to intention of maintaining sports participation. In contrast, perceived basic psychological needs satisfaction negatively correlated to amotivation, which, in turn, was negatively predictive of intention of maintaining sports participation. The model revealed to be largely invariant for male and female through multi-sample SEM testing. In conclusion, the study provides support for self-determination theory and corroborates the application of the framework and its relation to the maintaining of sport participation, to the context of school team sports in Brazil.

Keywords: sport psychology, psychometric study, self-determination theory, motivation, school sports

Examining the Psychometric Properties of the Turkish Version of Parent-Initiated Motivational Climate Questionnaire-2

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Abstract: The aim of this study was to examine the validity and reliability of Turkish version of the Parent-Initiated Motivational Climate Questionnaire-2 (PIMCQ-2) which has been developed by White and Duda (1993) on adolescent athletes. Questionnaire was administered to 118 female (Mage=15.19 , 1.65) and 184 male (Mage=14.96,1.86) adolescent athletes from different sports. PIMCQ-2 has 18 items that are repeated twice to record sport and

exercise participants' perceptions of the motivational climate created by their mother and father. It consists of three subscales measuring a learning and enjoyment climate (nine items), a worry-conducive climate (five items), and a success-without effort climate (four items). All participants completed the questionnaire for both their mother and father. Principle Component Factor Analysis with Varimax rotation for testing validity of PIMCQ-2 supported 3 factor structures for 302 adolescent athletes. The results of factor analysis revealed that 18 items of PIMCQ-2 explained 61 % of variance for mother imitated motivational climate and 59 % for father initiated climate. The factor loadings of items were ranged from .52 to .90 for mother form and ranged from .49 to .89 for father form. The reliability of the questionnaire was determined by Cronbach alpha coefficient. Internal consistency coefficients of subscales of mother initiated motivational climate ranged from 0.68 (Worry Conducive Climate) to 0.95 (Learning and Enjoyment Climate). These values were ranged between .62 (Success Without Effort) to .94 (Learning and Enjoyment Climate), for father initiated climate. The results showed that Parent-Initiated Motivational Climate Questionnaire-2 can be used to determine Turkish adolescent athletes' perceptions about their parents' created motivational climates.

Keywords: parent-initiated motivational climate, adolescence, validity, reliability

Understanding Participation Motivation in Physical Activity

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Abstract: The benefits of participation in physical activity have been well documented in the literature (Bauman & Miller, 2004; Molina-Garcia, Castillo & Queral, 2011). One of the most prominent factors that stimulate and maintain individuals' participation in physical activity is their motivation. Research on participation motivation suggests that there are systematic differences between participation motives and some demographic variables. The present study (RoyChowdhury & Morris, 2012) was carried out on a community sample of 202 volunteer participants, 120 males and 82 females, aged 18 to 71 years, who represented different forms of physical activity, namely Australian Football League (AFL), gym-based exercise, tae kwon do, tennis, and yoga, using the Physical Activity and Leisure Motivation Scale (PALMS). The descriptive statistics for the different subscales of the PALMS for males and females was calculated. One-way between groups ANOVA was carried out on the subscales of the PALMS for the level of participation and 5 different types of physical activity. Results indicate that females rated appearance ($M = 16.16$, $SD = 6.40$) as the primary motive for engaging in physical activity, while males rated affiliation ($M = 17.08$, $SD = 6.41$) higher than the other motives. Results also indicate that participants who classified their participation as social scored the lowest on the subscale of mastery ($M = 15.00$, $SD = 0.89$) and highest on the subscale of affiliation ($M = 17.60$, $SD = 6.21$), while Club level participants scored the highest on the subscale of competition/ego ($M = 20.58$, $SD = 3.67$) compared to recreational and social level participants. Further, it was found that AFL participants rated affiliation ($M = 24.57$) as their primary motive, higher than rest of the sample. Similarly, gym participants rated appearance ($M = 24.50$); tae kwon do and yoga participants rated mastery ($M_t = 25.00$; $M_y = 24.94$); and tennis participants rated competition/ego ($M = 24.97$) higher than rest of the sample. Understanding these differences in participation motivation can be critical for health promotion. By determining individuals' motivation for an activity, health professionals can use this knowledge to create awareness that will not only prove beneficial on an individual level, but also help the community by reducing lifestyle-related illnesses. More specifically, equipped with this knowledge, health professionals can develop effective interventions to motivate people to engage in physical activity, thereby increasing physical activity adherence and

satisfaction. Scope for future research and implications for practice have also been discussed.

Keywords: participation motivation, physical activity

Motivation and Athlete Satisfaction of Brazilian Baseball Players

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Abstract: Motivation has been a psychological variable widely studied in the last years in different sports, based on the Self-determination theory which seeks to support relations between other psychological variables, showing that the individual satisfaction in the sport context is fundamental to remain in the sport. The objective of this study was to analyze the relation between motivation and athlete satisfaction of Brazilian baseball players. There were 227 players (23, 82±0, 41) males of 17 Brazilian teams of adult category of baseball season 2011-2012. The instruments used were: Sport Motivation Scale and Athlete Satisfaction Questionnaire. Data collection was realized through the schedule with the Confederation of Brazilian Baseball and Softball (CBBS) and the coordinators of teams for authorizing the study. For data analysis, it was used descriptive statistics (mean and standard deviation), Mauchly's test of Sphericity, Repeated measure ANOVA with Confidence interval adjustment of Bonferroni and Pearson Correlation ($p < 0,05$). The results showed: Brazilian baseball players had high level of intrinsic motivation for sport ($p < 0,05$), with higher average in regulation for experience stimulation ($5,92 \pm 0,91$), athlete satisfaction levels were high, indicating greater satisfaction in aspect of personal dedication ($5,58 \pm 1,01$), personal treatment ($5,67 \pm 1,14$) and team task contribution ($5,66 \pm 1,10$), there were positive correlations between athlete satisfaction related to individual performance and regulation of intrinsic motivation to accomplish ($r = 0,33$) and to know ($r = 0,34$). Conclusion: Brazilian baseball players practice the sport for fun and pleasure, showing that athlete satisfaction in sport can provide self-determined motivation. Thus, it has known the importance of studying the motivation and athlete satisfaction of sport players, understanding that self-determined motivation is fundamental to motor performance.

Keywords: motivation, satisfaction, baseball

Validation of the Telic Dominance Scale (TDS) for the Brazilian Sporting Context

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Abstract: Reversal theory has been used in sporting context since its beginning, mainly related to metamotivational dominance, which has shown to be important in this context, each metamotivational pair (telic-paratelic, negativism-conformism, mastery-sympathy, autic-alloic) seems to play a crucial role in different modalities and behaviors. This study aimed to translate the Telic Dominance Scale (TDS) for Portuguese language and verify its validity through confirmatory factor analysis, internal consistency and test-retest reliability for the Brazilian sports context. The study included 7 professionals (4 translators and 3 PhD in Sport Psychology) and the subjects were 391 male and female athletes of the collective and individuals sports basketball (90), handball (87), athletics (36), volleyball (31), indoor soccer (29), swimming (26), taekwondo (21), soccer (19), cycling (17),

tennis (13), rhythmic gymnastics (09), rugby (08) and beach volleyball (05) of the states of Paraná and São Paulo-Brazil. The validation instrument was Telic Dominance Scale contain 42 items structured in 3 dimensions. The Portuguese language version was obtained through the method of back-translation. For data analysis it was used the Coefficient of Content Validity (CCV), Confirmatory Factor Analysis, Cronbach's alpha and Intraclass Correlation Coefficient. The results showed that the Portuguese version contains some irrelevant items (1, 5, 8, 9, 13, 15, 18, 21, 22, 27, 36 and 40) presenting CCV < 0.80 in practical pertinence; possesses satisfactory internal consistency for two dimensions ($\alpha = 0.75$ and $\alpha = 0.74$), but unsatisfactory in one dimension ($\alpha = 0.44$); acceptable test-retest reliability ($r = 0.90$ to $r = 0.98$) in all dimensions. After the exclusions of low CCV restructuring the instrument, confirmatory factor analysis showed that items 2, 4, 6, 7, 8, 12, 14, 18, 20, 21, 22, 24 and 25 haven't showed acceptable individual reliability in relation to its latent factors (factor loading < 0.30), and thus excluded. The model with 17 items showed satisfactory adjustment indices of confirmatory factorial validity ($X^2 = 216.26$, $df = 117$, $P = 0.001$, $X^2/df = 1.84$, $GFI = 0.94$, $RMR = 0.09$, $RMSEA = 0.04$, $TLI = 0.82$, $NFI = 0.81$, $AGFI = 0.92$, $CFI = 0.90$, $ECVI = 0.72$), expressing its construct validity. It was concluded that the Brazilian version for sporting context of the TDS showed acceptable psychometric properties and proved valid to assess telic dominance in Brazilian athletes.

Keywords: telic dominance, validation, sport

Personal Determinants of Goal Orientation with Sambo Athletes

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Abstract: The achievement goal theory offers a theoretical frame for research of the way people interpret their success and abilities in environment connected to achievements (Nicholls, 1984; 1989; Duda, 1989). With high task orientation, success is defined as the result of mastering skills, self-improvement, and serious work. Dispositional ego orientation is connected to comparing one's own abilities with the abilities of the others. Temperament is a genetically based aspect of personality. Most experimental and theoretical statements concerning the biological substrates of personality are related to the theory of H. Eysenck of introversion-extraversion, neuroticism-stability, and socialization-psychoticism (H. Eysenck 1990). Self-efficacy is connected to one's confidence in one's own ability to act in a way so that one's manifestations lead to the desired result. The aim of the present study is to reveal the particulars of the typological features, self-efficacy and goal orientation of athletes depending on their gender and sports results. The subjects are 61 sambo athletes, aged 15 to 20; 19 women, 42 men; 35 medalists, and 26 ranking after the third place. We used: The Eysenck Personality Questionnaire (EPQ); Task and Ego Orientation in Sport Questionnaire (TEOSQ) (Duda, Nicholls, 1992; Methods to research self-efficacy in sport (Iancheva, Misheva-Aleksova, 2006), which include two subscales – self-efficacy and self-hindering. The results showed that medalists were characterized by statistically significant higher level of extraversion and psychoticism compared to athletes ranked after third place. The task goal orientation dominates with athletes in the research. With the athletes-medalists we observe higher levels of both types of goal orientation. There are higher results in terms of self-efficacy compared to self-hindering. Self-hindering is a significant negative factor when forming the task goal orientation, while neuroticism is a significant factor when forming the ego goal orientation. Studying and analyzing the interrelations of typological features, self-efficacy and goal orientation are the basis for the solution of a number of practical problems in the field of combat sports.

Keywords: goal orientation, extraversion, neuroticism, self-efficacy, sambo athletes

The Peer Motivational Climate in Youth Sport Questionnaire: Assessment of Psychometric Properties of Turkish Version

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Abstract: The purpose of this study was to examine the psychometric properties of the Turkish version of the Peer Motivational Climate in Youth Sport Questionnaire (PeerMCYSQ) originally developed in English by Ntoumanis and Vazou (2005). Ninety nine female (Mage = 14.00, SD = 1.61 years; Msport experience = 2.98, SD = 1.66 years) and 164 male athletes (Mage = 14.57, SD = 1.94 years; Msport experience = 3.82, SD = 1.99 years) from team sports, totally 263 athletes participated in this study. Additionally, another fifty athletes (Mage = 14.30, SD = 1.68 years; Msport experience = 4.02, SD = 1.85 years) participated in the test re-test measures of the study. PeerMCYSQ is designed to measure of youngsters' perceptions of the peer motivational climate. The instrument consists of 5 subscales with 21 items. These subscales are Improvement, Relatedness Support, Effort, Intra-Team Competition/Ability, and Intra-Team Conflict. Respondents of the PeerMCYSQ indicate the extent to which they agree with each statement on a seven-point Likert scale, ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). The Turkish version of PeerMCYSQ was administered to participants in a group setting. Confirmatory factor analysis (CFA) was conducted to examine the PeerMCYSQ models and confirm its validity. Findings on the construct validity of the scale (SB-2= 259.35; SD = 142, RMSEA = 0.056, GFI = 0.88, NNFI = 0.97, CFI = 0.97 for the model with 19 items) were consistent with the original scale's five-factor structure. The Cronbach's alpha coefficients were 0.76 for Improvement, 0.71 for Relatedness Support, 0.74 for Effort, 0.66 for Intra-Team Competition/Ability and 0.78 for Intra-Team Conflict. Test re-test (2-week interval) reliability coefficients ranged from 0.81 (Intra-Team Conflict) to 0.96 (Relatedness Support). Results showed that the Peer Motivational Climate in Youth Sport Questionnaire provides a reliable and valid measure of peer motivational climate for Turkish youth athletes.

Keywords: the peer motivational climate, youth sport, psychometric properties

Predicting Athletic Success Motivation by Hardiness, Positive Perfectionism, Trait Hope in Male Athletes

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Abstract: The purpose of present research was predicted of athletic success motivation by hardiness, perfectionism, trait hope. The research sample consisted of 200 male athletes who were selected through randomly simple sampling method. The subjects completed the hardiness, perfectionism, trait hope Questionnaires, and the motivation of sport success questionnaire. Data were analyzed using Pearson correlation coefficient and the multiple regression statistical method. As results of regression analysis by stepwise method the best predictors for athletic success motivation respectively, are hardiness, perfectionism, trait hope that is considered as the best predictor for athletic success motivation.

Keywords: predicting athletic success motivation, hardiness, positive perfectionism, trait hope, male athletes

Construct Interactions among Teachers' Feedback, Ability Belief, and Self-handicapping in Physical Education

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Abstract: It was hypothesized that individuals using several self-handicaps would use more internal attributions and report greater gains in perceived ability belief following success than individuals using few self-handicaps. Self-handicapping is a maladaptive behavior which undermines students' achievements, but the antecedents of self-handicapping are not well studied in physical education. The aim was to examine the relations of implicit theory of teacher's feedback, ability beliefs, and self-handicapping in physical education. Two hundred and ninety-eight high-school students answered the questionnaire for feedback, ability belief, and self-handicapping using convenient sampling method. Data which is obtained through self-administration was analyzed using by CFA, and SEM with AMOS 18. The three main findings are as follows: (1) knowledge of performance/positive nonverbal feedback of teachers positively influenced incremental belief while negative nonverbal feedback negatively influenced incremental belief, and negative nonverbal feedback influenced entity belief; (2) teacher's negative nonverbal feedback influenced students self-handicapping; and (3) student entity belief influenced on self-handicapping. The findings, therefore, provide support for the potential short-term benefits of self-handicapping through the teacher's positive feedback in physical education, although further research is required to examine the long-term implications of self-handicapping.

Keywords: feedback, ability belief, self-handicap, P.E

Effects of Interpersonal Relationships on Exercise Adherence of Taekwondo Groups: A Social Network Analysis

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Abstract: Exercise adherence is a very important topic in exercise psychology. This dissertation studies the influence of interpersonal relationships on exercise adherence of taekwondo (TKD) groups. A social network analysis examines this influence in adult exercise groups from two TKD gyms.

Social network analysis (SNA) is the methodical analysis of social networks. Social network analysis views social relationships in terms of network theory, consisting of nodes (representing individual actors within the network) and ties (which represent relationships between the individuals, such as friendship, kinship, organizational position, etc.).

The results are as follows:

1. Three different kinds of social networks were tested in the TKD groups: friendship network, information network and consultation network. There are significant and positive correlations between them.

2. Network density means the degree of interaction of group members. Significant correlation does not exist between friendship network density and TKD exercise adherence, but findings suggest the friendship network density may have influence on TKD exercise adherence.

3. Centrality is one of the most important concepts in social network analysis. The most common notion is that if a person is central in his or her group, he or she is the most popular individual in the group and gets the most attention. Results suggest individual centrality in a friendship network and a consultation network is positively associated with individual exercise performance.

4. Automorphically equivalent individuals have the same position in a network. From the study, results suggest that automorphically equivalent exercisers have similar performance in TKD exercise adherence.

Keywords: social network, exercise adherence, social network analysis, taekwondo

Implicit Theory and Stages of Physical Activity: The Moderator Role of Gender

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Abstract: The FIT (Four steps from inactivity to activity) model proposes that there are six stages of change in an individual's physical activity, including: not considering, considering, preparing, exploring, fluctuating and maintaining. The first three stages are inactivity stages, while the last 3 stages are activity stages. It was found that students who were in physical activity stages had better health status than those in physical inactivity stages (Duan Yan-ping, Yang Jian, Zhang Ru, Walter Brehm, 2012).

Implicit theory proposes the existence of two clusters of beliefs, entity and incremental (Dweck and Leggetts, 1988). The two beliefs relate to how people view the malleability of traits. For example, in the domain of health, entity-theorists believe that health is fixed and stable, whereas incremental-theorists believe that health is changeable.

In this study, we aim to provide more information about the validity of the FIT model by exploring the relationship between implicit theory and stages of physical activity. We proposed that individuals who were in physical activity stages were more incremental-oriented than those in physical inactivity stages.

A sample of 368 college students (97 males and 271 females) was recruited for the study. They were administered a measure of physical activity stage based on the FIT model, domain-specific implicit theories (intelligence, personality, body weight and health) and demographic information.

We subjected each domain-specific implicit belief to a 2×2 (gender × physical activity stage) analysis of variance (ANOVA). As predicted, the physical activity stage's main effect was significant on only health domain implicit beliefs, $F(1, 367) = 11.505$, $P = .001$. The main effect of gender was not significant, $F(1, 367) = 3.591$, $P = .059$. Interestingly, the interaction of gender and the physical activity stage were significant, $F(1, 367) = 7.143$, $P = .002$. Further simple effect analysis indicated that in males, incremental-oriented health beliefs were significantly stronger in physical activity stages ($M = 5.07$) than in physical inactivity stages ($M = 4.28$), $F(1, 365) = 9.50$, $P = .002$. The difference was not significant in females, $F(1, 365) = 0.22$, $P = .636$.

Among college male students, those who were in physical activity stages were more incremental-oriented than those in physical inactivity stages. The finding provides new information about the validity of the FIT model and highlights the importance of factors such as personality and gender in understanding people's willingness to engage in physical activity.

Keywords: FIT model, implicit theory, physical activity stage, physical inactivity stage

An Analysis on the Motivation of College Students’ Participation in Diabolo

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Abstract: The purpose of this study is to understand the status of undergraduates' participating motivation on diabolo and to find out the pattern for carrying forward the Chinese traditional activity better. The methods used included questionnaire surveys, expert interviews, and mathematical statistics. Two hundred students who used to take the diabolo elective course in college were investigated and their participating intention analyzed. Meanwhile, some diabolo teachers and experts were interviewed about the significance of learning diabolo. The results show that they have a highly keen awareness of the activity and know full well the health benefits associated with it. Their motivation of taking part in the activity is multilayered. The main reason however is that students are looking for a higher mental course, so that their physique can be improved and have a healthy body. According to the findings, it is proposed that diabolo be promoted among university students which can help improve their coordination skills and help reach basic education goals, as well as developing objectives including sports participation target, sports skill target, physical health target and so on. Finally, it is important to carry forward the Chinese traditional activity in university campuses; other universities should be offered the theory reference and guide to set up diabolo classes as well.

Keywords: diabolo, motivation, participating motivation

Predicting Subjective Vitality of Students in Physical Education: The Role of Achievement Goals and Basic Psychological Needs

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- 5. Tzu Chi college of Technology

Abstract: This study is aimed to confirm the prediction of 2 × 2 achievement goals in physical education and basic psychological needs to subjective vitality. Seven hundred and seventy-three physical education students were recruited. Main analyses were confirmatory factor analyses and structure equation modeling. Results showed mastery-approach goals positively predicted the needs for autonomy, competence, and relatedness. Performance-approach and performance-avoidance goals positively and negatively predicted the needs for competence. In turn, the needs for autonomy, competence, and relatedness were the positive predictors of subjective vitality. According to these results, students in physical education should be guided to strive to pursue and progress their skills mastery in order to promote their physical and psychological functioning.

Keywords: definition, valence, competence, well-being

Effects of the Alternation of Ability-Based and Mixed Ability Groups in Physical Education

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Abstract: The accumulating research evidence on grouping appears at times to be contradictory and it is difficult to conclude if grouping is helpful or harmful for students. Meta-analytic reviews have shown that the effects of grouping programs depend on their features. Some grouping programs have little or no effect on students, other programs have moderate effects, and still other programs have large effects. Previous studies compared the effects of ability groups vs. mixed ability groups but none focused on the effects of their alternation. This study is based on a Swiss secondary school where Physical Education (PE) teachers have introduced alternation for some years adopting ability grouping for one of the three hours per week; during the two remaining hours of PE, students stay in their heterogeneous classes. The purpose of this study was to compare the effects of temporary ability-based groups vs. mixed ability classes on academic achievement, pleasure and physical self-confidence perceived during three different activities: endurance (6 weeks), handball (14 weeks), and basketball (11 weeks). Participants included 237 students from secondary school aged 11 to 15 years old (Mage= 13.17 years old, SD = .81), 119 participating in PE in temporary ability-based groups and 118 in mixed ability classes. Data was collected through questionnaires (physical self-confidence, pleasure), observations and tests (academic achievement) during the first and last lessons of each activity. The results were similar in the three activities: students from temporary ability-based groups perceived on average higher physical self-confidence and pleasure in endurance, basketball and handball than students from mixed ability classes, but the achievement was comparable. Physical self-confidence in each activity increased similarly in both groups between the first and last lesson. No interaction effect between groups (temporary ability-grouping vs. mixed ability group) and initial ability students' levels was observed on physical self-confidence, pleasure and achievement. The alternation of ability-based and mixed groups in PE seems to be equitable and positive concerning psychological variables associated to learning and intrinsic motivation.

Keywords: ability grouping, pleasure, physical self-confidence, achievement

Self Determination Theory and Its Application Studies in China: Current State & Future Directions

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Abstract: Abstract: The purpose of this study was to review researches from the perspective of SDT (Self Determination Theory) in the exercise domain in China, to get a basic understanding of the current state of this field, and to look into the future directions compared with Western scholars. Twenty-eight studies (published up to December 2012) from China National Knowledge Infrastructure (CNKI) were reviewed. Their purposes, methods, measures, and results were analyzed by literature analysis method. In these studies, 22 were empirical researches and 6 were literature reviews. All of the empirical researches focused on adolescents and college students. Cross-section designs were used in 17 studies, and experimental designs involving physical education were used in 4 studies, and only one research adopted an intervention to promote exercise behaviors

of participants. There were no completely uniform measures to

assess constructs of SDT in these researches, and some questionnaires had no reports of reliability and validity. The results of these studies showed positive support for an ego involved climate in physical education which could help improve student's internal motivation, and perceived autonomy support could predict autonomous motivation for physical education indirectly via three kinds of psychological needs (autonomy, competence, and relatedness). Literature was also

coherent in that more autonomous forms of motivation (identified and intrinsic regulation) could positively predict exercise related outcomes. Most results of these researches were similar to Western scholars' studies. Overall, SDT could explain the process between exercise motivation and behavior based on results from these researches. In the future, more work should be put on extending research subjects and developing and testing the psychological measurement tools more strictly. More long-term investigations are needed to demonstrate the effects of exercise intervention from the perspective of SDT.

Keywords: self determination theory, application studies, current state & future directions in China

The Effect of Senior Golf Players’ Achievement Goal Orientation on Self-Management and Sports Psychological Skill

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Abstract: This study aims to analyze the effect of achievement goal orientation of senior golf players (adults older than 50) on self-management and sports psychological skill. For this study, all senior golf players from the KPGA (Korea Professional Golfers' Association) were chosen as the subjects. Among them, 41 players were contacted as samples to be studied; eight of them were not reviewed because of untimely responses and doubtful sincerity of their answers. The author used questions from Task and Ego Orientation in Sport Questionnaire: TEOSQ by Duda (13 items, 1992, translated, edited and standardized by Kim, Byoungjun, 2001), Athletes' Self-Management Questionnaire: ASMQ by Huh, Junghoon (18 items, 2003), and Psychological Skill Questionnaire in Sport by Yoo, Jin and Huh, Junghoon (28 items, 2002). The data collected for the study were analyzed by using Reliability, Descriptive statistics, One-way ANOVA and Multiple regression analysis. Existence of vocation showed significant difference in p< .05. Also, five senior golf players were interviewed for qualitative analysis by using in-depth interviews, which were intended to make up for the problem of small quantitative data. Results obtained from this research are as follow: first, in achievement goal orientation, self-management and sports psychological skill as the demographical variables of senior golf players, there appears to be some difference. Second, in their self-management and sports psychological skill for achievement goal orientation of senior golf players, there appears to be some difference and a meaningful correlation.

Keywords: achievement goal orientation, self-management, sports psychological skill

The Relationship of Athletic Identity and Sports Commitment: A Cross-Cultural Analysis of Japanese and American Collegiate Athletes

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Abstract: The government of Japan is aiming to raise the rates of participants who play sports at least once a week. In recent years, the number of people who play sports at least once a week have been consistently increasing; however, the rates of competitive sports participants are declining slightly (Sasakawa Sports Foundation, 2010). This may suggest that Japanese competitive sports are

going to turn downwards. Therefore, it is necessary to consider improving the rates of competitive sports participation in Japan. Previous researches indicated that sport commitment is related to sports participation and persistence (Scanlan et al, 2003; Kanazaki, 1992, 2002); sport commitment is defined as “a psychological state representing the desire and resolve to continue participation in a particular athletic program, specific sport or sport in general” (Scanlan et al, 1993). In addition, sports commitment is related to athletic identity (Brewer, 1993; Carpenter et al., 1993); the athletic identity is the degree to which an individual identifies with the athletic role (Ryska, 2002; Brewer et al., 1993). Horton and Mack (2000) indicated that strong athletic identity increases sport commitment and athletic participation. From the above, it is reasonable to say that this is the relationship between athletic identity and sport commitment; however, there is no cross-cultural study about its relationship. Therefore, the purpose of this study was to examine the relationship between athletic identity and sport commitment in Japan and the United States.

Participants were 804 Japanese and 255 American student athletes belonging to an athletic club. They completed the Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993; Isogai et al., 2001) and the Sport Commitment Scale (Kanazaki, 1992). All scales were confirmed reliable and valid by Cronbach's α (coefficient of internal consistency) and confirmatory factor analyses (CFA) respectively. The result of this study indicated that there were significant differences in the athletic identity (t (571)=8.87, p <.001) and the sports commitment (t (522)=11.61, p<.001) between Japanese and American athletes. American athletes demonstrated higher values of the athletic identity and the sports commitment than Japanese. In the result of single regression analysis, it demonstrated the relative strength of the athletic identity in predicting the sport commitment in both countries (Japan: R2=.26, β=.51, p<.001; the United States: R2=.17, β=.42, p<.001). The present findings were discussed in cross-cultural differences between Japanese and American athletes.

Keywords: athletic identity, sport commitment, cross-cultural, collegiate athletes

A Cross-Cultural Analysis of Goal Orientation and Cultural Self in Japan, China, Chinese Taipei, and the United States

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Abstract: Motivation is an important theme in sport psychology. In Japan, many sport psychology researchers have adopted motivational theories based upon concepts and models developed in the United States. However, motivational concepts were varied according to different cultures (Isogai, 2000). Therefore, for a more

complete understanding of the connection between sport motivation and cultures, it is necessary to know the cultural background. Markus and Kitamura (1991) defined the concept of cultural self as one cultural element influencing motivation, and they categorized cultural self into “independent self” and “interdependent self”. According to this classification, the independent self is regarded as an entity that is seen as clearly distinguishable and separate from others (prevalent in American and Western culture). On the other hand, the interdependent self is defined in terms of the relationships that people have with specific circumstances and with other people (prevalent in Japan and Eastern culture). Therefore, this study hypothesized that sports motivations such as goal orientation are different by cultural self. The purpose of this study was to examine the hypothesized model of the dynamic relationship between cultural self and goal orientation in sport behavior among Asian countries and the United States.

Participants were 2094 students belonging to an athletic club (Japanese, n=808; Chinese, n=594; Taiwanese, n=429; American, n=259). They completed the 13-item Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda, 1989; Isogai et al, 2001), the Scale of Independent and Interdependent Construal of Self (Takata et al, 1996), and the Sport Commitment Scale (Kanezaki, 1992). All scales were confirmed reliable and valid by Cronbach's α and confirmatory factor analyses (CFA) respectively. The result of this study indicated that there were significant differences in the Task and Ego orientations ($F=26.8$, $p<.001$; $F=249.6$, $p<.001$ respectively), the Independent and Interdependent self ($F=19.4$, $p<.001$; $F=40.0$, $p<.001$ respectively), and the Sports Commitment ($F=162.6$, $p<.001$). The U.S. demonstrated higher values of the Task orientation, Independent self, and the Sports Commitment than other Asian countries. Asian countries demonstrated higher values of the Ego orientation and Interdependent self than the U.S. In the result of examining the hypothesized model by Structural Equation Model (SEM), it indicated model fit of the relationships between cultural self and task-ego orientations to sports behavior (GFI=.996, AGFI=.968, CFI=.990, RMSEA=.030). In addition, there were significant differences of these relationships in Japan, China, Chinese Taipei, and the U.S. The present findings were discussed in the content.

Keywords: cross-cultural, goal orientations, cultural self, collegiate athletes

Research on the Relationship of Sport Intentions and Behaviors between Han and Mongolian Nationalities

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Abstract: This study investigated the factors affecting sport intentions and behaviors of Han- and Mongolian- nationality students according to the theory of planned behavior (TPB). TPB was proposed by Icek Ajzen to improve on the predictive power of the theory of reasoned action by including perceived behavioral control. The theory stated that attitude toward behavior, subjective norms, and perceived behavioral control, together shape an individual's behavioral intentions and behaviors. Five hundred and eleven participants of Han and Mongolia nationalities from five universities were tested by the questionnaire on physical activity participation and awareness, which contains nine sets of variables and a total of 109 questions. Exploratory factor analysis showed that the questionnaire on physical activity participation and awareness had good reliability and validity, which can be used as an evaluation tool. Multivariate analysis of variance indicated there were significant differences among the nationality, gender, being the only child, birthplace, grade and specialized subject in the variables of TPB and mental health ($p<0.05$ ~ $p<0.001$). Girls achieved a higher score than boys on subjective norms, sport self-efficacy, team efficacy, sport intentions

and mental health, which were at a significant level. Mongolian students, in addition to the above variables, also got significantly higher scores on sport value than Han nationality students. There was a significant correlation between variables of TPB and mental health. Multiple regression analysis demonstrated that external and internal variables affected, in varying degrees, Mongolian and Han students' physical activity behavioral intentions, behaviors, and mental health. Factors influencing sport intentions were sport attitude, sport self-efficacy, subjective norms, age, gender, sport value, specialized subject, team efficacy, the only child, birthplace and mental health. Factors influencing sport behaviors were sport intentions, age, gender, sport value, subjective norms, mental health, BMI, sport attitude and sport self-efficacy. These findings indicated that the sports participation intentions, behaviors and mental health of Han and Mongolia students were interrelated and interacted. This research enriched the theoretical content of the theory of planned behavior. In addition, it provided use for reference and played a positive role in promoting college students' physical activity. Students can substantially recognize, develop and improve themselves in the sports field and motivate their body into its fullest potential.

Keywords: sport intentions, sport behaviors, TPB

The Prediction of Exercise Behavior Using the Transtheoretical Model among Korean College Students

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kssep

Abstract: The transtheoretical model consists of 14 individual components: stages of change, dependent variables, and independent variables. Although the majority of researchers have focused on the stages of change component to the extent that the transtheoretical model is more commonly referred to as the 'stages of change model', this model has not been extensively investigated in Korean university students. The purpose of this study was to examine the relationships between stages of change for exercise behavior and exercise related psycho-behavioral variables using the Transtheoretical Model of behavior change as a theoretical framework.

A cross-sectional research design was used. Participants consisted of 527 Korean university students (295 males, 232 females) aged between 18 and 28 years ($M = 21.01$, $SD = 2.05$). Respondents completed a self-administrated instrument assessing stage of change for exercise, self-efficacy, decisional balance, and the processes of change for exercise. Data were analyzed by frequency analysis, univariate analyses of variance, and standard discriminant analysis.

Distribution of the sample across the stages was: precontemplation, $n = 53$ (10.1%); contemplation, $n = 149$ (28.35); preparation, $n = 164$ (31.1%); action, $n = 90$ (17.1%); and maintenance, $n = 71$ (13.5%). Significant effects of stages of change were found for the ten processes of change for exercise, self-efficacy, and cons. As predicted, scores of these variables increased across the stages. Only cons did not differ significantly across the stages. The results revealed two significant discriminant functions accounting for 66.1% ($\chi^2 = 223.57$, $df = 52$, $p < .001$; Wilks' $\lambda = .648$) and 21.3% of the variance ($\chi^2 = 81.15$, $df = 36$, $p < .001$; Wilks' $\lambda = .854$), respectively. Overall, 56.6% of the cases were correctly classified.

The results provide support for the assumptions of the transtheoretical model in a Korean sample of university students. In addition, it is also important to pay attention to stage specific psycho-behavioral factors related to their exercise behavior.

In spite of these findings, the question arises as to whether extracting these elements undermines completely the idea of the transtheoretical model. Future research should examine the moderator and mediators

of stage transition.

Keywords: motivation in sport

Sex, Agency and Communion as Correlates of Exercise Motives

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Abstract: Sex differences in exercise motives and behavior are well documented: in general, males are more physically active than females and emphasize motives like competition and competence whereas females prefer goals like weight management and appearance. Agency and communion were conceptualized originally as gender-linked traits, with agency (focus on self and autonomy) representing one aspect of masculinity and communion (focus on other people and relationship) representing one aspect of femininity. Studies examining relationships between agency and communion and exercise motives are rare. The goal of the study was to examine if agency and communion determine exercise motives beyond biological sex. $N = 421$ adults (48.7% female; Age $M = 43.43$ years, $SD = 10.37$; BMI $M = 24.62$, $SD = 3.28$) participated voluntarily in the cross-sectional survey. Participants filled in standardized questionnaires; exercise motives were assessed with a German version of the revised Exercise Motivations Inventory (EMI-2) whereas agency and communion were measured using the Personal Attributes Questionnaire (PAQ). The MANOVA controlling for age revealed a significant main effect for the factor sex on exercise motives, $F(6,413) = 9.44$; $p < .001$; $\eta^2 = .12$. As expected, men reported higher values for the scale Competition/Social Recognition than women, whereas women scored higher on Prevention/Health Promotion and Weight Management/Appearance than men. To determine the additional effects of agency and communion, hierarchical multiple regression analysis with sex and age as control variables in step 1, agency and communion in step 2 and the interaction term Agency x Communion in step 3 were conducted. Agency was a significant predictor of Competition/Social Recognition ($\beta = .29$), Psychological Motives ($\beta = .22$) and Affiliation ($\beta = .19$). Communion significantly predicted Prevention/Health Promotion ($\beta = .19$). As expected, sex had an impact on exercise motives and agency and communion explained additional variance. Weight Management/Appearance was solely determined by sex, Prevention/Health Promotion and Competition/Social Recognition determined by sex and personality, and Affiliation and Psychological Motives only by personality. These results indicate that agency and communion are not exclusively determined by biological sex but also by social aspects. Future studies should use a longitudinal design and concentrate on differences in physical activity behavior (e.g. frequency or type of sport) dependent on sex, agency and communion in order to learn more about how personality influences physical activity motivation and behavior.

Keywords: personality traits, gender, physical activity, motivation

Analysis of Persistency on Tibetan Buddhists' Behavior of “Long Distance Kowtow with Whole Body on the Ground”

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Abstract: This research aims at investigating how the Tibetan Buddhists' behavior of “long distance kowtow with whole body on the ground” has become an excellent example of “persistency” psychologically.

The quality of “persistency” is of great importance in determining whether sports participants' persistence after a period of practice will still be around, which is a theoretical problem. The psychological solution to this problem will be beneficial to the launching of the National Fitness Campaign. The excellent quality of “persistency” of Tibetan Buddhists in “long distance kowtow with whole body on the ground” will be used as a reference in finding the solution.

By using a random sampling method, 12 Tibetan Buddhists from different families were selected randomly on South Square of the Potala Palace in Lhasa and on the road from the suburbs to the Lhasa urban area. Physical activity observation and measurement were made on Tibetan Buddhists when they engaged in “kowtow with whole body on the ground”, which is a common devout ritual activity of worshipping Buddha. The contents of the observation and measurement included intensity, frequency and duration of “kowtow with whole body on the ground”. The measurement focused on the changes of heart rate and blood pressure before and after 20 minutes of kowtow-ing on Tibetan ground at 3,400 meters above sea level. The data collected indicated that the practice of “kowtow with whole body on the ground” is equivalent to moderate-intensity physical exercise activities.

Achievement Motivation Scale and the Self-efficiency Scale were applied in this research and the results show that the Buddhists' average achievement motivation and self-efficiency is higher than that of common people. In-depth interviews and observations were also used in the investigation, along with records and analysis on the 12 Buddhists in terms of duration, distance, frequency and route of “long distance kowtow with whole body on the ground”, amount and type of their daily diet and so on. The analysis showed that “kowtow with whole body on the ground” is a physical activity that requires excellent psychological “persistency” from the Buddhists.

Keywords: persistency, Tibetan Buddhists, kowtow

The Relationships between Achievement Goals and Self-Talk in Youth Football Players

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Abstract: Self-talk is a term used in sport literature to describe what athletes say to themselves. One of the antecedents that may influence individuals' self-talk is achievement goal orientations. Achievement goal theory (AGT) has been central to theoretical and empirical research on achievement motivation over the past 20 years. Early work identified two types of achievement goals, namely “task” and “ego”. In sport and physical education, task goals have been found to be positively associated with various motivational outcomes such as intrinsic motivation and positive affect. However, the relationship between ego goals and motivational indicators is less clear. Based on previous findings on the relationships between achievement goals and negative thoughts, the purpose of the present study was to examine the relationships between task and ego goals and positive and negative self-talk in youth football players aged from 9 to 12 years old. One hundred ninety four participants ($M = 10.76$, $SD = 1.05$) completed a short version of the Automatic Self-Talk Questionnaire for Sports (ASTQS) and the Task and Ego Orientation in Sport Questionnaire (TEOSQ). Regression analyses showed that only task goals ($\beta = .25$, $p < .001$) predicted positive self-talk, while both task ($\beta = -.15$, $p < .05$) and ego ($\beta = .32$, $p < .001$) goals predicted negative self-talk. Overall the results stressed the importance of achievement goals as personal factors that may influence young athletes' self-talk.

Keywords: self-talk, achievement goals, youth

The Analysis of Persistence in Middle-aged and Old Buddhists’ Ritual of Walking while Turning Scripture in Lhasa

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Abstract: This research aims at investigating the characteristics of middle-aged and old Buddhists' walking when they turn scripture on the three main scripture turning routes in Lhasa, and the psychological cause accompanied by their excellent quality of persistence in the process of walking.

The quality of “persistency” is of great importance in determining whether sports participants' persistence after a period of practice will still be around, which is a difficult problem. The psychological solution to this problem will enable more people to engage in sports and expand the base of the sports population, which is also beneficial to the launching of the National Fitness Campaign.

By using a random sampling method, 27 middle-aged and old Tibetan Buddhists from different families in Lhasa were selected randomly around the Potala Palace Square in Lhasa. Physical activity observations and measurements were made on the Tibetan Buddhists while they engaged in turning scripture as they walked along the routes in Lhasa, a common devout ritual activity of worshipping Buddha. The contents of the observations and measurements include intensity, frequency and duration of “scripture turning”. The measurements focused on changes in heart rate and blood pressure before and after 60 minutes activity of “scripture turning”.

Using the self-efficiency scale and achievement motivation scale, results showed that the 27 believers’ average self-efficiency and achievement motivation were higher than that of the same age group of the Han nationality, whereas the anxiety level was lower than that of the corresponding Han nationality.

The analysis shows the activity of scripture turning is a moderate-to-lower intensity physical activity. However, the excellent quality of persistence is needed for the middle-aged and old Tibetan Buddhists to carry on for years. Additionally, feelings of happiness, detachment, and mass motivation were felt by the believers when they chose to turn scripture in the morning; the longer they insisted on the activity, they more it brought the feeling of achievement and longer lasting spiritual motivation. It is this feeling of achievement and spiritual and mass motivation which explains the excellent quality of persistence of the believers.

Keywords: scripture turning, persistence, Tibetan Buddhists, walking

Causality of the Coach-Athlete Relationship on Maintenance, Interdependence and Achievement Goals in Korea

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Abstract: Previous studies suggest that the use of maintenance strategies plays a major role within the coach-athlete relationship. Despite this, there remains great scope for research in this field. The aim of this study was, therefore, to exam the degree of correlation and the causality of the coach-athlete relationship maintenance

(CARM), interdependence and achievement goals. The study was carried out with 315 college athletes who filled out the Korean version of CARM questionnaire (CARM-Q) and a multi-sectional questionnaire. Correlation analysis proved that the CARM had significantly correlated with interdependence and achievement goal respectively. In addition, covariance structure analysis showed that the relationship quality between coach and athlete had positive influence on interdependence and achievement goals. We also found that interdependence had moderate effect on CARM and achievement goals. Overall, this study contributes further evidence to the utility of the Korean version of CARM-Q for the assessment of the maintenance quality of the coach-athlete relationship in college students, and provides insight with regard to the causal relationship among CARM, interdependence and achievement goals.

Keywords: coach-athlete relationship, maintenance, strategy, interdependence, achievement goal

The Amount of Physical Activity Enjoyment in Healthy-Oriented and Appearance-Oriented People

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Abstract: The purpose of this study was to compare the amount of physical activity enjoyment between healthy-oriented and appearance-oriented people. The sample consisted of 146 members of bodybuilding clubs (68 males, 78 females) in Tehran city. All participants completed the 10 item (5 item for healthy-orientation and 5 item for appearance-orientation) from Participation Motivation Questionnaire (PMQ) and the original 18-item Physical activity enjoyment scale (PACES). The results indicated that there was no significant difference in amount of physical activity enjoyment between healthy-oriented and appearance-oriented people, but these results were sexually different. In the female group, the amount of physical activity enjoyment in the healthy-oriented group was higher than the appearance-oriented group, but in the male group the difference was not significant. In the healthy-oriented group, the difference was significant between males and females, in other words, healthy-oriented females enjoyed physical activity more than healthy-oriented males. However, in the appearance-oriented group, the difference was not significant between males and females. It is probable that emotional responses to exercise (e.g., enjoyment, interest in the future, and so on) are not fully influenced by exercise, but rather, social-environmental contexts (e.g., style of leadership, having or lack of a mirror, working in group or individually, motivation, and so on) can be effective. Therefore, it is highly recommended that sport clubs' coaches provide a more enjoyable training environment for participants, to encourage them to keep participating.

Keywords: physical activity enjoyment, healthy-oriented, appearance-oriented

Testing a Motivational Process Model in Korean Physical Education

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Abstract: The self-determination theory (SDT) premises that all human beings have basic psychological needs that mediate between social factors and types of motivation. It has been assumed that the motivational processes and constructs in the SDT are universal to all cultures, across gender, and throughout developmental periods (Deci & Ryan, 2000). The purpose of this study was to test a motivational process model among the motivational climates, the basic need satisfactions, and the types of motivation in Korean

physical education (PE). Furthermore, this study investigated the measurement invariance of the model with respect to gender. A total of 392 middle school students (202 boys and 190 girls) ranging in age from 12 to 14 (M=13.39, SD=.67) participated in the present study. They completed a battery of questionnaires at the end of a PE class session. The structural equation modeling (SEM) was used to test the hypothesized motivational process model among perceptions of motivational climate (mastery and performance), basic needs satisfaction (autonomy, competence, relatedness), and types of motivation (autonomous, controlled, amotivation). The result of the SEM showed the hypothesis model to retain a satisfactory fit to the data. Mastery climate was positively associated with autonomy, competence, and relatedness satisfaction. Performance climate was negatively associated with autonomy satisfaction only. Perceptions of competence in PE class would not be necessarily enhanced by a performance climate. Similarly, perceptions of a performance climate in PE would not contribute to diminish the students' needs of relatedness. Autonomy satisfaction in the classroom positively predicted autonomous motivation, whereas negatively predicted controlled motivation and amotivation. Competence satisfaction was positively associated with autonomous motivation and negatively associated with amotivation, while relatedness satisfaction was positively associated with both autonomous and controlled motivation. This finding seems to be in part consistent with previous studies in sport and physical education. The results of the SEM invariance test across the group indicated significant group differences in three paths. The males were more strongly affected by mastery climate to autonomy satisfaction path and mastery climate to competence satisfaction path. In short, the perception of mastery climate is more influential for males than females to produce autonomy and competence satisfaction. Additionally, females feeling autonomy satisfaction perceive amotivation at a higher level than males having autonomy satisfaction. The findings are not in accordance with the previous study. It seems that gender differences in motivation are equivocal. Thus, more work should be done with regard to gender differences in motivational processes.

Keywords: motivation, self-determination theory, physical education

The Relation between Explicit and Implicit Physical Self-Esteem and Physical Activity: The Mediating Role of Motivation

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Abstract: Drawing from the dual-systems model (Epstein, 1994; Greenwald, & Banaji, 1995) and Self-Determination Theory (SDT; Deci and Ryan, 1985), this research was designed to examine the associations between physical self-esteem (PSE) (explicit/ implicit) and physical activity behavior, and to determine whether motivational orientations (explicit/ implicit) mediate these associations. We hypothesized that individuals with congruent physical self-esteem, especially those with high levels of explicit and high levels of implicit PSE, would demonstrate higher levels of self-determined motivation and engage in greater levels of physical activity. Moreover, we hypothesized that the relationship between PSE and physical activity would be mediated by motivation orientation.

One hundred and nineteen university students (40% males, Mage=23.76 years, SD= 4.27 years) from the University of Birmingham were recruited and completed a questionnaire pack to measure physical activity, explicit motivational orientation and explicit physical self-esteem via SurveyMonkey. Two modified Implicit Association Tests (IAT; Greenwald, McGhee, & Schwartz, 1998) were also administered to measure implicit motivational orientation

and implicit physical self-esteem. Moderation analyses found that when motivation as dependent variables, explicit PSE has significant main effects on autonomous motivation and controlled motivation, and IAT implicit PSE has a significant main effect with IAT implicit motivation. Mediation analyses showed that autonomous motivation partially mediated the influence of explicit PSE on habitual physical activity (HPA), which indicates that more self-determined motivation predicts more adaptive behaviors compared to controlled motivation and amotivation, but the mediation role of implicit autonomous motivation failed to be determined. The present study provides limited support for a dual-systems model.

Keywords: physical self-esteem, motivation, physical activity

A Predictive Study of the Influence of Exercise Behavior Models of Self-Determination Theory on Motivation and Behavior

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Abstract: With the improvement of people's consciousness on health, people have become more aware of the importance of having a healthy body. Side effects from the progress of science and technology have seen an increasing number of college students addicted to the Internet and forming a sedentary lifestyle, causing a sharp decline in the number of college students participating in physical activities. Although the benefits of physical exercise are widely known, the current situation of college students' physical health is a cause for concern. According to the full sample data (480), the study tried to explore the process of forming exercise motivation among college students and to seek the factors which affect the formation of exercise motivation and behavior, based on exercise behavior models of self-determination.

Hypothesis 1: After employing the method of structural equation modeling to examine the seven exercise behavior models of self-determination, the results verified the theoretical model and provided supporting evidence that the model can effectively explain and predict exercise behavior and exercise motivation.

Hypothesis 2: Exercise behavior models of self-determination can accurately predict exercise motivation and behavior of college students; in addition, basic psychological needs for exercise serves as mediating roles between self-support exercise and self-motivation exercise.

The conclusion of the study:

(1) The models of exercise behavior, based on self-determination theory, can be applied in college students' exercise behavior in the context of Chinese culture, and can better predict students' exercise motivation, tendency and exercise behavior.

(2) Basic psychological needs for exercise serves as significant mediating roles between self-support exercise and self-motivation exercise.

Keywords: college students, exercise behavior, self-determination theory, prediction

Sport Commitment among Male Student-Athletes of Two Higher Learning Institutions in Pakistan and

China

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Abstract: The current study sets out to gauge the level of sport commitment among student athletes of two higher learning institutions of Pakistan and China. Sport commitment is a psychological make-up containing the desire to continue sport participation; the concept of self-determination by Deci & Ryan (1985) provided the theoretical basis for the present study. A conveniently recruited sample of seventy male student- athletes (N = 100) from the Islamia University of Bahawalpur, Pakistan and Zhejiang University, China was used in the study (50 students representing the population for each institution). A validated research instrument, Sport Commitment Model Questionnaire comprised of five motivational factors and developed by Scanlan et al., © (1993), was employed. Reliability estimate (Cronbach's Alpha) was obtained (α = 0.91). Data were analyzed statistically by using Statistical Package for Social Sciences (SPSS, Version-11.5). Results showed significant levels of sport commitment and similarly, coefficient of regression statistics proved the dependency among five motivational factors of sport commitment between student-athletes from both institutions in Pakistan and China. In conclusion, the study revealed, student-athletes from the Chinese institution exhibited slightly greater commitment toward sports than Pakistani student- athletes.

Keywords: sport commitment, self-determination, motivation

Motivation for Physical Activity and Active Video Games – Study Protocol for a Randomized Controlled Trial

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Abstract: Despite all the efforts to promote physical activity (PA), its decline is evident from childhood to adolescence. Physical inactivity is a contributing factor to the obesity epidemic, and therefore it is necessary to change the patterns of inactivity. Children are highly exposed to sedentary activities, including video games. Technological advances have led to the development of a new generation of video games, frequently known as “active video games” (AVG), requiring physical exertion to be played. Our aim is to do a randomized controlled trial to analyze the impact of AVG on children’s PA.

The design is a 4-week two-arm randomized controlled trial, with a 4-week follow-up. The sample will have 60 participants meeting the inclusion and exclusion criteria, recruited from Algarve Region, Portugal. The children will be randomly allocated into a control or experimental group. The intervention group will have an AVG for free use in school during their free time. The control group will not have any intervention. To accomplish the study goal, we will use the following measures: socio-demographic questionnaire; anthropometrics; body mass index; objectively measured daily physical activity; sedentary activities patterns; eating behavior; aerobic fitness test; impact of weight on children life quality; and motivation to exercise.

With this experimental trial we intend to verify the impact of this technology in PA, trying to find new attractive ways to promote children’s PA and healthy lifestyles. We expect to monitor any changes on PA levels and other studied variables on the intervention group, from baseline to follow-up, which may be related to the use of AVG.

Keywords: physical activity, active video games, motivation

The Prediction of Relational-Inferred Self-Efficacy on Intrinsic Motivation of Collegiate Athletes: The Mediation Effect of Hope

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Abstract: The purpose of the current study was to explore the relationship among relational-inferred self-efficacy (RISE), hope, and intrinsic motivation, as well to examine the mediation effect of hope between RISE and intrinsic motivation. A total of 164 (male = 84, female = 80) collegiate athletes were recruited from Division I collegiate sports teams in Taiwan, the average age of all participants was 20.4 years. After receiving informed consent, participants were asked to complete questionnaires to assess their relational-inferred self-efficacy, intrinsic motivation, and hope. The results revealed a highly positive correlation among RISE, hope, and intrinsic motivation; meanwhile RISE was able to predict hope significantly. By path analysis, the results indicated RISE should predict intrinsic motivation via hope, in other words, hope played as a full mediator between RISE and intrinsic motivation. Taken together, the study concluded positive RISE could enhance hope and further encourage one’s intrinsic motivation.

Keywords: Relational-inferred self-efficacy (RISE), intrinsic motivation, hope

Validation of the TARGET Scale in Korean Physical Education

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Abstract: The TARGET structures (task, authority, reward, grouping, evaluation, and time) and specific environmental structures as being salient to the development of a mastery climate, have been identified as structural features of any achievement environment and have been found to affect an extensive range of motivational beliefs and behaviors that involve task selection, perceived competence, interest in learning, and positive attitudes toward the activity (Epstein, 1989). This study was the first process to provide physical educators with specific data and strategic material that helps improve students' motivation under the current conditions where the participation and interest of physical education class are on the decrease. The purpose of this study was to verify the validation of the TARGET scale in Korean physical education and examine the profile of the TARGET structures. To accomplish this purpose, a total of 436 middle school students (233 males and 203 females) ranging in age from 12 to 14 participated in the present study. The Susan's (1994) original TARGET scale was designed to assess six factors. To incorporate the specificities of the Korean culture, students' conceptions on the factors, which were collected through open-ended questions, were also evaluated. To properly adapt the original scale, translation and back-translation procedures were adopted. Through an open-survey, the preliminary survey of 56 questions was completed with the help of five physical education teachers and three doctors majoring in physical education and exercise psychology. This study verified the validity and reliability of the 56-question preliminary survey and carried out the 366 sample materials' exploratory factor analysis and confirmatory factor analysis in order to identify the appropriateness of factor structure. According to the result of exploratory factor analysis, 36 questions were deleted and finally selected 20 questions from four factors. Concretely, factor 1 included two reward-related questions

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Abstract: This paper aims to compare imposter syndrome, self-efficacy beliefs and emotional regulation. The participants of the study were 140 athletes and 140 non-athletes from Shiraz who were chosen according to stratified random sampling. They were asked to perform the emotional regulation questionnaire, general self-efficacy questionnaire and imposter syndrome questionnaire (IP Clance). The results of the study showed that there was a significant difference between athletes and non-athletes regarding imposter syndrome; self-efficacy beliefs differed significantly between the two groups. The components of emotional regulation including goals, momentum, strategies and transparency between athletes and non-athletes differed significantly, however there wasn't any significant difference between the components of rejection and knowledge (P<0.05).

Keywords: imposter syndrome, self-efficacy beliefs, emotional regulation, athletes, non-athletes

Research on Behavior Patterns of Sports Leisure: Based on Leisure Experience

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Abstract: In this article we study individual behavior patterns of sports leisure, from the leisure experience point of view, by using documentary research and qualitative analysis methods. We established a hypothetical theoretical model in order to provide a basis of theoretical explanation for sustainable development of the sports leisure industry.

Studies suggests: Individual participation in sports leisure activities starts from motivation in the mind, and is eventually carried out when other influencing factors come together. In the process of sports leisure, individual cognitive experience of the senses, emotions, and thinking will affect the behavior of individual participation. There are positive and negative benefits in the leisure experience; if an individual has a positive emotion after the sports leisure, he/she will tend to participate in the leisure activity again; likewise if negative emotions are felt, the likelihood of participating in it again may be reduced. Meanwhile, individual positive attitudes or feelings in sports leisure provide positive feedback in the sports and leisure participation motivation, and has a direct impact on leisure satisfaction. Motivation intensity of sports leisure can also affect individual leisure satisfaction; the higher the leisure satisfaction, the higher degree of tendency to participate in sports leisure again.

Keywords: sports leisure, behavior patterns, leisure experience

Preliminary Testing of Self-Determination Theory in Chinese Physical Education Classes

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Abstract: The purpose of this study was to examine self-determination theory (Deci & Ryan, 1985, 2002) in physical education classes in China. According to the psychometric criterion, testing and development process of the Behavior Regulation of Exercise Questionnaire (BREQ) were presented in this study. The results demonstrated an acceptable reliability and validity. The internal consistency coefficient of each dimension was between .74-.89; test-

and three evaluation-related questions, and factor 2 included two task-related questions and three authority-related questions. Factor 3 included five time-related questions and factor 4 included five group-related questions. The evaluation structure was closely associated with the reward structure because this too becomes apparent as rewards or punishments subsequently results from the standards and judgments that are made. Through the result of confirmatory factor analysis, the CR of every factor in this study showed more than 7.30 which are higher than statistical meaningful standards. As to the result of appropriateness, although RMR index was less than the standard 0.05, GFI, CFI, and RMSEA index were suitable for the factor structure, which showed that this study is appropriate. According to the result of verifying the profile of the TARGET structures, except for the factors of reward and evaluation, three factors indicated that male students show higher motivation improvement than female students. In addition, the higher the preference of lessons students show, the higher motivation improvement level they have.

Keywords: TARGET structures, mastery climate, physical education

Physical Activity and Media Use among Overweight and Obese Adolescents in Weight Loss Treatment

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Abstract: Media use plays an important role in the lifestyle of adolescents and can lead to reduced physical activity. However, new therapeutically approaches make use of media to reach this risk group. Regarding the aftercare treatment of obesity, there is a need for research to specify patterns of media use and find effective combinations of media channels for outreach. We conducted a cross-sectional analysis to describe patterns of physical activity and media use among 320 adolescents undergoing inpatient and outpatient treatment for obesity and being overweight. Results showed that adolescents were moderately physically active for an hour for at least 3 days per week. Subjectively, use of the Internet and phone were the most important media used among adolescents. Previously, two-thirds made use of the Internet for finding information on local offers regarding physical activity; half were motivated by the use of smart phones or web-based applications to conduct physical activity. The results indicate that participants with lower use of media (TV) have a significantly higher chance to be physically active. Among girls there is a weak correlation between TV consumption and active days/weeks. Boys show a low correlation between activity and PC consumption. In comparison to other studies, there was an increased number of adolescents with excessive media use, that of mainly smart phones and personal computers which might have an important influence on their daily physical activity. These, however, could also be used to design and implement effective applications for physical activity promotion, social support and delivery of skills and knowledge regarding promotion of health behaviors.

Keywords: physical activity, media use, adolescents, obesity

The Comparison of Imposter Syndrome, Self-Efficacy Beliefs and Emotional Regulation between Athletes and Non-Athletes in Shiraz

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retest reliability was between .71-.92. The results of confirmatory factor analysis and criterion-related validity demonstrated the revised BREQ has good validity. For examining self-determination theory and Vallerand's Model (1997), a cross-sectional study design was used. Participants completed questionnaires pertaining to perceived autonomy support, basic psychological need, exercise behavior regulation, exercise behavior out of school, exercise intention and positive/negative affect. Structural equation modeling analyses provided support for a conceptual model whereby perceived autonomy support predicted greater need fulfillment which, in turn, was associated with autonomous exercise motivation and greater exercise behavior out of school, exercise intention, and positive affect. Overall, the results of this study lend partial support for Vallerand's model regarding the importance of psychological needs fulfillment and motivation processes in exercise. It is concluded that self-determination theory seems to be a fit framework to explain students who have more intrinsic motivation gain more exercise psychological benefits in PE class, emphasizing cooperation and autonomous inquiry. Therefore, PE teachers should create an autonomy supportive atmosphere to fulfill students' basic psychological needs and stimulate intrinsic motivation.

Keywords: self-determination theory, perceived autonomy support, exercise behavior regulation

Coaches’ Achievement Goals at Work: Measuring Coaches’ Motivation

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Abstract: In the physical education and sport domains, the pivotal role of young athletes’ motivation has been widely investigated. One of the factors that greatly influence athletes’ motivation is the coaches’ motivation, which has been largely under-researched. Moreover, motivational scholars have called for intervention and coach education programs aimed at modifying coach behaviors. Therefore, understanding the antecedents of coach behaviors would provide valuable insight for effective intervention and coach education program designs. Drawing from Achievement Goals Theory (AGT) (Nicholls, 1989; Ames, 1992), Papaioannou and Christodoulidis (2007) developed a measure assessing a teacher’s motivation. The present study pilot tested the psychometric properties of the coach version of the Teachers’ Achievement Goals in Work Questionnaire, as part of a European based project (The PAPA Project).

Participants were 187 coaches (male n=170, female n=17) from diverse sports, (basketball n=71, football n=78, team handball n= 13, swimming n=11, volleyball n=6, water polo n=2, other n=6) with a mean age of 34.3 years (SD=8.34) and mean experience of 8.79 years (SD=3.25). During data collection the participants had been coaching their team for a mean of 2.7years (SD=1.23). Participant coaches responded in a five-point Likert type scale (1 = "I totally disagree", 5 = "I totally agree"). A Confirmatory Factor Analysis (CFA) was conducted using AMOS 20.0, for the confirmation of the instrument's structural validity. Pearson correlation coefficient was also used to examine any relationships between the factors and differences between genders and sports were examined through multivariate analyses of variance. For the present pilot study, we adopted the 3-factor structure (Mastery, Performance Approach and Performance Avoidance) and the 12 item compilation proposed by Papaioannou et al. (2007) adapted for coaches. Internal consistency was tested using the alpha reliability test.

The results revealed that the goodness-of-fit indices were satisfactory ($\chi^2 = 85.2$, $df = 52$, $TLI = .916$, $CFI = .934$, $IFI = .936$, $RMSEA = .05$). These findings support an acceptable factor structure for this instrument assessing coaches' achievement goals (Hu & Bentler,

1999). Internal reliability scores were .74, .84, and .82 for Mastery, Performance Approach, and Performance Avoidance respectively. As for the correlation analysis, only a weak significant relationship emerged between the two performance variables ($r=.17$, $p < .05$). Finally, no significant differences emerged between genders and sports. All other estimated parameters were statistically significant ($p < .001$) and within an acceptable range.

The confirmatory factor analytic results and alpha reliabilities from the present pilot study using the Coaches’ Achievement Goals in Work Questionnaire (CAGWQ) revealed adequate internal consistency supporting the original 3-factor structure and provide initial support to the use of the CAGWQ to assess coaches’ motivation.

Keywords: Coach, Motivation, Achievement Goals

The relationship among intention of sport participation, planning, and sport participation behavior

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Abstract: According to numerous findings, intention is an important predictor of behavior. However, there were 47% of intenders did not transfer their intention into behavior (Sheeran, 2002), which means some factors made the relationship between intention and behavior unstable. Planning plays an important role in the intention-behavior relationship. It is composited by two notions: action planning and coping planning. Action planning concerns when, where, and how the intender make efforts to achieve their goals; while coping planning concerns obstructive focus thinking of solutions. Nevertheless, there are some arguments between planning as a moderator and planning as a mediator in the intention-behavior relationship. Concerning the arguments, the review here attempts to understand both role of planning in the intention-behavior relationship, and consider the condition of "low intention" intender to further understand the mediation role of planning. In addition, the review also focuses on differentiating the roles of planning in exercise and sport context.

Keywords: intention, planning, action planning, coping planning, exercise behavior

Psychological aspects of youth sport Compared Effective of Relaxation, Goal Setting and Breathing Methods on Decrease Sport Anxiety (Body and Mental) in Male Students.

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Abstract: The aim of this study was comparison effective body and mental methods on decrease sport anxiety in male students. Statistical society of this study included all boy students that selected physical education class. Statistical sample involved 4 groups (n=60). This study has been done field-descriptive and pretest-post test in 8 weeks. Measurement tool of this study was sport personality questionnaire (SPQ20). One of measurement factors in this questionnaire was anxiety. The reliability of this questionnaire based on criterion reliability and examined by questionnaire that obtained value was equal and significant in $p<0.05$ level. Its stability obtained 0.800 by alpha Chronbakh and was significant in $p<0.05$ level. After selecting sample people randomly, the questionnaires

were given to subjects as pretest and gathered after 8 weeks that were considered as post test. The results showed there was significant different between per-post test in goal setting to decrease anxiety. The results showed there was significant different between per-post test in relaxation to decrease anxiety. The results showed there was significant different between per-post test in breathing to decrease anxiety. The results showed there was significant different between control and experimental group to decrease anxiety. The results showed there was significant different between body and mental methods to decrease anxiety. The results showed there was significant different between body methods to decrease anxiety. The results showed there was significant different between mental methods to decrease anxiety .The results showed there was significant different between body methods in control and experimental groups to decrease anxiety. The results showed there was significant different between mental methods in control and experimental groups to decrease anxiety. According to the results, every three methods were effective to decrease anxiety, body methods were effective than mental methods, in body methods relaxation was best so, if you want to decrease anxiety, you can use body methods and relaxation.

Keywords: goal setting, relaxation, breathing, anxiety

Effect of Worship Level in Student Athletes’ Mood

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Abstract: People have learned in all situation take refuge from God and ask Him to help them and sharing with him their needs, desires and interests to get calm .The aim of this study was to examine Effect of worship level in student athletes’ mood. The statistical society of this study was all students' athletes. The study sample included 80 male students' athletes that participate in training of university teams and selected randomly in different sports (badminton, Volleyball, football, wrestling, ping pong and Taekwondo). Tools for this research contain three researcher-designed questionnaires (assessment worship questionnaire) including 36 items with Likert 5 and MMPI questionnaire (questionnaire measuring psychological characteristics) included 71 questions and SPQ (sport personality questionnaire) The research method was descriptive-field, and with questionnaire examining research factors. The results showed there was Significant and negative relationship between sport anxiety and worship. The results showed there was significant relationship between sport motivation and worship. The results showed there was significant relationship between self-concept and worship. The results showed there was no significant relationship between average education and worship. The results of this study clarify that worship can influence on athletes mood.

Keywords: worship, students, motivation, anxiety, self-concept

Assess Psychology Talent in Handball Player

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Abstract: This study was done together a research that wanted to

find talents in three sections (body, movement and psychology) in handball player. The aim of this study was to assess psychology talent in handball player. Statistical societies of this study were three group girls' students that selected Handball for 4 mount education and elite athletes. Statistical sample was three group successful, unsuccessful and elite athletes that selected randomly (n=30). Tools for this research were (SPQ) Sport Personality Questionnaire. Results showed there was significant different between successful and unsuccessful athletes and elite and unsuccessful in goal setting. Results showed there was significant different between successful and unsuccessful athletes and elite and unsuccessful in adaptation. Results showed there was no significant different between successful and unsuccessful athletes and elite and unsuccessful in anxiety. Results showed there was no significant different between successful and unsuccessful athletes and elite and unsuccessful in motivation. Results showed there was significant different between successful and unsuccessful athletes and elite and unsuccessful in dynamism. Results showed there no was significant different between successful and unsuccessful athletes and elite and unsuccessful in introversion -extra version. According the results of these research athlete talents in handball have goal setting and adaptation. Results was show adaptation have more stronger that goal setting. So we can suggest to coach that athletes have most goal setting and adaptation can faster progress. But we can confirm adaptation is one of factors for elite player in handball.

Keywords: talent, handball, psychology, elite

Examination of Three Methods of Goal Setting in Sport Motivation in Students’ Athletes

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Abstract: Athletic psychologists want to keep athletes in desirable level of motivation or extend them to this level; the aim of this study was Examination of three methods of goal setting in sport motivation in students' athletes. Statistical society of this study included all boy students that participate in training of university teams (football, Volleyball, Basketball) statistical sample involved 4 groups (n=60). This study has been done field-descriptive and pretest-post test in 12 weeks. Measurement tool of this study is sport personality questionnaire (SPQ20). One of measurement factors in this questionnaire was motivation. The reliability of this questionnaire based on criterion reliability and examined by questionnaire that obtained value was equal and significant in $p<0.05$ level. Its stability obtained 0.800 by alpha Chronbakh and was significant in $p<0.05$ level. After selecting sample people randomly, the questionnaires were given to subjects as pretest and gathered after completing. First group every week two times was tested and compared to goals. Second group once every two weeks was tested and compared to goals. Third group once every six weeks tested and compared to goals. The subjects re completed questionnaires after 12 weeks that were considered as post test. The results of the study showed there was significant difference between control and experimental group in motivation. The results of study showed significant different on motivation in three groups. According to the results, every two weeks examine goal setting has more effect on motivation. So, every two weeks goal setting is suggested to increase motivation. The results suggest every activity has optimum time to offering goals to increasing motivation.

Keywords: goal setting, motivation, students

Parental Involvement in Youth

Sport: Positive and Negative Parental Involvement as Predictors of Perfectionism, Anxiety, and Enjoyment

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Abstract: Parent-child interaction is very much related to sport performance and achievement. Prior research has shown that stress (Jellineck & Durant, 2004), higher drop-out rates (Gould, Feltz, & Weiss, 1985), and increased anxiety related to sports (Anderson, Funk, Elliot, & Smith, 2003) are among common responses when athletes perceive their parents to be pressuring and providing negative feedback. On the other hand, positive parental involvement and support are often closely related to young athletes' enjoyment (Power & Woolger, 1994; Brustad, 1993; Leff & Hoyle, 1995). The purpose of the current study was to examine whether the negative dimensions of parental involvement, specifically directive behavior and pressure, predicted an athlete's perfectionism and anxiety. The relationship between positive parental involvement, specifically active involvement and praise and understanding, and enjoyment was also examined. The Multidimensional Perfectionism Scale, Sport Competitive Anxiety Test, Parental Involvement in Sport Questionnaire, and two questions addressing sport specific enjoyment were used to conduct the study. A total of 47 participants between the ages of 12 and 18 competing at the regional, sectional, national, and international levels were recruited from various figure skating facilities and training centers. The results illustrate that parental directive behavior and pressure significantly predict an elite athlete's high level of perfectionism. Similarly, directive behavior, pressure, and perfectionism are statistically significant predictors of a figure skater's competitive anxiety. Statistically significant positive correlations show that there is a relationship between directive behavior and both perfectionism and anxiety as well as between pressure and both perfectionism and anxiety. Positive parental involvement, as measured by active involvement and praise and understanding, does not have a strong predicting effect on athletes' levels of enjoyment. On the other hand, directive behavior, pressure, anxiety, and perfectionism do not predict and are not related to an athlete's enjoyment. This shows that negative parental involvement is unlikely to result in increased enjoyment on behalf of the athlete. Future research may be utilized to further examine the relationship between negative parental involvement and its relationship with perfectionism and fear of failure, as these traits may be harmful to young athletes' performance, development, and well-being.

Keywords: perfectionism, anxiety, enjoyment, parental pressure

Sport Psychological Characteristics of Talented 13-Year-Old Adolescents

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Abstract: Performance in sport is dependent on physical, morphological, environmental, perceptual-motor factors as well as psychological factors. Various sport psychological skills (SPS) are associated with sport performance such as goal setting, confidence, motivation, coach ability, freedom from worry and stress management. The aim of this study is therefore to determine the differences in the sport psychological skills profile between talented and less talented sport participants. All the grade 8 pupils (N=204) with a mean age of 13.2 year from a High School in Potchefstroom North-West province, South Africa, whose parents gave consent,

voluntarily participated in the study. The group consisted of 105 boys and 99 girls. Only the results of the adolescents who participate in sport (n=162) were used for the purpose of this study. Two questionnaires (demographic and sport psychological questionnaire) were completed in approximately 30-45 minutes. Upon completion of the questionnaires the participants were subjected to the anthropometrical measurements. After the anthropometrical measurements the participants were subjected to the physical and motor tests. The talented group obtained statistical significantly better scores in coping with adversity (p=0.0003), peaking under pressure (p=0.0123), goal setting (p=0.0190), confidence (p=0.0106), coach ability (p=0.0001) and average coping ability (p=0.0001). The effect size revealed medium practical significance for four of the sport psychological variables namely peaking under pressure (d=0.63), goal setting (d=0.62), concentration (d=0.63) and confidence (d=0.68). Three of the sport psychological variables revealed a large practical significance namely coping with adversity (d=0.95), coach ability (d=1.00) and average coping ability (d=1.03). From the results of this study it is clear that there is a difference in the sport psychological profile of the talented and less talented adolescent sport participants with the talented adolescent sport participant outscoring their less talented counterparts in all the variables. Findings from this study can, however, enable coaches and Sport Scientists to identify adolescents based not just on anthropometrical, physical and motor abilities but also on sport psychological abilities, which play a great role in sport performance and support a holistic approach to talent identification.

Keywords: sport, psychology, adolescents

Social Representations among Football Youth Athletes

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Abstract: The objective of this research was to analyze football's social representations among athletes of youth categories, having as theoretical support: (i) the Social Representation Theory proposed by Serge Moscovici, and (ii) the study of self - interfaces (self- individual, self- collective, and self – interpersonal) with sports psychology. A socio-demographic inventory, a questionnaire comprised of 50 items related to the theme 'Football', and the design of a football match were used as instruments for data collection. 85 athletes of a football club, among infantile, juvenile and juniors, participated in the survey. Data were categorized with numerical values and analyzed by ANOVA and Kruskal-Wallis and Mann-Whitney nonparametric tests. From the significance results, Pearson correlation tests were developed as well as Box plot graphs and histograms in order to complete the behavior of categories in each response. The results have showed that all three categories represent football evenly, but the design has indicated a strong contradiction between the representations of starter athletes and reserves. It was possible, then, to make a substantive analysis in relation to the demands of the groups for possible psychological interventions in the sport environment, which would not be possible without the union of the study of social representation with the sport sciences.

Keywords: social representations, sport psychology, youth football

Team Cohesion among a Cohort of School Netball Players

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Abstract: Since 2003, South Africa has experienced a decline in world netball performance, with many players not progressing beyond participation at secondary school level. It is increasingly becoming

apparent that psychosocial skills are as necessary as physical and technical skills in affecting athletic performance and motivation in competitive situations. One such psychosocial factor, group cohesion has been identified in many studies as having a positive relationship with performance. This positive relationship has been found to be more significant in interactive sports such as netball, as opposed to coactive sports such as tennis. Factors involved in group cohesion include environmental, team, personal and leadership aspects There are also four factors that influence cohesion namely, personal factors, team factors, environmental factors and leadership factors.To explore the team cohesion in a cohort of netball players, the psychosocial profiles of 445 netball players from 38 schools across South Africa were quantitatively analysed using statistical software. The netball players ranged from ages 13 years to 19 years with a mean age of 14.35 years. A sample of school athletes was chosen as mental skills interventions implemented at a younger age in the formative stages of a sporting career could have a greater impact.

Correlational analysis as well as analysis of variance was computed on the scores of the following measures:

1. The Group Environment Questionnaire (GEQ): an 18-item, self-report Likert-scale measure, measuring the four dimensions of cohesion; that has been proven to have constructed and psychometric validity across heterogeneous sports. Its strength lies that it views cohesion as a multidimensional construct including the four constructs of individual attraction to group-social, individual attraction to group-task, group integration- social and group integration-task. Therefore cohesion is measured on both the individual and group levels.

2. The Sport Competition Anxiety Test (SCAT): a 15-item self-report questionnaire where athletes indicate their feelings during competitive situations.

3. The 13-item self-report TEOSQ is based on Nicholls' (1989) goal perspective theory and has demonstrated construct validity and internal consistency reliability.

Significant differences in levels of competitive anxiety and social cohesion across different age groups were found; with younger athletes having lower levels of anxiety and higher levels of social cohesion. The results of this study have significant implications for the practice of sports psychology interventions for young netball players, as well as the understanding of the development of mental skills for youth in sporting contexts.

Keywords: team cohesion, netball, social cohesion, anxiety

Aggression and Masculinity Levels of Adolescent Males Exposed to Viewing Direct Contact Combat Sports in Selected Private Schools in Metro Manila

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Abstract: The study explored the relationship between aggression and masculinity in adolescent males aged 13 to 17 exposed to viewing televised direct contact combat sports from selected private schools in Metro Manila, Philippines. The study aimed to find the correlation between aggression and masculinity, as well as the correlation between masculinity and the subscales of aggression (i.e. Hostility, Antisocial behavior, Dominance, Destructiveness and Disobedience). The Aggression Inventory Scale for Adolescents (AISA) and Bem Sex Role Inventory (BSRI) were administered to 207 participants to measure their levels of aggression and masculinity, respectively. Results were statistically analyzed using the Pearson

correlation method. It was found that aggression is significantly correlated to masculinity (r =0.403, p<0.050), and that masculinity is significantly correlated to the subscales of aggression (Hostility (r = 0.307, p<0.050), Disobedience (r = 0.204, p<0.050), Antisocial behavior (r=0.359, p<0.050), Destructiveness (r=0.359, p<0.050), and Dominance (r=0.388, p<0.050).) Recommendations for future research were made based on these findings.

Keywords: aggression, masculinity, sports, mixed martial arts

Pattern Matching Fun in Youth Sport: Differences Within and Between Players, Parents, and Coaches

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Abstract: Youth sport is a dynamic exchange of interactions among players, coaches, and parents. Experts have noted that research should expand to understand these relationships throughout children's and adolescents' sport development and the impact they have on factors related to various aspects of sport participation (Bengoechea, Strean & Williams, 2004; Fraser-Thomas, Cote, Deakin, 2005; Sirad, Pfeiffer, & Pate, 2006). "Fun" is arguably the most important factor to understand. It is continually cited as the primary reason for participating in sport; and, lack of fun is cited as the number one reason for dropping out of youth sport (Eitzen & Sage, 2009). Exactly what is fun and how fun evolves and changes over youths' developmental span and across recreational and competitive levels is not entirely understood. Further, sex differences, as well as potentially differing opinions among youth sport stakeholders regarding which aspects are the most important determinants of fun remains to be elucidated. This is important because players, coaches, and parents are independent youth sport stakeholders that collectively influence the developing child's fun experiences in sport. Concept mapping is a robust, applied social research method of collecting and quantifying qualitative data from multiple stakeholders on a phenomenon of interest. From concept mapping, pattern matches can be derived which uniquely display multivariable data via ladder graphs. These pattern matches are helpful for understanding consensus and consistency of opinion between stakeholder groups and across different points in time (Kane & Trochim, 2007). Therefore, we engaged multiple youth sport stakeholders (N = 236) in concept mapping in order to: (a) identify all of the things that make playing sports fun, (b) quantify each fun determinant relative to its perceived importance and frequency, and (c) pattern match perceptions of "fun" among players (n = 142), coaches (n = 37), and parents (n = 57). Collectively, these youth sport stakeholders identified 81 determinants of fun within an 11 factor "fun" solution. Pattern matching results indicate a relatively high degree of consensus among stakeholders with respect to which factors are most important to fun (r's = 0.81-0.97); however, significant (p< .001) and notable differences do exist between stakeholder groups. Players, coaches, and parents were stratified by age, sex, and competitive level to allow for more precise pattern matching. Pattern matches are discussed relative to understanding the divergence of opinion between youth sport stakeholder groups and creating developmentally- and gender-appropriate sport experiences that maximize fun for players.

Keywords: concept mapping, youth sport, fun

Mental Skills Profile of Mens and Women's Junior Brazilian Volleyball Teams 2011

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Abstract: Fundamental Skills domain, were most athletes and teams The mental skills profile of the Men's and Women's Junior Brazilian Volleyball Teams2011 were evaluated through the OMSAT-3*, a questionnaire with 12 mental skills dimensions grouped in three domains, "Fundamental Skills", "Psychosomatic Skills" and "Cognitive Skills". The 13 male and 15 female athletes were evaluated during the preparation to the world championship 2011. The male athletes were 20.06 (± 0.37) years old and the female athletes were 18.87 (± 0.60) years old, on average. Both teams have international competition experience, both were first place in the South-American games 2010 and in the world championship; female team was second place and male team was ninth place in 2011. Most part of these athletes participated, in 2008, in the youth South-American games, male, second place and female, first place; and in the World Championship 2009, male, 9th place, and female, first place. The results of the OMSAT-3* profile were, men and women, respectively: "goal setting" 6.35 and 5.87; "self-confidence" 6.38 and 6.28; "commitment" 6.52 and 6.17; "reaction to stress" 5.65 and 5.78; "fear control" 5.73 and 5.90; "relaxation" 4.44 and 4.02; "activation" 5.33 and 5.02; "focusing" 5.48 and 5.70; "refocusing" 4.87 and 4.55; "imagery" 5.88 and 5.02; "mental practice" 5.63 and 5.32; and "competition plan" 5.46 and 6.00. In the Mann-Whitney test, the only significant difference (Z= -2.160, p=0.033) was in the "imagery" dimension when comparing the male (5.88) and female (5.02) teams. Results are consistent with other Brazilian and international athletes, especially in the reach high values.

Keywords: mental skills, high performance volleyball, expertise in sports, mental skills profiles, OMSAT-3 *

Influence of Theory of Planned Behavior on Sports Behavior among Youth in India

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Abstract: The present study aimed to analyze the extent to which the theory of planned behavior can influence youth to engage in Sports. It aimed to examine whether the three dimensions of the theory of planned behavior- attitude, perceived behavioral control and subjective norms influences an individual's intention to participate in sport activities. In order to examine the influence, the data was collected using semi structured interview developed for the purpose of the present qualitative research and was suited to the requirements of an exploratory and descriptive study. The respondents were in the age group of 18 to 24 years from a reputed private organization in National Capital Region, India, involving in total 50 participants (equal number of male and female respondents). Thematic analysis was used to identify relevant themes emerging from the interview data. Participants themselves expressed that engagement in Sports is important as it helps them perform better in their personal life and academics. Interestingly, the findings of the study reflected, that all the three factors of theory of planned behavior, attitude, perceived behavioral control and subjective norms plays an important role in influencing one's intention to engage in Sports among youth. The study implies that, factors of theory of planned behavior can have a significant influence in promoting sports activities among youth.

Keywords: planned behavior, sports, qualitative research, interviews, youth

Impact of Coping Strategies on

the Resilience of Brazilian Beach Volleyball Athletes

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Abstract: Studies have shown that for developing a resilient profile, high-performance athletes must deal with the adversity in the sporting context, using personal resources such as optimism, determination, competitiveness, commitment, maturity and persistence. The Resiliency Model suggests that coping strategies may be considered protective factors for the individual, being part of a reintegration process, which positively promotes the development of the resilient trait. This study aimed to analyze the impact of coping strategies on the resilience of Brazilian athletes of beach volleyball. The subjects were 48 athletes of the Brazil's Bank Circuit-Under-21 of Beach Volleyball with mean age 18 ± 1,3 years. The instruments used were the Athletic Coping Skills Inventory-28 (ACSI-28) and the Connor-Davidson Resilience Scale (CD-RISC). For data analysis it was used Shapiro-Wilk, Kruskal-Wallis tests, Mann-Whitney, correlation of Spearman and simple linear regression. The results showed: resilient athletes used the coping strategies: "coping with adversity" (Md = 2,25), "confidence and achievement" (Md=2,50), "coachability" and "personal coping resources" (Md = 8,00); no significant difference was found between level of resilience considering gender and ranking competition; it was found correlation between resilient athletes and strategies of "peaking under pressure" (r = 0,40), "coping with adversity" (r = 0,48) and "personal coping resources" (r = 0,47). The regression showed impact of coping strategies: "personal coping resources" (48%), "coping with adversity" (33%), "confidence and achievement" (25%), "goal setting and mental preparation" (12%) and "coachability" (9%) in the level of resilience of athletes. Conclusion: The strategy of coping with adversity in sport, confidence and achievement and personal coping resources, has a greater impact on the level of resilience of the athletes, showing that the way is dealing with problems and stressful situations of the sports context strengthen this trait of human behavior.

Keywords: coping, resilience, athletes

Purpose in Life as a Correlate of Happiness among Young Sports Persons

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Abstract: Seligman, (2003) revolutionized the concept of happiness with his notion of Authentic happiness. He purports three distinct kinds of happiness: the Pleasant Life (pleasures), the Good Life (engagement), and the Meaningful Life. Well-being in sport can best be understood through this deconstruction .The pleasurable life encompasses the positive emotions that are by-products of athletic participation. Engagement or flow may be categorized as being highly connected and totally absorbed in the sports activity. Establishing a sense of purpose and meaning in sports participation reinforces the pursuit of pleasure and engagement. Ed Diener, (2002), claims that fun and enjoyment may predict daily satisfaction; however life satisfaction is predicted by the quality of one's purpose and meaning. This hypothesis was tested in the present paper, focusing on the feeling of happiness among sport personnel. The sample consists of n=100 students in the age group 18 to 24 years, who are into sports like cricket, badminton, basketball, volleyball & athletics and had played at various level ranging from school to international level. A statistically significant correlation was found between purpose of life and happiness for the whole sample. By investigating the

purpose in life that leads to happiness, allows us to look at satisfaction and enjoyment in sport through a wider lens.

Keywords: happiness, purpose in life, youth

Revised Taiwanese Teenagers' Psychological Needs Satisfaction in Exercise Scale

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- 3. Kaohsiung Armed Forces General Hospital

Abstract: The purpose of this study was to revise a reliable and valid scale of the Chinese-version Taiwanese Teenager's Psychological Needs Satisfaction in Exercise Scale through a series of quantitative research procedures to measure the psychological needs satisfaction in exercise.

Our sample included 84 junior high school students in Taiwan of whom, 44 (52.4%) were male and 40 (47.6%) were female. The mean age of participants was 13.4 years (range=12-15, SD=.896). Additionally, 44.0% of participants had exercised for less than one year and 35.4% had exercised for more than 3 years.

The collected data were processed through exploratory factor analysis and confirmatory factor analysis. Exploratory factor analysis identified three subscales termed competence, autonomy and relatedness. The variance explained for the three subscales accounted for 62.85%, with corrected item-total correlations Cronbach's alpha=.901, competence subscale Cronbach's alpha=.887, autonomy scale Cronbach's alpha=.841 and relatedness subscale Cronbach's alpha=.816. The confirmatory factor analysis found the whole model's fit indices satisfied observed and latent variables, which showed satisfactory reliability, convergent validity and discriminant validity.

The results indicated the revised scale had satisfactory reliability, validity and construct validity. Future research on related areas by using the current scale is recommended.

Keywords: psychological needs, self-determination theory, competence, autonomy, relatedness

The Importance of Parents' Behaviors on Enjoyment and Boredom in Youth Athletes

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Abstract: Socialization into sport and physical activity can be considered a modeling process in which family members are powerful role models. Most of the studies revealed that both parents' exercise patterns and encouragement have an effect on children's exercise behavior. Thus, motivation has emerged as a potential factor that contributes to promoting appropriate physical activity. Thus, it would be interesting to determine how family behavior influences motivational aspects and other crucial psychological variables for appropriate sport practice.

The main aim of the research was to examine the relationship between boredom and enjoyment of children in sports, and parents' support of basic psychological needs, parents' perception about

level of self-determination, pressure and involvement. The sample comprised of 321 parents and 321 children, ranging in age from 10 to 18 years old. Players were male and female who belonged to different teams, team and individual sports, and completed questionnaires that assessed basic psychological needs support, parents' perception about their children's level of self-determination, parents' perception of pressure and sport involvement. Moreover, the boredom/enjoyment in sport scale was used to measure boredom and enjoyment in pupils. Results showed a positive relationship between parents' support of basic psychological needs and pupils' enjoyment, and a negative relationship regarding pupils' boredom. Moreover, athletes' boredom was related to parents' perception of interjected and external motivation in children, as well as parents' amotivation. A regression analysis was conducted to determine the predictor of boredom and enjoyment. Amotivation emerged as the strongest predictor of boredom, whereas parents' perception of pressure emerged as the strongest predictor of children's enjoyment. Lastly, it is emphasized that appropriate parental participation can promote an increase of players' enjoyment and decrease boredom in sport. Furthermore, it is hoped that researchers will continue to examine parental behaviors in sport, and that coaches and athletes will heed the advice of parents and implement their recommendations.

Keywords: motivation, sports, enjoyment, boredom, parents

The Relation of Bullying Behavior and Athletic Club Activities among Japanese Junior High School Students

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Abstract: The purpose of this study is to investigate the relation of bullying and athletic club activities in Japanese junior high schools based on empirical data. 1270 students from three junior high schools in a medium-sized town were investigated. There were 656 males and 641 females from all grades (grade 1=447, grade 2 =426, grade 3 =397) that were analyzed. The questionnaire contained items that are listed as the eight main aspects of bullying according to the national report (ridicule and teasing, verbal threat ,violence ,hiding belongings , outcasting , imposing kindness and meddling , being ignored by everyone,sponging money), and the number of "victims" and "assailants" in the last 90 days were surveyed.

Nine hundred and thirty-five students (61.2% or 573 males; 38.8% or 363 females) participated in athletic club activities, and 335 students (25.1% or 84 males; 74.9% or 251 females) participated in non-athletic club activities. An independent t-test was performed for the eight items aspect of bullying to analyze relation between athletic club activity and bullying. Results of ridicule and teasing "victim" and "assailant" and violence "victim" and "assailant" showed scores significantly higher in students who belonged to athletic club activities than non-athletic club activities overall. Especially, it is important to note that difference between the members and non-members was larger in "ridicule" and "violence". In addition, for the number of respondents regarding bullying, the number of students who answered a high number such as 100 to 1000 times (the number of students who experienced more than 90 times) was calculated as a guide. Twenty-seven out of 29 people who experienced "victim" of bullying belonged to athletic club activities, and 32 out of 33 people who experienced "assailants" also belonged to athletic club activities. Therefore, gender differences were looked in aspects of bullying in only the students who belonged to athletic club activities. Results of ridicule and teasing "victim" and "assailant" verbal threat "victim" and "assailant" violence "victim" and "assailant" hiding belongings "victim" and "assailant" imposing kindness

and meddling "assailant" being ignored by everyone "victim" sponging money "assailant", showed scores significantly higher in males than females overall.

It can be said that athletic club activity affects bullying behavior among junior high school students and therefore it is necessary to pay attention to bullying, especially in males who belong to athletic club activities.

Keywords: bullying behavior, athletic club activities, junior high school students

Development of the Perceived Physical Competence Scale for Young Children: A Study on 4–5 year old Japanese Boys and Girls

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Abstract: Sports withdrawal among young children has become a serious problem in Japan. Nurturing children's perceived physical competence, which is believed to promote exercise adherence, is important in resolving this problem. However, perceived physical competence is difficult to measure easily and expeditiously among young children. Therefore, the purposes of this study were (1) to develop the Perceived Physical Competence Scale for Young Children (PPCS-YC), and (2) to investigate the actual state of perceived physical competence among young children.

First, we created a running picture set (RPS), a jumping picture set (JPS), and a throwing picture set (TPS), to evaluate children's perceived physical competence. We chose these basic physical activities in order to control for the effect of individual sports experience. The RPS has five pictures of the same child running at different speeds. The JPS has five pictures of the same child jumping to different distances. The TPS has five pictures of the same child throwing a ball to different distances. The investigator asked children to select one picture from each with the questions "How fast can you run?", "How far can you jump?", and "How far can you throw?" respectively. Total scores on the instrument were calculated by summing the three scores on each picture set, which ranged from 1 to 5. The participants were 60 Japanese children (31 4-year-olds and 29 5-year-olds). To examine the validity of the instrument, we asked eight kindergarten homeroom teachers to evaluate the children's physical abilities, and we measured their motor abilities (time taken for 20-m sprint, distance covered in a standing broad jump, distance which they could throw a soft-ball). In order to examine the reliability of the instrument, we carried out a re-test three weeks later.

First, the Cronbach's acoefficient and test-retest reliability coefficients were sufficiently high, indicating satisfactory reliability. Second, significant correlations were found between scores on the PPCS-YC and tests of children's motor ability or teacher's evaluations indicating satisfactory reliability. Third, mean scores on each of the three picture sets were relatively high.

The validity and reliability of the PPCS-YC were confirmed. Four to five year old Japanese children appeared to have high perceived physical competence. This scale could be useful for understanding perceived physical competence among young children.

Keywords: perceived physical competence, young children, PPCS-YC, validity, reliability

Sports Consumption Psychology and Behavioral Characteristics of Students in Guangzhou Higher Education Mega Center

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Abstract: In order to provide important reference information of sports consumption among college students for the development of the sports industry and sports market industry of our country, the author conducted an investigation and an analysis on sports consumer psychology and behavioral characteristics of students in Guangzhou Higher Education Mega Center. The research methodology includes literature review, questionnaire surveys, actual interviews, and mathematical statistics. The results show that 60% of the students spend less than 50 yuan on sports a month; generally, the students' motivations of spending money on participatory sports activities rank as follows: to enhance physical fitness, to entertain, to control emotions, to increase social communication, to lose extra weight, and to conduct rehabilitation, though most students from rural areas consider that to increase social communication it should be ranked second place. The students' common motivations of buying sports articles are to pursue beauty, their low price, freshness, knowledge and victory. In addition, there exists contradictions between the objective reality and the subjective cognition in their sports consumption concept, which will be harmful to their physical fitness. Students mainly spend money on sports shoes, sportswear and watching sports games, preferring to participate in sport activities in places where the sun is not scorching. There also exist obvious differences of sports-item spending between males and females, liberal art students and science students, and students from urban areas and students from rural areas.

Keywords: sports consumption, sports consumer psychology, sports consumer behavior

Effects of Proto-Experiences Related to Sports on Later Sport Performance

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Abstract: Effects of proto-experiences related to sports during childhood on later sport performance and psycho-social characteristics were examined through case studies of monozygotic twins. Proto-experiences in sports were defined as "a childhood experience that a person considers as the most impressive and significant." Comparing adult athletic performance of monozygotic twin athletes that are genetically identical and that grew up in the same environment is an important method in examining the effects of proto-experiences in sports on later competitive careers.

Participants were two pairs of monozygotic twin athletes (Aar pair & Bb pair), with different athletic levels between the twins. One of the Aar pair was an Olympic athlete in Japan and one of the Bb pair was a top university athlete. The zygosity diagnosis questionnaire was used to confirm whether each member of a pair was a monozygotic twin (Ooki, et. al. 1990). Interviews were conducted individually for approximately 90 minutes with each person. During the interviews, questions were set up to cover the follow topics: proto-experiences in sports, early recollections, competitive careers, the siblings' relationship.

Proto-experiences in sports were classified into five categories based on the analysis of the participants' descriptions: Fact explanation, Experience recollection, Act description, Definition of evaluation, and Explanation of declamatory (Okuda, 2010). According to this classification, the twin with a high athletic performance in each pair was classified into the Definition of evaluation type and the other was classified into the Fact explanation type. Results corroborated with preceding studies: Proto-experiences in sports of those with a high athletic level tended to be classified into the Definition of evaluation type.

Regarding the narratives related to proto-experiences in sports, "When I was in the first grade of elementary school, I lost a marathon race. Because I was shocked, I won all the races after that and gradually increased my lead. I progressed, because there was always a rival close to me." (Aa), "I was very shocked at having lost the lead to another child who was shorter than me. 'Why, why, why?' I thought. In my athletic career, this feeling of shock seems to have been the motivation for improving my skills and my mentality."Bb Definition of evaluation type). The above results suggest that people narrating proto-experiences in sport through the definition of evaluation tended to narrate impressive experiences of being shocked for the first time in their life, and considered that this experience supported their athletic career.

Keywords: proto-experience, monozygotic twins, sport performance

Theoretical Research on the Problems of Youth Violence in Sports

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Abstract: Based on the relevant theories of youth violence in sports, this paper analyzed the relative issues about youth violence in sports systematically. The subjective influencing factors and objective influencing factors were put forward. Personality characteristics, cognitive deviation, emotional effect and personality weakening were the subjective influencing factors. The objective influencing factors included situational factors (project characteristics, competition and attack, score gap, competition result and rules) and social factors (model function, family guide, media influence, and the influence of related personnel and institutions). The measurement dimensions of youth violence in sports were constructed primarily by qualitative research, consisting of youth violence cognitive belief, youth violence emotion and youth violence behavior. The youth violence cognitive belief in sports included face doctrine, suspicion, hostility, unconvicted, revenge and resentment. The youth violence emotion in sports included irritability, impulse and lack of self-control. And the youth violence behavior in sports included verbal violence and physical violence. Furthermore, based on the three measurement dimensions, the developing scale of youth violence in sport was explained.

Keywords: youth violence, violence in sports, influencing factors, measurement dimensions, scale

The Relationship among Resilience, Well-Being and Mental Health of Teenage Athletes

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Abstract: With the recent development of positive psychology, much attention has been paid to the positive traits of athletes, such as resilience, well-being and hope, and positive correlations have been found among athletes' resilience, performance and psychological

well-being (David Fletcher & Mustafa Sarkar, 2012). Though the positive development of adolescents is critical for teenage athletes becoming elite athletes, few studies have been conducted on resilience, well-being and mental health of teenage athletes. The aim of the present study was to investigate the relationship between teenage athletes' resilience, well-being and mental health. One hundred and fifty-eight teenage athletes (75 from sports schools; 83 from ordinary high schools) who were engaged in shooting, archery, rowing, canoe/kayak, judo, football, weightlifting, wrestling, javelin, shot put and track and field participated in the study. All participants completed the Subjective Well-Being Scale, Mental Health Test and Resilience Scale for Chinese Adolescents. The results showed that teenage athletes' subjective well-being was negatively correlated with interpersonal relationship anxiety, anxiety of self-accusation and anxiety of sensitivity; the teenage athletes' subjective well-being was positively correlated with help-seeking family support and affect control, and resilience was positively correlated with mental health. The results from standard multiple regression suggested that adolescent athletes' resilience and subjective well-being could effectively predict the level of mental health.

Keywords: teenage athletes, resilience, well-being, mental health

Does the Relative Age Effect Exist in Physical Size, Motor Ability, Awareness of Physical Activity, and Kindergarten Teachers' Evaluation of Young Japanese Children?

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Abstract: The relative age effect (RAE) is defined as the consequence of age differences between individuals within the same cohort, either in school or in sports teams (Musch & Grondin, 2001). For example, a child born soon after the selection period's cut-off date benefits from up to 364 more days of cognitive and physical development compared to a child in the same age group born just before the cut-off date. The RAE in the Japanese educational system has not been well examined. Therefore, the aim of this study was to clarify the existence of the RAE in physical size, motor ability, and awareness of physical activity in young Japanese children, as well as in kindergarten teachers' evaluation of their own students' physical activity.

Data were collected from 397 Japanese children: 191 four-year-olds (90 male, 101 female) and 206 five-year-olds (104 male, 102 female). We compiled the children's demographic profiles (sex, age, and grade), measurements of physical size (height, weight, and sitting height), motor ability (performance during a 20-m sprint, standing broad jump, throwing a softball, forward bending, and quick jumps), and awareness of physical activity (liking, enjoyment, and competence). A questionnaire was also administered to 14 Japanese kindergarten teachers to evaluate the children's physical activity. Participants were divided into the following four groups based on birth month within the calendar quarter: Group A (April to June), Group B (July to September), Group C (October to December), and Group D (January to March), in alignment with the Japanese school year which runs from April 1 to March 31.

We examined the existence of the RAE across physical size, motor ability, physical competence, and teachers' evaluation by using a

one-way analysis of variance. The results of the class of 4-year-olds showed significant main effects on physical size, motor ability, and teachers' evaluation (Group A showed a better score than Group D), but not in awareness of physical activity. Within the 5-year-old group, we found significant main effects on physical size, motor ability, and teachers' evaluation (Group A showed a better score than Group D), but not in awareness of physical activity.

We conclude that the RAE does exist among young children in measurement of physical size, motor ability, and kindergarten teachers' evaluation of their physical activity. Thus, we propose that kindergarten teachers could benefit from an awareness of the existence of this phenomenon in the classroom.

Keywords: relative age effect, physical size, motor ability, teacher's evaluation, young children

The Relationships between Self-control, Self-Esteem and Coping in Collegiate Athletes

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Abstract: To explore the relationship between collegiate athletes' self-control, self-esteem and coping, this study used questionnaires to measure 235 collegiate athletes' self control, self esteem and coping. Results found that collegiate athletes are more likely to choose problem-focused coping and emotion-focused coping to actively respond to the stress of an event. Male collegiate athletes are more likely to use a problem-solving approach, while females shy avoidance coping more than males. Self-control is closely associated with coping approach; those with greater self-control and higher self-esteem are more likely to adopt a positive approach. Mediate effect analysis found that collegiate athletes' self-control can better predict their self-esteem and coping as self-esteem plays a mediate role between self-control and coping styles. This suggests that athletes can increase their self-control through self-control training to enhance self-esteem and, ultimately, its approach to seek positive stress coping actions.

Keywords: self-esteem, self-control, stress coping, athlete

Understanding Teachers' Verbal Instructions that Promote Sports Motivation in Dodge Ball Games among Young Japanese Children: Number of Steps Taken and Instances of Ball Touching

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Abstract: A decrease in motor ability in young children in Japan has been observed, and this, combined with reduced sports participation, has become a serious problem. Thus, it is important to develop

methods to enhance children's sports motivation, and disseminate this information among school teachers. Teachers' verbal instructions may have a promotional and suppressive effect on sports motivation. However, it is unclear what kind of verbal instructions are effective in promoting sports motivation among young children. The purpose of this study was to examine the effects of teachers' verbal instructions on children's sports motivation using the number of steps taken and the number of instances the ball was touched during dodge ball games among Japanese children as behavioral indices.

The participants of this study were 60 young Japanese children. Participants played five-minutes of dodge ball games under three experimental conditions: (1) a positively instructed condition (PIC), (2) a negatively instructed condition (NIC), and (3) a controlled (no instructions) condition (CIC). In PIC, teachers instructed children using only positive words. In NIC, teachers instructed children using only negative words. In CIC, teachers did not instruct children at all. The teachers used an instruction list in order to maintain quantitative and qualitative uniformity in the presented instructions. To avoid order effects, participants were divided into three groups, and the order of conditions for each group was changed. Participants wore pedometers during the games, and all games were recorded using two video cameras.

In order to examine the effect of teachers' verbal instructions on the number of steps taken, we compared the number of steps taken under each condition using a paired analysis of variance (ANOVA). Children under PIC displayed significantly more steps than those under NIC and CIC did. Next, in order to examine the effect of teachers' verbal instructions on the number of instances the ball was touched, we again used a paired ANOVA. No significant difference was found. These results indicate that teachers' verbal instructions influence the number of steps taken, but not the number of instances the ball was touched.

Conclusions: The results from this study demonstrate that teachers' positive verbal instructions increase the number of steps taken during dodge ball games in young children. This result suggests that effective verbal instructions from teachers may foster sports motivation among young children.

Keywords: teachers' verbal instruction, sports motivation, dodge ball game, young Japanese

Design of a Measuring Tool to Investigate the Capacity of College Athletes in China to Efficiently Manage Time

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Abstract: Time has been regarded as 'money' in modern society with fast rhythm. The capacity of college athletes in China to efficiently manage time is still an unanswered question. However, the concern is that there is lack of a specific measuring tool for college athletes in China. The objective of this study is to address this concern.

A total of 430 college athletes (223 men and 207 women) were recruited in this study to receive the test by the scale of time management disposition. Those subjects came from Beijing Sport University, Tianjin University of Sport, Tianjin Polytechnic University, and Henan University of Science and Technology. Before testing, 64 items were included in the preliminary questionnaire. After four times of exploratory factor analysis, reliability test and validity test for the included items, the scale was simplified to 15 items containing 4 dimensionalities, which included the sense of time value (3 items), the view of time management (6 items), time management performance (3

items), and time management behavior efficacy (3 items).

We used the Cronbach's alpha coefficient to show the reliability of the scale. The whole scale's alpha coefficient was 0.8504. Each of the above four dimension Cronbach's alpha coefficients were 0.6243, 0.8247, 0.6002, 0.6800, respectively, indicating the reliability of this scale is good. On the other hand, the above four dimensionalities could explain 53.994% of the total scale variances, showing high construct validity. Taken together, the scale is an appropriate tool for measuring the time management disposition of college athletes with good reliability and validity.

Furthermore, the researchers analyzed the data derived from the above measuring tool by using multi-factor multivariate analysis of variance and Canonical correlation analysis. The result suggested that the college athletes thought highly of the personal value of time and mostly depended on the help from their teachers and coaches, and their ability of putting time management into practice was weak.

Keywords: college athletes, time management, the scale of time management disposition

Influence of Japanese Undergraduates' Hardiness on Stress

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Abstract: Athletes have considerable stress, such as meeting the expectations of many people and setting performance records. Such stress has a negative effect on the performance of athletes. It is possible that the expression of psychological and physical symptoms (ex. depression, gastric ulcer, etc.) is related to an individual's personality when they are subjected to stress. Kobasa (1979) proposed that "hardiness" is a constellation of personality characteristics that function as a resistance resource when an individual encounters stressful life events. The personality dispositions of hardiness are commitment, control, and challenge. This study examined the influence of undergraduates' hardiness on stress prior to examining athletes. Participants were 468 undergraduates (mean age = 18.2, SD = 0.8 years) who answered questionnaires measured by the Hardiness Scale for undergraduates, Daily Life Stressor Scale for undergraduates, and Stress Response Scale-18. Participants were then divided into five groups according to their hardiness scores: High-Hardiness (n = 40), Low-Hardiness (n = 34), Low-Commitment (n = 13), Low-Control (n = 4), and Low-Challenge (n = 15). The results indicate that the High-Hardiness group has significantly lower scores than the Low-Hardiness group on all stressor subscales. This result is consistent with previous studies, suggesting that the High-Hardiness group is strong on stress. The Low-Challenge group has significantly higher scores on body-related stressors than the High-Hardiness group. Although there is no significant difference among the three Low-C groups, the scores on the existential and interpersonal stressors are higher than on the other stressors in the Low-Commitment group. The Low-Control group gives academics stressors higher scores than the other stressors. It is possible that the Low-Challenge group is stressed easily by changes in the living environment and so on, that the Low-Commitment group is stressed easily by one's personality and way of life, human relations and so on, and that the Low-Control group is stressed easily by college life and their studies. These results lead to the conclusion that an individual's perception of stress is influenced by their level of commitment, control, and challenge.

Keywords: hardiness, commitment, control, challenge

Parental Support as an Influencing

Factor on Young People to Participate in Activities

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Abstract: School sports competitions, sports standard tests, and a student's sudden death from running have been in the news recently. Youth physical fitness has become a popular topic of discussion in society nowadays. Physical exercise and improving fitness have an inseparable relationship. Young people, the builders and owners of the country's future, need a wealth of cultural knowledge and qualities, but the first and foremost importance is to have a healthy body. Much research has been done that study factors related to young people's participation in sports activities, from the most fundamental starting point which analyzes the reasons young people participate in sports activities. However, most of the research study factors which come from schools. The purpose of this study is to do a comparative analysis on the status of youth activities which are affected by different domestic economic situations and background factors. The entry point is on family factors, which are not mentioned in a lot of research, especially the influence of parents on young people to participate in sports activities. Although young people may spend more time at school than at home, the family environment and parental support factors impacting the words and deeds of young people are still also very important. The main methods used were literature studies, questionnaire surveys, descriptive statistics, and inferential statistics. Another tool, adapted from the American sociologist Duncan (Duncan, 1961), the framework of the socio-economic status scale questionnaire and parental support to influence adolescent physical activity was used. The test was carried out with students in Wuhan; a selection of 550 junior high school students and 560 high school students were investigated.

Keywords: youth activities, parental support factors

The Relation between Achievement Goal Orientation and Sport Flow of Middle and High School Soccer Players

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Abstract: This study aims to provide basic data that can help improve performance and exercise by examining the relationship between the achievement goal orientation and the sport flow of middle and high school soccer players. For the purpose of the research, the data on achievement goal orientation and sport flow were collected by using purposive sampling from middle and high school soccer players who participated in the National Football Competition in July 2012. A total of 632 copies were used for actual analysis. The data was processed by using PASW 18.0. The results are as follows: First, regarding the difference in achievement goal orientation according to education, the challenge goal orientation was significantly higher for middle school students than for high school students. Second, regarding the difference in sport flow according to education, the sense of control, loss of self-consciousness, and challenge-skill balance were significantly higher for middle school students than for high school students. Third, regarding the difference in achievement goal orientation according to the position, the goal orientation was significantly higher for forwards and defenders than for midfielders. Fourth, regarding the difference in sport flow according to the position, action-awareness merging was significantly higher for forwards and defenders, and ecstasy was significantly higher for forwards than for midfielders. Fifth, both task objective and self-objective affected the

sense of control and the loss of self-consciousness in sport flow, task objective affected clear goal and autotelic experience in sport flow, while self-objective affected action-awareness merging, challenge-skill balance, and transformation of time. And, both task objective and self-objective affected challenge-skill balance of high school players, and task objective affected clear goal, autotelic experience, sense of control, and loss of self-consciousness, while self-objective affected action-awareness merging and transformation of time.

Keywords: achievement goal orientation, sport flow, soccer

Self-Esteem Instability in Young Elite Basketball Players

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Abstract: In elite youth sports, the pursuit of performance enhancement questions the mental health of athletes. Young players are continuously exposed to constraints that can affect self-esteem and physical self, which are important determinants of both sports performance and mental health (Biddle et al., 2000). Previous researches have pointed that individuals who experience large fluctuations in self-evaluations are considered more vulnerable to psychopathology (e.g., depression) compared to individuals with stable ones (Kernis, 2005). For this reason, we investigated day-to-day psychological states of young elite players. The purpose of the present study was to explore temporal fluctuations in self-esteem and physical self-perceptions of basketball players involved in a highly competitive and intensive period of practice. The present investigation was conducted in light of a dynamical approach of the self (Ninot et al., 2004).

Seven young elite basketball players (M = 16.0 ± 0.58 years) volunteered and gave written informed consent to participate. They completed the Physical Self Inventory (PSI-6b; Ninot et al., 2006) and an error-measurement item each evening for 132 consecutive days. This tool is devoted to measure self-esteem (SE) and the five physical self dimensions (PS). This period coincided with the first phase of the French National Championship (first division). For each individual time series we computed descriptive statistics (Mean, SD) and performed ARIMA (Auto-Regressive-Integrated-Moving Average) procedures dedicated to day-to-day fluctuations analysis (Box & Jenkins, 1976).

The ARIMA results showed inter-individual differences with three types of dynamics observed according to subjects, and emphasized intra-individual homogeneity in that the six time series for one subject's self-concept systematically followed the same dynamics. More precisely, analyses showed that SE and PS series of subjects 1, 4 and 5 followed an auto-regressive process. Moving average models were found for subjects 2 and 6. Finally, the six dimensions of subjects 3 and 7 were characterized by a white noise process.

Results mainly revealed that the two more efficient players exhibited the strongest self-esteem and physical self variability and that these psychological dimensions followed an autoregressive dynamic. The underlying processes associated with such a model can highlight a not suspected high vulnerability for the most efficient players. It could as well suggest that the demonstrated sensitivity to daily sports events of athletes has to be considered as an important feature of talent development. Together, these results point out the relevance of a well-being-led approach of talent development in sport.

Keywords: talent development, variability, dynamics, time series analysis

The Effect of Saturday Sports Day

Participation on the Aggression and Stress Relief in Middle School Students

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Abstract: This study was aimed to demonstrate the effect of Saturday Sports Day participation on the aggression and stress relief among middle school students. Subjects for the study, who were 244 participating and 176 non-participating national middle school students at Gwangju, completed questionnaires. The following are the results: Firstly, there were significant differences in aggression by participants and non participants. Also there were significant differences in stress relief by participants, non participants and gender.

Secondly, there were significant differences in aggression by participants, non participants and grade. In addition, there were significant differences in stress relief by participants and non participants.

Thirdly, Saturday Sports Day participants' aggression had significantly influenced stress relief.

Taken the above results together, it is evident that there is a correlation between aggression and stress relief from Saturday Sports Day. Thus, to promote the psychological, physical, and social stability of middle school students, and to improve their quality of academic skills, the relationship between the role and strategy of Saturday Sports Day activities should be taken into consideration.

Keywords: sports day, aggression, stress

The Effect of Body Dissatisfaction on Happiness of Senior High School Students: Mediating Role of Self-esteem

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Abstract: To explore the effect of body dissatisfaction on happiness of senior high school students and the mediating role of self-esteem between body dissatisfaction and happiness, 837 (452 males, 385 females) senior high school students were invited to take part in this study. They were tested by the body shape select scale (Chen, 2005), the Rosenberg's self-esteem scale and the high school students' subjective well-being scale (Chen, Lian, & Ji, 2007). Body dissatisfaction was measured by the degree on difference between ideal body shape and actual size. Results showed that there were no gender differences on the strength of body dissatisfaction (16.1 ± 11.31 vs. 15.54 ± 11.54, t=0.70, p=.482), but existing differences in direction (7.64 ± 18.14 vs.-8.92 ± 17.19, t=13.51, p=.000); boys hoped themselves to be stronger, while girls hoped themselves to be slimmer. Standard regression coefficient of body dissatisfaction predicted negative emotions, positive emotions, learning satisfaction, life satisfaction and body satisfaction in five dimensions of SWB were followed by 0.057 (p=.103), -0.065 (p=.063), -0.045 (p=.202), -0.065 (p=.06) and -0.109 (p=.002), beta value for body dissatisfaction predicted self-esteem was -0.096 (p=.006), beta values for predictions of self-esteem on positive emotion, life satisfaction and body satisfaction were respectively 0.244 (p=.000), 0.366 (p=.000) and 0.258 (p=.000). Full mediation role test results through hierarchical linear regression method showed that beta values of predictions about body dissatisfaction on positive emotion, life satisfaction and body satisfaction were -0.042 (p=.221), -0.034 (p=.302) and -0.087

(p=.01) respectively after predictions of self-esteem was controlled. These results suggested that self-esteem played a fully mediated role in relationships between body dissatisfaction and positive emotion, as well as the relationships between body dissatisfaction and life satisfaction, but it only acted a partly mediated role in the relationships between body shape dissatisfaction and body satisfaction.

Keywords: body dissatisfaction, subjective well-being, self-esteem

Efficacy Perception of Coping Strategies and Psychological Well-Being in Young Tennis Players at the Competitive Level

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Abstract: The purpose of this research is to primarily analyze the effectiveness perception of coping strategies that young competitive tennis players use to cope with stressful situations derived from competitions; and, secondly to study the possible relationship with psychological well-being, since according to several theories (Edwards, 1992; Figueroa, et. al., 2005; Parson, Frydenberg y Poole, 1996; Kirchner, 2003; Gottlieb y Rooney, 2004; Klaaren, Hodges y Wilson, 1994; Fierro, 1997; Lazarus y Folkman, 1984) the concepts of coping and well-being are related. The sample comprised of 26 male tennis players with a mean age of 15, ranging from 13 to 16. Results obtained indicated that most effective coping strategies perceived were internal and emotional, against external and behavioral. We did not obtain any significant relationship between an athlete's effectiveness perception of coping strategies and global psychological well-being. These results are discussed and new research lines are proposed, such as the establishment of objective indicators of coping strategies' efficacy, since it is related to an athlete's psychological well-being and sport performance under stressful conditions.

Keywords: coping strategies, effectiveness perception, psychological well-being, tennis

The Relationship between Parents and Children's Sport Participation: Based on the Model of Knowledge, Attitude and Practice

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Abstract: As the main builders of children's healthy lives, it is confirmed that parents are indicative of children's sport participation. Based on the Model of Knowledge, Attitude and Practice (KAP) and sampled from six areas of Tianjin, this research made an empirical study on parents and children's sport participation and investigated some parents-children's sport participation issues relating to sport knowledge, attitude and practice. It is focused on the weighted allocation between KAP relevance to parents-children's sport participation and KAP interference to parents-children's sport participation.

By means of interviews and questionnaires, 15 parents were interviewed and 1600 sets of the questionnaires were distributed among which 1173 families completed (three rounds of questionnaires in total).

The KAP of children's sport participation was predicted by the KAP of parents' sport participation. Children's perception on quality of father involvement partially mediated the relationship between the KAP of children's sport participation and the KAP of parents' sport participation. In the targeted layer was significant difference on weighted distribution among parents' KAP about sport participation and practice ranked the first of KAP. In the criteria layer of knowledge, general health parenting knowledge was the largest contributor. In the criteria layer of attitude, task value was the largest contributor. In the criteria layer of practice, time input was the largest contributor. These results suggest that practice is the most crucial factor in the parents-children's exercise intervention and the best approach is time input on children's sports needs.

Keywords: parent-child, sport participation, the model of KAP, weighted allocation

Study on the Correlation of Cognitive Appraisal, Social Support and Stress Source of Athletes

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Abstract: With 195 male and female undergraduate athletes as participants, the thesis studied the correlation of cognitive appraisal, social support and stress source. The results showed that male athletes experienced much higher stress and cognitive appraisal than female athletes did. Male athletes tended to look at stressful situations as a threat and harm, and they received a lower grade in social support availability than female athletes did. However, female athletes experienced lower pressure levels and cognitive appraisal than male athletes did. In addition, athletes of different ages showed significant differences in competition anxiety dimension; athletes under 18 years old showed higher pre-competition anxiety than those over 18 years old, and athletes under 18 years old tended to regard pressure as a challenge while athletes over 18 years old tended to regard pressure as a threat and harm. Moreover, the relationship is weak between stress resource and social support, with each dimension of social support weakly explaining each dimension of stress; each dimension of social support can predict cognitive appraisal of athletes, and the degree of social support can improve social cognitive appraisal levels for athletes.

Keywords: Cognitive Appraisal, Social Support, Stress Source, Undergraduate Athletes

Social Physique Anxiety and Self-Handicapping in Students

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Abstract: The purpose of this study was to determine the relation between social physique anxiety and self-handicapping among boys and girls in high school physical education classes in Tehran. The researchers embarked on a descriptive survey design and employed the questionnaire method during the data collection process. The sample consisted of 197 students (87 boys, 110 girls). The researchers attended the physical education classes and the questionnaires were distributed in equal situations before physical activity. The sample completed the Self-Handicapping Scale (SHS) and the Social Physique Anxiety Scale (SPAS). Results revealed that there was a positive significant relation between social physique anxiety and self-handicapping of students, and also a significant difference between boys' self-handicapping and girls' self-handicapping. Moreover, there were significant differences between boy and girl students' self-handicapping and their social physique

anxiety. These results suggest that people with higher social physique anxiety exhibit more total self-handicapping in physical education classes. Also, boys mostly claimed self-handicapping where girls mostly showed behavioral self-handicapping.

Keywords: social physique anxiety, behavioral self-handicapping, claimed self-handicapping, student

The Effect of Aerobics Training on the Mental Health of Female College Students

Huizi Zhang, Yuan Jiang
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Abstract: Previous research has shown that physical exercises have good effects on college students' psychological health. Based on that, this study was designed to investigate the influence of aerobics training on the mental health of female college students using the experimental method. Participants were 200 female students (age from 18 to 21) from a medical university. They were randomly divided into two groups: one group did aerobics for three months while the other group could only take other P.E. classes excluding aerobics (including running and playing badminton). Mental symptoms of the two groups with SCL-90 questionnaire before and after the test were measured.

The results showed that: After three months of aerobics training, the symptoms of phobia anxiety, hostility, obsession, and paranoid ideation among students in the aerobics group declined; the difference was significant. Although the control group did not do aerobics, difference did exist--the difference of summarization was significant. The differences of somatization, obsession, anxiety, phobia anxiety and paranoid ideation were significant between the two groups.

In conclusion, the study demonstrated that aerobics training produced positive effects on the mental health of female college students. It could reduce the symptoms of phobia anxiety, hostility and obsession in particular. Diversification of sports would improve mental symptoms better. In order to gain mental benefits from physical training, students should choose an exercise program with appropriate intensity and frequency.

Keywords: mental health, aerobics, female college students

Healthy Children in Sound Communities – Motor Development Intervention Program in Primary Schools

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Abstract: Introduction: Recently published reviews (e.g. van der Horst et al., 2012; Niederer et al., 2012) on motor development and reduction of overweight and physical inactivity of younger children show the importance of integral approaches, including schools, communities, sport clubs, and parents. The intervention project Healthy Children in Sound Communities (hcsc., Naul et al., 2012) has the aim that by an integrated model of communities, schools, sport-clubs and scientific support, motor ability and life quality of primary school children can be sustainably improved. Intervention time was four years, in which motor ability and BMI as well as psychological and social factors were analyzed.

In the intervention time of four years, primary school children took

part annually in a motor test including measuring BMI. In class two and four their parents filled out a questionnaire about nutrition and physical activity. Children did surveys about life-quality, media consumption and physical activity (class 2-4), physical self-concept and class-climate (form three and four). In four cohorts 1212 German and 733 Dutch children participated in the project. Presented results concentrate on children of German Cohort 1 (C1, n = 216, female 45.2%) and 2 (C2, n=160, female 42.5%), who finished all four motor tests.

Motor results showed significant increase of performance in seven of eight test items (raw data). Instead of a control group, data was compared with German national reference data. Hereby children showed a significantly higher level of performance at five (C1) / six (C2) motor items ($p < .001$, $.147 \leq \eta^2 \leq .401$). BMI percentiles mean was reduced significantly for cohort 2 ($F(3,153) = 5,389$, $p = .001$, $\eta^2 = .096$). Media consumption of both cohorts was significantly reduced ($C1 F(2,190) = 134,269$, $p < .001$, $\eta^2 = .586$; $C2 F(1,122) = 11,996$, $p = .001$, $\eta^2 = .09$). Physical activity increased slightly significantly in C1 ($F(2,190) = 3,331$, $p = .039$, $\eta^2 = .034$). Group climate factors 'Social integration' and 'Being accepted in class' increased significantly ($F(1, 223) = 5,586$, $p = .019$, $\eta^2 = .024$; $F(1, 223) = 16,030$, $p < .001$, $\eta^2 = .067$). Analysis also showed significant correlations of social and psychological parameters with motor behavior and BMI.

Further analysis needs to be done to find out which social parameters (i.e. kind of commune, social background of parents, school profile, etc.) can lead to a successful or less successful intervention.

Keywords: motor ability, BMI, primary school children, intervention project

Difference in the Degree of Parental Support for Teenagers’ Physical Activity

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Abstract: According to social cognitive theory, people's behavior is affected by the environment (including family environment) and cognition. According to the expectancy-value model, social factors (parents, teachers, and peers) can affect teenagers' beliefs (high success expectations and provide the value of sports information, etc) and behaviors (provide experience, economic aid and personal participation, etc.) which influence their behavior motive. To investigate whether there is a difference in the support of parents on teenagers' physical activity style (i.e. providing a good family environment for physical activity), the Parental Social Support Questionnaire which was compiled by Davison (including seven problems, divided into logistic support and explicit modeling two dimensions) was used on a sample of 1000 middle school students' parents in Wuhan. Difference in the degree of parents' support for teenagers' physical activity was analyzed by chi-square test. The results show there are significant differences on the logistic support and explicit modeling for parents. Specific performance in the father to the teenagers' explicit modeling (i.e., the extent to which parents used their own behavior to encourage their children to be active) is far higher than the mother. On the other hand, the mother to the teenagers' logistic support (i.e., enrolling teenagers in sports and driving them to events) is much higher than the father.

Keywords: teenagers, physical activity, parental support

Emotional Education in Primary School Physical Education Class

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Abstract: For a long time, physical education class was seen as skill education, health education and discipline education, and the emotional role of the class has been overlooked. Emotional education in physical education class has special meaning. In China, most modern families are one-child families; the children of these families have many problems in interpersonal communication. Studies have found that the apathy was widespread in pupils and high school students, which leads to many problems. In some sense, indifference of students means a failure of education. As an important part of school education, emotional education pays more attention to students' attitude, emotion, feeling and belief, and its goal is to promote the development of an individual and society. The characteristics of interpersonal interaction in physical education are useful for students' healthy emotion. In addition, plasticity of pupils is conducive to emotion education, and the education effect will last a lifetime. Therefore, physical education teachers in primary school should be aware of the important role emotional education plays in physical education class, and master the skills of emotional education. For primary schools, they should supervise and assess the emotional education effect.

Keywords: emotional education, physical education, pupils

Physical-Self Concept, Adolescence and Sports Results

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Abstract: Physical self-concept is a multidimensional phenomenon which varies according to age and seems to both influence and be influenced by physical performance. Adolescence is a critical period on the life span where individuals experience major psychological and physical changes. It often coincides with a peak on sports performance. The aim of this study was to analyze the effects of sports results (victory versus defeat) and gender in physical self-concept of young teenagers. The European Portuguese version of Marsh, Richards, Johnson, Roche and Tremayne's Physical Self-Description Questionnaire (1994 adapted by Guilherme, J.; Peixoto, F., 2002) was applied to 106 Portuguese football and handball athletes (52 boys and 54 girls) immediately after a match. Results showed that physical self-concept was influenced by sports results ($p=0,048$). It was positively influenced by victory and negatively influenced by defeat. Also detected was a statistically significant variation on the physical self-concept according to gender ($p=0,000$), with boys showing higher average values than girls. Further studies with this population need to be developed; nonetheless these results indicate that physical self-concept should be taken into account by trainers/coaches.

Keywords: adolescence, physical self-concept, sports, performance

The Emotional Status of Chinese High School Students in PE and the Regulation Status of Different Effective Factors

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Abstract: This study used literature material, interviews, questionnaires, and mathematical statistics to investigate the emotional status of Chinese high school students in PE and the

regulation of different effective factors. The survey of 3675 Chinese high school students showed: In PE, the frequency of emotional experience from high to low in order was happy, fun, friendly, optimistic, calm, proud, inspired, grateful, boring, anxiety, sad, scared, hostility, and despair. There was significant statistical difference between the overall positive and negative emotional status of the students, the former was higher than the latter. The overall positive emotional status declined with higher grade; in junior high school, the overall negative emotional status rose with higher grade; in senior high school, the overall negative emotional status of students in grade 2 was lowest, grade one was highest, grade three was in the middle. The regulation effect of PE's benefit, teachers' ability and attitude, the satisfaction of PE's content setting, PE's frequency on the overall positive emotional status of Chinese high school students in PE were poor. The regulation effect of equipment, the emotion regulation ability and the acquaintance with sports and health curriculum standard on the overall positive emotional status of Chinese high school students in PE were very poor. The attitude of students and the teacher in charge towards PE basically regulated the overall positive emotional status of Chinese high school students in PE. The regulation effect of PE's intensity and satisfaction on the overall negative emotional status was poor. The regulation effect of PE's frequency, the mastery of emotion regulation methods and the equipment satisfaction on the overall negative emotional status were very poor. The acquaintance with emotion regulation function of sports and attitudes towards PE basically regulated the overall negative emotional status of Chinese high school students in PE.

The overall positive emotional status of Chinese high school students in PE was better than the negative, both of them were different in sex and grade. Different relevant factors had different regulating effects on the overall positive and negative emotional status; the general regulating effect was poor which needed to be increased.

Keywords: Chinese high school students, emotional status, PE, effective factor, emotion regulation

Group Counseling in Personal Accomplishment and Collaboration Improvement of Golfers

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Abstract: To investigate effectiveness of group counseling in personal accomplishment and collaboration of athletes, 16 teenage (age ranged from 13 to 17) golfers participated in an 8-week group counseling session comprised of four themes. The four units consisted of courses and activities which are applied in positive psychology, focusing on self knowledge and ways to get along with other people. As they are in puberty, lively and good at motor learning, the collaboration games such as bound to pass and relay games, were modified by adding stability factors to adopt their daily training and increase the difficulty of the activity to arouse their interest. On the contrary, the lectures on personal accomplishment seemed less popular, so we chose fable films instead, and arranged them after the activities when participants were excited and involved. The golfers were then asked to retell the fable and tell what meaning they learned from it aloud. At first, they could tell little and was just eager to go back to the activities, but as the course progressed, they found it fun watching the films and verbalizing and expressing what they learned. The views they caught become active and profound, and they even replayed the fables themselves in their own show style, and integrated the meaning of the fables with their training and daily life. The interview results showed that the participants enjoyed this group counseling and believe that they learned in a more positive way to get along with other people and their training. The coaches reported more collaboration in training; group counseling is a more

effective way to communicate with the adults.

Keywords: teenage athletes, group counseling, personal accomplishment, collaboration

The Providers of Sport Experience: Parents’ Considerations of Providing Opportunities for Their Children to Participate in Organized Athletic Activities

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Abstract: According to the parent socialization model (Eccles, Wigfield, & Schiefele, 1998), parents influence their children’s behavior and beliefs as providers of experience. In sport, empirical research has shown that most children’s first sport program is enrolled by their parents, and children’s continued participation in athletic activities is positively associated with parents’ encouragement and willingness to provide opportunities (Fredricks & Eccles, 2004). Despite the significant role that parents play in providing experience to children, however, parents’ considerations of providing sport experiences for their children have not been systematically studied, especially for parents from a Chinese culture. In this study, three parents from Taiwan were interviewed regarding their considerations. Content analysis of the interviews showed that there were various considerations. Children’s affection, age, gender, and the type of sports, as well as safety and competitiveness of the sport were the chief considerations. Finance, time, traveling distance and coach-related considerations were also mentioned, but not as much as in the literature from western culture. The parents indicated that physical development was the main benefit of physical activity, while mentioned less on psychological and social benefits. The results of this study are not entirely consistent with previous researches in western culture. According to this study, sport practitioners may put more efforts in creating a safer and less competitive environment for children to reduce parents’ worry of sending their children to a sports program. Sport practitioners may also emphasize more on psychological and social benefits of physical activity to enhance parents’ willingness to provide more opportunities for their children in sport.

Keywords: children, organized athletic activity, parents’ consideration

Youth Athletes’ Training and Competition Satisfaction: Contribution of Achievement Motivation and Locus of Control

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Abstract: The present research testifies the hypothesis that young athletes’ achievement motivation and locus of control could predict their satisfaction of training and competition. One hundred and two young athletes (mean age is 15.6±1.89) participated in the survey in which they filled in four scales (AMS, SAR, AST and ASC). Results showed that: 1) Internal success control could significantly predict the satisfaction of confidence in training ($\beta=.440$, $t=3.625$, $p=.001$). 2) Approach motivation could significantly predict the satisfaction of personal contribution ($\beta=.505$, $t=2.639$, $p=.012$). 3) Achievement motivation could significantly predict the democracy behavior of the coach ($\beta=.623$, $t=3.249$, $p=.002$). 4) Internal success

control could significantly predict the satisfaction of coach care ($\beta=.344$, $t=2.665$, $p=.011$), and approach motivation also could significantly predict it ($\beta=.574$, $t=3.260$, $p=.002$). 5) Internal success control could significantly predict the satisfaction of teamwork ($\beta=.348$, $t=2.442$, $p=.019$).

In conclusion, the athletes with higher achievement motivation might show more self-affirmation and feel satisfied about their coaches’ caring behaviors. The athletes with higher internal success control might be more confident and have better relationships with teammates and coaches.

Keywords: youth athlete, satisfaction, training, competition, achievement motivation, locus of control

The Mediation of Exercise Self-Handicapping between Perfectionism and Exercise Behavior of College Students

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Abstract: Purpose of Research: The research tries to analyze effect factors of exercise self-handicapping from the perspective of perfectionism, and also discusses the influential effect of exercise self-handicapping from the perspective of exercise behavior. With the tendency of perfectionism as the antecedent variable and the exercise behavior as the consequence variable, the relationships between exercise self-handicapping of college students and these variables are discussed in this paper.

We chose 652 college students from a university as subjects. Among the subjects, 352 subjects were male and 300 female. The average age was 20.6 (SD =1.08).

Instrument: Perfectionism was measured with the Multidimensional Perfectionism Scale, which was made by Zi Fei in 2006. Exercise Self-handicapping Scale was made by Zhai Yi-fei, and it has 14 questions belonging to three sub-scales: seeking excuse, reducing efforts and other enhancement. Exercise condition was measured with the method made by Liang De-qing. That is, exercise behavior was achieved according to the strength, time and frequency of the college students’ exercise.

The result shows that college students’ doubts of action of perfectionism has significant effects on exercise behavior, and this effect decreases when seeking excuse and reducing efforts are added; it shows that doubts of action has direct and indirect effects on exercise behavior; its indirect effects are realized through seeking excuse and reducing efforts. Concern over mistakes and personal standards of perfectionism have significant effects on exercise behavior and these effects become insignificant when seeking excuse and reducing efforts are added; it shows the effects of concern over mistakes and personal standards on exercise behavior are realized through seeking excuse and reducing efforts of exercise self-handicapping. Research results show that exercise self-handicapping is college students’ perfectionism and exercise behavior.

Conclusion: (1) Concern over mistakes and doubt about actions of perfectionism among college students could predict seeking excuse of exercise self-handicapping. Concern over mistakes, personal standards and parental expectations could predict reducing efforts. Concern over mistakes could predict other enhancements. (2) Seeking excuse and reducing effort of exercise self-handicapping could predict exercise behavior. (3) Seeking excuse and reducing effort of exercise self-handicapping among college students have a mediate function between perfectionism and exercise behavior-

-seeking excuse and reducing effort have full mediating effects on concern over mistakes, personal standards and exercise behavior, and part mediating effects on doubt about actions and exercise behavior.

Keywords: perfectionism, exercise self-handicapping, exercise behavior, college students, mediation

Propensities of Physical Activities by Age and Gender Difference of Preschoolers

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Abstract: This study is aimed to verify the preference for different types of physical activities of children according to age and gender. The correlations were investigated on the preference of physical activities by ratio distribution of age and gender difference in age 4 to 7 year olds through the guidance of each type of physical activity. The study was carried out with 164 children aged 4 to 7 years old in kindergarten around Seoul metropolitan area such as Seoul, Ansan, Siheung, and Yeongtong.

The research findings that were carried out through "Chi-Square Test" in non-parametric statistics were based on age and gender as independent variables, and gross/fine motor activities and feminine/masculine activities as dependent variables.

The analyses of correlations between independent variables and dependent variables are as below.

First, the preference of feminine and masculine physical activities by sexual characteristics of the children has significant difference. According to the study, male and female children prefer the physical activities that are strongly correlated with their gender.

Second, the preference of feminine and masculine physical activities by age of the children has significant difference. According to the study, the preference for masculine physical activities tends to decrease as the children get older; the preference for feminine activities of the female gender tends to gradually increases as they get older; in general, the result shows the decrease for the preference of masculine activities in all the children.

Third, the preference of gross and fine motor activities by sexual characteristics of the children has significant difference. According to the study, more male children prefer gross motor activities and more female children prefer fine motor activities.

Fourth, the preference of gross and fine motor activities by age of the children has no significant difference. However, according to the study, 4-year-old male and female children prefer fine motor activities more than older children.

Keywords: physical activity, preschool children, age, gender

Relationship between Positive Personality and Coping Style among College Athletes

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Abstract: Positive psychology focuses on factors of strength of personality. Some researchers suggest studying the positive traits of personality, also called positive personality. Positive personality

is an individual trait demonstrated by the steady, positive attitude, including self-confidence, acting rigorously, cooperation, tolerance, acceptance, trustworthiness and other features. Growing numbers of scholars believe that positive personality is a stable trait, by the interaction of many factors, which might affect the coping style and other performance. Considering the specific experience of college athletes, their positive personality might have different features. College athletes were chosen to examine their positive personality and its relationship with their coping style. Through literature analysis, synthesis, and the corresponding theoretical research and open-ended questionnaire survey, this study built a positive personality theoretical model and determined the college athletes’ features of personality, including self-confidence, cooperation, acceptance and optimism. One hundred and twenty-eight college athletes were chosen to find out the relationship between positive personality and coping style. Results were as follows: (a) no significant differences were found within sports, training period or sports level in college athletes’ positive personality. (b) Positive personality traits and positive coping were significantly positively related, and a significant negative correlation with negative coping style was found. (c) Positive personality could significantly predict college athletes’ coping style.

Keywords: positive personality, coping style, college athletes
Psychological benefits of exercise

Body Image and Health-Related Physical Fitness in Adolescents

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Abstract: Despite the numerous physiological, psychological, and academic benefits of physical activity (PA), declines in PA levels among adolescents have been observed over the last decade. The health benefits of physical activity would be particularly important for adolescents to overcome potential problems. Sport and physical activity are known to be important in the development of child and adolescent self-esteem and positive body image. This study intended to identify Health-related physical fitness and body image in adolescent living in Izmir/Turkey and to scrutinize the relationships between them. In present research a total of 710 volunteer adolescent (350 females and 350 males) participated. Of the adolescent the Health-related physical fitness parameters, sit-up for muscular strength, sit-reach test for flexibility, one mile run-walk test for cardiovascular durability (1609 meters endurance run) and 30- meter sprints for speed were evaluated. In the study the Body Cathexis Scale (BCS), developed by Secord and Jourard in 1953 was used as a measurement tool. In statistical analysis of data the one-way variance analysis, for independent groups the t test and Pearson correlation test were used. Significance level was 0.05. At the end of research it was detected that significant relationships were found between sit up test, 30-meter sprints and 1600-meter runs (negative correlation) and body image ($p<0.05$).

Keywords: health-related physical fitness, physical performance, body image, adolescent

Predicting Well-Being of Individuals Engaging in Weight Management: The Role of Important Others

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Abstract: Using the self-determination theory (SDT) framework, we examined how significant others might support or thwart psychological needs of people with weight management goals, and in turn might affect their psychological well-being and weight control behaviors. A longitudinal study with three sets of questionnaires administered over a six-month period was employed. One hundred and fifty six eligible participants (age = 31.01, SD = 13.21 years) were asked to complete questionnaires of SDT-based constructs, weight management behaviors, and psychological well-being. Hypotheses were tested using Bayesian path analysis. We found that perceived autonomy support from significant others was related to psychological need satisfaction, while controlling behaviors by others were associated with need thwarting. In turn, need satisfaction was associated with some beneficial outcomes such as life satisfaction, and need thwarting was related to some maladaptive outcomes such as higher levels of depressive symptoms and increases in unhealthy diet behaviors. Our findings indicate that the quality of interactions between individuals engaged in weight management and their significant others matters in terms of predicting the psychological needs and well-being of the former.

Keywords: psychological needs, autonomy support, controlling behaviors, psychological well-being, Bayesian path analysis

Determinants and Consequences of Flow Experiences in Exercise: A Self-Determination Theory Approach

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Abstract: The purpose of this study was to examine mechanisms leading to exercise behaviour by testing a path model that links the sequence between psychological needs, regulations, passion, flow, and behaviour. In addition, we examined whether flow is mediating the relationship between passion and behaviour. Passion has been conceptualised as harmonious or obsessive (Vallerand, Rousseau, Grouzet, Dumais, Grenier, & Blanchard, 2006). Vallerand et al. (2006) proposed that people engage in exercise activities that are enjoyable and of high value. Based on tenets of self-determination theory, exercisers physical involvement might be based on satisfying their need for competence, autonomy, and relatedness to other exercisers. In addition, high intrinsic motivation, rather than extrinsic or amotivation, would appear to play a vital role in regular and continuous exercise regimes. The final sample consisted of 160 exercisers (nfemales = 114; nmales = 46) between 19 and 48 years of age (M = 21.48; SD = 5.12). Main activities were gym workout (n = 48), walking (n = 22) running (n = 15). On average, participants have been involved in their activity for 6.33 years (SD = 5.62) and 5.54 hours per week (SD = 3.34). Participants completed the Dispositional Flow Scale-2 (DFS-2; Jackson & Eklund, 2002), the Passion Scale (PS; Vallerand, Blanchard, Mageau et al., 2003), the Psychological Need Satisfaction in Exercise Scale (PNSE; Wilson, Rogers, Rodgers, & Wild, 2006), and the Behavioural Regulation in Exercise Questionnaire-2 (BREQ-2; Markland & Tobin, 2004). Path analysis in AMOS 20.0 showed that psychological needs most strongly predicted self-determined variables of intrinsic motivation (R2 = .36) and identified regulation (R2 = .31). Regulations of intrinsic motivation, identified regulation, external regulation, and amotivation significantly predicted harmonious (R2 = .44) and obsessive (R2 = .35) passion. Both passion construct significantly predicted flow (R2 = .30), but failed to predict years of exercise engagement, whereas flow fully mediated this relationship by significantly predicting years of exercise (R2 = .07). The results supported that a substantial amount of variance is explained relationships between variables self-determination theory and the dualistic model of passion. In addition,

the passion-flow-exercise relationship revealed a full mediation that indicates flow to be critical aspect in peoples long-term exercise involvement.

Keywords: psychological needs, motivation, passion

Structural Relationship between Self-Realization Based on Basic Psychological Needs and Dance Flows in Middle-Aged Women Participating in Life Time Sport

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Abstract: This paper investigates three human psychological needs (autonomy, competence, and relatedness) within the context of dance flow and self-realization. Meeting these needs in life-time sports environments is congruent with principles of client-centered sport business clubs. Few studies have simultaneously examined these constructs. A key objective is to describe how basic psychological needs can be developed to self-actualization through dance flow in middle-aged female participants of life-time sport. Female members of business sport clubs (N=303) were recruited in the Seoul area by using the convenience sampling technique. The data were recorded and analyzed using SPSS 18.0 and AMOS 18.0 to perform frequency analysis, CFA, mediation effect, and SEM. Results indicate that dance flow plays a role between basic psychological needs and self-realization as a complete mediation. It is proposed that understanding theories, such as basic psychological needs and flow can help instructors and teachers of life-time sports to further understand psychological processes in menopausal women.

Keywords: psychological needs, dance flow, self-actualization, middle-aged women

Effect of Practicing Qigong•Dawu on Mood and Well-being

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Abstract: Qigong is a unique Chinese item of physical exercise benefiting health. It includes many sets of techniques. Researches on psychological effects of practicing Qigong indicate that it can significantly improve an exerciser's mood and psychological health and reduce anxiety and depression. However, so far, research to compare the psychological effects between practicing Qigong versus freely exercising regularly is scant. The present research, based on a one year experiment, attempts to verify that practicing Qigong•Dawu systematically will improve significant positive mood and reduce negative mood and enhance well-being more than merely exercising freely does.

Forty-three exercisers of 45-75 years old were sampled randomly as the participants from physical exercise places of two community residences. Twenty-four were in the experimental group while 19 were in the control group. The participants in the experimental group practiced Qigong•Dawu systematically; in contrast, participants in the control group carried on physical exercise freely. Before and after the experiment, all participants completed anonymous questionnaires including Chinese revised versions of the BFS scale (Cronbach alpha reliability coefficient of all subscales was greater than 0.67) and Subjective Well-Being scale (Cronbach alpha reliability coefficient is

0.72).

Independent sample t-tests on mean differences between the experimental and control groups of pre-test data show that no significant difference appears in well-being and seven mood indicators. Independent sample t-tests on mean difference between the experimental and control group of post-test data show that the mean of the experimental group in well-being is significantly greater than the control group's, and mean of the experimental group in deliberation, anger, excitability, depression, and inactivity is significant lower than the control group's. Relevant sample t-tests on mean difference between pre-test and post-test data of the experimental group show the mean of post-test data in well-being is significantly greater than the pre-test data's, and the mean of the post-test data in deliberation, anger, excitability, depression, and inactivity is significantly lower than the pre-test data's. Relevant sample t-test on mean difference between pre-test and post-test data of the control group show that no significant difference exists in all nine indicators. Conclusion: Practicing Qigong•Dawu systematically can reduce negative mood and enhance well-being, and has a greater effect than freely exercising regularly, but did not appear to have any effect on improvement of positive mood.

Practicing Qigong•Dawu is likely to be a better way of exercise than merely regularly exercising freely.

Keywords: Qigong•Dawu, exercise, mood, subjective well-being, experiment

Lifestyle and Gender Differences on Emotional Benefits of Exercise and Music Accompanied Exercise

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Abstract: Sixty subjects (19-26 years old, half male and half female, half chronic exercisers and half occasional exercisers) completed successively 30 minutes jogging (or walking) and 30 minutes music-accompanied jogging (or walking) with a fixed appropriate running speed of moderate intensity (subjects showed an appropriate running speed during a previous experiment by adjusting the speed by themselves) on a treadmill. Subjects self-evaluated their emotional state (anxiety, depression, fatigue, pleasure, vitality, flow) before (5min), during (30min) and after (10min) exercise as tasks of experiment 1 and experiment 2 (two experiments were arranged at least every other day, and experimental time, and physical and mental states of every subject of the two experiments were quite). Forty-five minutes were divided into nine time brackets (before exercise 5min were t0, during exercise 1-30min were t1-t6, after exercise 1-10min were t7-t8), and emotional states of nine time brackets were counted and analyzed.

Results of experiment 1 showed: Chronic exercisers had more pleasure benefits than occasional exercisers during t2 and t3. Female exercisers had more pleasure benefits than male exercisers during t0 and t1, however, they were opposite during t7 and t8. Occasional exercisers had more vitality benefits than chronic exercisers during t5, t6, t7 and t8. Male exercisers had more vitality benefits than female exercisers during t3, t4 and t6, however, they were opposite during t7. Chronic exercisers had more flow benefits than occasional exercisers during t1 and t6. Male exercisers had more flow benefits than female exercisers during t1, t2 and t7, however, they were opposite during t5. Occasional exercisers experienced more fatigue than chronic exercisers. Occasional exercisers experienced more depression than chronic exercisers during t2 and t3. Female exercisers experienced more anxiety than male exercisers during t2.

Results of experiment 2 showed: Chronic exercisers had more pleasure benefits than occasional exercisers during t2, t3, t4, t5, t6, t7 and t8. Female exercisers had more pleasure benefits than male exercisers during t0 and t1, however, they were opposite during t5, t6 and t7. Occasional exercisers had more vitality benefits than chronic exercisers during t0, t1, t2, t5, t6, t7 and t8. Male exercisers had more vitality benefits than female exercisers during t0, t1, t4, t5, t6, t7 and t8. Male exercisers had more flow benefits than female exercisers during t2 and t3, however, they were opposite during t6 and t7. Occasional exercisers experienced more fatigue than chronic exercisers.

These results indicate that there exists lifestyle and gender differences on emotional benefits of exercise, and music can either strengthen or weaken the differences.

Keywords: exercise and music accompanying exercise, emotional benefits, lifestyle, gender, differences

The Efficacy of Taekwondo as an Elective Course on the Health of College Students

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Abstract: This paper explored the efficacy of taking taekwondo as an elective course on the health of college students. Taekwondo elective courses were composed of technical teaching, practice form and theoretical teaching. The health of college students included physical health, mental health, and social adaptability. Methods used were literature surveys, questionnaires, and experiment and mathematical statistics. Results: The 3-semester learning of taekwondo improved the students' physical health. Before and after taking the taekwondo course, the achievements of the women's Sit and Reach were 11.20 ± 7.16cm and 13.05 ± 1.51cm respectively. P depression factor scores were 1.71 ± 0.57 and 1.51 ± 0.29 (p ± 0.46 and 1.22 ± 0.39) (P scale test scores were 22.12±7.02 and 22.77±5.19 (p<0.05)). Conclusion: Taking the elective course and learning taekwondo had comprehensive efficacy on the health of college students. It was conducive in promoting physical and mental health of college students, improving their social adaptability.

Keywords: efficacy, taekwondo elective course, health

Experimental Study on the Impact of Square Dancing on the Mental Health of the Elderly

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Abstract: China has entered the aging society; how to achieve a healthy and active aging population and how to improve the quality of life of the elderly has become a pressing social problem. In this study, 62 elderly participated in a 12-week square dance experiment. They danced 3-4 times a week for 40 minutes each time, with their heart rate controlled to 100-110 beats per minute. By comparing before and after the experiment, the results show that square dancing can affect the emotional state of the elderly, can improve older people's self-awareness, and improve interpersonal skills and adaptability. Conclusion: Square dancing can play an active role in promoting the mental health of the elderly. Square dancing is worthy to be promoted and popularized among older people.

Keywords: square dancing, mental health, elderly

The Effect of Exercise in Patients with Mild or Moderate Anxiety Disorders: Physical Activity and Quality of Life

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Abstract: Background: To investigate if patients with mild or moderate anxiety disorders can achieve a level of physical activity, increase their physical fitness and quality of life (QoL) through participation in a physical exercise program. Physical inactivity may be associated with the development of mental disorders; some epidemiological studies have shown associations between physical activity and symptoms of depression and anxiety in cross-sectional and prospective-longitudinal studies. Improving physical well being may also lead to improved psychological well being and is generally accepted that physical activity may have positive effects on mood and anxiety.

In a non-blinded controlled study, 46 patients referred by psychiatric clinics were either treated in an intervention (n=26) or a control group (n=20). The intervention group took part in 18 weeks of group exercise consisting of aerobic jogging and non-aerobic weightlifting. All participants were interviewed and tested at baseline and week 18. The intervention group increased in physical activity (106 min/week) and VO2max (0.39 ml O2/min). The VO2max increase was maintained after a 15-week follow-up period. The intervention group also increased significantly in dimension scores of health-related quality of life (Medical Outcome Survey Short Form-36 questionnaire, SF-36).

Patients with mild or moderate anxiety disorders who participated in a structured, supervised exercise program achieved in accordance with public health recommendations a higher level of physical activity and VO2max. The clinical implications of the study may be a suggestion of offering physical exercise to mild and moderate cases of anxiety.

Keywords: anxiety, exercise, physical activity, quality of life

Analysis of Participants Engaged in a Yoga Experience as Part of Cultural Studies Using Causal Networks

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Abstract: To investigate the changes and the emotions experienced by performing yoga and the continuous influence it exerts on daily lives, a data analysis that can capture the continuity of the yoga experience is required. In this study, the changes and the emotions that result from doing yoga and the influence of yoga on daily lives were investigated by using causal networks, which is a useful quantitative data analysis method for displaying the relationship between factors and the flow of experience. This information was gathered from interviews and outlined in a diagram form. By checking the daily participation records of 77 participants who took a yoga class as part of their cultural studies curriculum at H University in Gangwon, general factors related to change were extracted. Subsequently, 10 participants were chosen for in-depth interviews. In the interviews, the changes experienced from doing yoga, the emotions caused by the changes and the influence this change had on daily lives were documented. The collected results were displayed in a diagram using causal networks according to the flow of the questionnaire. As a result of the study, the changes experienced through doing yoga were

divided into four categories: physical, physiological, psychological and cognitive changes. Each change and emotion caused by the change was shown to have an influence on daily life. Through schematized causal networks for each change, the changes and emotions which the participants experienced and the influence of yoga on their daily life could be checked. Based on the study results, the effect of yoga, the need for various approaches to examine the effect exercise has on emotions, and the applicability of causal networks that can be employed as a creative and effective qualitative data analysis method were discussed.

Keywords: yoga, causal networks, physical activity

The Influence of Physical Exercise on Senior Students’ Physical Self-Esteem

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Abstract: In order to learn the influence of physical exercise on senior students' physical self-esteem and mental health, 453 senior students from Xi'an Physical Exercise University Secondary School and Xi'an JiaoTong University Middle School were sampled as subjects. Self-reporting Inventory and Physical Self-Perception Profile were used as test tools. The results are as follows:

(1) Teenagers who engaged in physical exercise had better mental health levels and body image self-respect than those who never engaged in physical exercises. This result clearly shows that if teenagers exercise constantly and regularly, their mental health level and body image self-respect condition will be improved.

(2) Because middle school students all enter the stage of self-consciousness in terms of maturation and development, there are no differences between male and female middle school students' body self-respect. But in the aspect of their mental health, there are differences of melancholy, anxiety, fear, uncomfortable body feeling and social interaction between male and female middle school students. From this, it is understood that there exist differences in social expectations and time of growth between males and females.

(3) Teenagers who engage in physical activities usually have healthier mental states, are more optimistic with their self-concept and more positive with body image and self-esteem.

(4) Through regression analysis, teenagers' physical health condition and body self-concept have the most influence on their mental health level. This conclusion tells us that regular physical exercise improves teenagers' physical health and their body self-concept which affects and promotes their mental health level.

Keywords: senior students, physical exercise, physical self-esteem, mental health, influence

Research on the Relationship between Teenage Leisure Sports Cognition, Participatory Behavior, and Physical and Mental Health

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Abstract: This research conducts discussions aiming at the relationship between leisure sports cognition, participative behavior, and physical and mental health of teenagers, with the purpose of providing useful references for schools, families and administrative

departments, as well as promoting development of teenage physical and mental health.
Methods: (1) Subjects: 920 boys and 880 girls (total 1800) from Guangzhou; (2) Research tools: measuring scale of leisure sports cognition; measuring scale of participative behavior; measuring scale of physical and mental health; questionnaire survey

Results: (1) Impact imposed by different gender: Via the T-test, there exists a fairly salient gap concerning the relation between leisure sport cognition, participative behavior, and physical and mental health based on the subjects' gender (p<0.01). (2) Impact imposed by different ages: Via variance analysis, there exists a fairly salient gap concerning the relation between leisure sport cognition, participative behavior, physical and mind health based on age (p<0.01). (3) Impact imposed by different kinds of schools: The T-test results indicate that based on different kinds of schools, there exists a fairly salient gap concerning the relation between leisure sport cognition, participative behavior, and physical and mental health (p<0.01). However, there is no indication of any salient differences concerning leisure sports perception in general (p>0.05).

Teenagers have a higher degree of leisure sports cognition, but they show a lower degree on action and sub-health state of physical and mind. Different factors exert influences on the state of their leisure sports cognition, participative behavior, and physical and mental health. There is strong correlation among the three aspects of leisure sport cognition, participative behavior, and physical and mental health.

Keywords: teenager, leisure sports cognition, participative behavior, physical and mental health

A Research on College Students’ Leisure Sport Needs, Leisure Sport Participation, Leisure Sport Satisfaction and Well-Being

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Abstract: The study discussed the topic of college students' leisure sport needs, leisure sport participation, leisure sport satisfaction and well-being. Specifically, the study addressed the differences and consequences of various individual backgrounds of the college students between leisure sport needs, participation, satisfaction and well-being. The aim was to show a healthy leisure sport concept and to promote better quality of leisure life among college students to improve the health of both body and mind.

College students were asked to complete a questionnaire for this study. Discussions and analyses were obtained through literature reviews. Average analysis, standard errand, t-test, correlation analysis and path analysis were administered.

There are three main findings resulting from this study 1) The college students had positive responses on leisure sport needs, satisfaction and well-being; specifically, factors regarding the identification on needs experienced, pressure releasing and external promoting all scored high averages; 2) The college students did not respond positively in leisure sport participation; the identification on consumptions of leisure sport activity scored high average scores, while the other intense leisure sport scored low average scores; 3) Significant differences resulted on leisure sport needs, participation and satisfaction based on demographics; 4) The college students' leisure sport needs, leisure sport participation, leisure sport satisfaction and well-being all correlated with each other; furthermore, leisure sport needs had a positive influence on well-being through leisure sport participation.

For university students, suitable leisure sport activities should be provided according to gender and different grade needs in order to promote the college student's leisure sport satisfaction and well-being.

Keywords: college student, leisure sport needs, participation, satisfaction, well-being

Exercise Self-Schema and Stages of Change Related to Adherence Intention in College Students

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Abstract: Obesity is one of several major public health problems and is quickly becoming an epidemic as evidenced by the rapidly increasing prevalence rates around the world. An active lifestyle and regular physical activity are important contributors to the prevention and reduction of the health risks caused by obesity.

The present study examined a school-based obesity prevention program aimed at reducing body weight, promoting physical activity levels and enhancing psychological variables of physical activity behavior among obese male adolescents.

A total 48 obese male adolescents (Meanage = 13.92, SD = .85, MeanBMI = 27.23, SD = 2.23) were recruited and randomly classified into the experimental group (n = 22, Meanage = 14.14, SD = .71, MeanBMI = 27.03, SD = 2.58) and the control group (n = 26, Meanage = 13.67, SD = .95, MeanBMI = 27.040, SD = 1.92). Participants in the experimental group received an obesity prevention program which consisted of skipping rope (3 times per week, 50 minutes) and psychological modification (2 times per week, 50 minutes) for 4 months. During the same period, participants in the control group did not participate in any other activities and lived as usual. At baseline, week 8, and week 16, all participants in the experimental and control groups completed measures of decisional balance, self-efficacy, physical activity, and Body Mass Index. Data were analyzed using frequency analysis and repeated measures of MANOVA.

The effects of implementing a school-based obesity prevention program were significant. Participants perceived a positive program impact on their BMI, physical activity, and psychological variables relating to physical activity. Particularly, in the experimental group, participants' BMI and perceived barriers were significantly reduced among the baseline to 16 weeks via 8 weeks. In contrast, exercise self-efficacy and perceived benefits toward physical activity were continually promoted during the same period. However, for the majority of outcome variables, differences between the experimental and control groups at the baseline and 8 weeks were not significant. A school-based obesity prevention program was significantly effective and fills a needed niche within school physical education programs. An expanded intervention and evaluation is needed to enhance and assess long-term programs and their effectiveness.

Keywords: exercise, self-schema, exercise adherence

Overweight and Obese Adolescents’ Physical Activity and Its Association with Body Mass Index and Motivational Attributes

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Abstract: A number of obesity studies have been focused on identifying the relationships between socioeconomic status and physical activity involvement. In behavioral medicine, the limited data are available on obese people' physical activity and its related psychological predictors based on psychological theories.

The current study investigated obese adolescents' physical activity and its association with body mass index and motivational attributes. A total of 232 adolescents were selected from C middle school located in northern Seoul (overweight group: 141, Meanbodyfat=25.93±1.03, Meanage=14.99±1.31; obesity group: 91, Meanbodyfat=29.76±2.25, Meanage=15.67±1.22). Leisure-time Physical Activity Questionnaire and Behavioral Regulation for Exercise Questionnaire were applied to measure participants' physical activity and motivational attributes.

Results indicated that physical activity, body fat, and motivational attributes were substantially correlated. Moreover, results identified that body fat and identified regulation, external regulation, and internal regulation were significant in explaining physical activity, but body fat was not significant to moderate the relationship between physical activity and motivational behavior regulation.

The current study offers meaningful data in understanding the motivational attributes most likely to contribute to initiation and long-term adherence of physical activity among overweight and obese adolescents.

Keywords: physical activity, obesity, motivation

The Influence Regular Exercise Has on College and High School Students' Physical Self-Esteem and Social Physique Anxiety

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Abstract: This study aims at exploring the dynamic influence continuous and regular exercise has on college and high school student's physical self-esteem and social physique anxiety.

This study used the Physical Self-esteem Scale and Social Physique Anxiety Scale to conduct a 16-week pre-survey and post-survey on 105 sophomores and Senior 2 students who have been engaged in regular exercise for more than twice a week with no less than 30 minutes each time. Ninety valid samples were finally achieved in total (45 from sophomores and another 45 from senior high students). It is suggested from the result of multivariate variance that as to the five dimensionalities of physical self-esteem and three dimensionalities of social physique anxiety, the main effect of grade on the dimensionality-physical attraction and discomfort of physique self-expression is extremely significant (F=22.983, p<0.01; F=24.921, p<0.01); the main effect of measuring time on the dimensionality-sense of physical self-worth and attraction is also remarkable (F=4.297, p=0.040; F=4.794, p=0.030); the same goes with the main effect on each dimensionality of social physique anxiety (F=33.005, F=35.124, F=19.236, p<0.01).

As to each variable being measured regarding physical self-esteem and social physique anxiety, neither grade nor measuring time has obvious interactive effect (p>0.05).

Continuous and regular exercises can significantly enhance college and senior high students' sense of physical self-worth and attraction while reducing the level of social physique anxiety substantially. The

degree of improvement on the dimensionality of college students' physical attraction and discomfort of physique self-expression significantly outperforms that of senior high students. The difference in scores of physical self-esteem and social physique anxiety caused by the pre-survey and post-survey between college and senior high students is independent from the influence of grade.

Keywords: regular exercises, college and middle school students, physical self-esteem, social physique anxiety

Research on the Psychological Stress of College Students Influenced by Physical Training

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Abstract: In order to discuss the psychological stress of college students influenced by physical training, we made a questionnaire survey based on personal weekly physical exercise schedules and psychological stress for 867 students from year one to year three in three colleges in Jiangxi Province (480 male students and 387 female students, with an average age of 21). We learned from multivariate analysis of variance that students who exercised sporadically had higher scores of interpersonal stress than those who exercised more than twice a week regularly, and men's scores of stress related to learning and employment were significantly lower than the women's scores. From multiple comparisons of means, we learned that students who only exercised once for less than 30 minutes scored higher on stress on learning than those who exercised 31 - 60 minutes or more on each exercise. The research concludes that college students who exercise sporadically have much more interpersonal pressure than those who train themselves more than twice a week regularly, and students who exercise less than 30 minutes feel more stressful in learning. In addition, female students' pressure related to learning and employment is significantly higher than males.

Keywords: physical training, psychological stress, research

Comparing Narrative and Informational Health Messages to Promote Physical Activity in Cancer Patients

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Abstract: Despite a large body of scientific literature on the benefits of physical activity during cancer treatment, these patients generally remain physically inactive. The sedentariness of cancer patients can be explained by the internalization of stereotypes. The development of communication strategies to modify beliefs about physical activity in cancer patients is thus a real public health issue. Several studies have shown that health messages in narrative form contribute more positively to changing health behaviors, like resistance to screening, than health messages in informational form. This study thus examined the effects of narrative and informational messages for physical activity promotion. A total of 79 voluntary and sedentary breast cancer patients (Mage=54.39;SD=13.29), all under treatment, were randomly assigned to one of three groups: (a) a group receiving an informational message promoting physical activity from an oncologist, (b) a group receiving a narrative message promoting physical activity from a breast cancer patient, and (c) a control group. After receiving the message, each participant completed a series of questionnaires measuring perceived similarity, self-efficacy, intention to engage in

adapted physical activity, and beliefs about physical activity in cancer patients. The results showed that participants receiving the narrative message reported higher perceived similarity, self-efficacy, and intention scores than those receiving the informational message and the control group. In contrast, the group receiving the informational message reported higher scores for perceived benefits of physical activity and lower scores for beliefs about side effects and negative effects of physical activity than the group receiving the narrative message and the control group. These findings extend the data on the favorable effects of peer-delivered narrative health messages to the promotion of physical activity in breast cancer patients. However, this study also indicates that oncologists might be more appropriate to change beliefs about physical activity in sedentary cancer patients. Thus, health messages from a combination of sources might be most effective.

Keywords: physical activity, cancer, health communication, narrative, peer

A Study on the Difference in Resilience in Jiu-Jitsu Training

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Abstract: The purpose of this study was to investigate the overall resiliency among jiu-jitsu practitioners depending on their individual differences, and to develop the jiu-jitsu training program systematically in order to increase resiliency for jiu-jitsu practitioners. In this study, 395 jiu-jitsu practitioners including men and women, who train at one of seventeen jiu-jitsu academies located in the areas of Seoul, Kyunggi-do, and In-Choen, voluntarily participated in filling out the Korean Quotient Test Questionnaire (KQR-53). The questionnaire was handed out on October 9, 2012 at each academy, and collected on October 12, 2012. Among the collected questionnaires, 54 questionnaires which comprise of 13.6% were incomplete and thus were omitted from data processing. The rest, 341 questionnaires which comprise of 86.3%, were used.

The data was collected and processed with two-independent samples t-test, simple regression analysis, one-way analysis of variance, Scheffe, and Pearsons correlation analysis with the SPSS/WIN 15.0 Program. The findings led to the following conclusions:

Jiu-jitsu practitioners' individual variances such as age, training frequency, training intensity, training experience, competition experience, belt grade, style preference have influences on their resiliency.

First, as age increases, resilience factors such as causation analysis ability, self-optimism, ability in impulse control, being grateful and overall resilience have been shown to be high. In particular, those in their 30s were shown to have the highest score.

Second, as the training frequency increases, resilience factors such as being grateful, self-expanding (ability to have relationships with others), and overall resilience have been shown to be high. In particular, training 5 times a week has shown the highest score followed by training 3 times a week.

Third, as the training intensity increases, most of the resilience factors have been shown to be high although the training duration of 1 to 1 1/2 hours has shown the lower scores.

Fourth, as the training experience increases, most of the resilience factors have been shown to be high. However, training experience which was less than one year has shown lower scores in self-optimism, being grateful and overall resilience. Fifth, as the competition experience increases, resilience factors such

as ability in impulse control, self-optimism, being grateful, and overall resilience have been shown to be high. In particular, competition experience of 7 times (of competing) or less has shown the highest score, and competition experience of 3 times or less has shown the lowest score.

Sixth, as the belt grade increases, resilience factors such self-expanding, self-optimism, being grateful, and overall resilience have been shown high.

Seventh, as for the style preference, only the ability in emotion control has been shown the equivalent between the position style and submission style. The rest of the eight resilience factors have shown the higher score for the submission style.

By training in jiu-jitsu, the resilience factors such as being grateful, self-expanding, and self-optimism showed the highest scores. On the other hand, resilience factors such as satisfaction in life showed the lowest score.

The population of the jiu-jitsu practitioners keeps growing, and thus this study's results may be a starting point in building an educational system and developing a program which may increase the resiliency for the jiu-jitsu practitioners.

Keywords: jiu-jitsu, resilience, martial arts, BJJ, MMA

Basic Psychological Needs and Subjective Happiness: The Effects of Dance Sports Participants' Ego-Resiliency

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Abstract: This study aims at verifying the effects of dance sports participant's ego-resiliency on basic psychological needs and subjective happiness. For this study, adults who are members of dance sports clubs in Seoul were chosen as the subjects. Among them, samples were chosen by purposive sampling method. The respondents were asked to answer a self-administrated questionnaire. We analyzed the collected data statistically using the PASW WIN Ver. 18.0. Results obtained from this research are as follows: First, dance sports participant's ego-resiliency affected basic psychological needs. Second, dance sports participant's ego-resiliency affected subjective happiness. These results showed that dance sports participant's ego-resiliency is an important factor in explaining basic psychological needs and subjective happiness.

Keywords: ego-resiliency, basic psychological needs, subjective happiness

Self-Efficacy and Dwelling Environments Mediate the Relationship between Physical Activity and Physical Fitness

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Abstract: We investigated the direct and indirect effects of environmental and psychological variables on physical activity and physical fitness among rural teenagers in Huanghua, China. The participants included 923 Chinese teenagers aged 13-19 years. Four sociodemographic attributes (gender, age, parents' education level and parents' employment status), psychological variables

(self-efficacy, pro, and cons), dwelling environmental variables and physical activity questionnaire for adolescents (PAQ-A) were assessed using standardized survey measures. Health-related physical fitness (cardiovascular fitness, muscular fitness, body composition and flexibility) and sport-related physical fitness (reaction time and balance) were measured. Structural equation modeling was conducted to determine the relationship. Dwelling environments had indirect effects on physical activity through self-efficacy, pros and cons. Health-related physical fitness could be seen to have indirect effects through self-efficacy and dwelling environments. Sport-related physical fitness had indirect effects through self-efficacy. Our findings suggest that environmental factors and self-efficacy should be considered in the interventions to promote physical activities in teenagers.

Keywords: self-efficacy, dwelling environmental, physical activity, physical fitness

Difference among Adaptation, Coping Efficacy and Life Satisfaction of PE-Major and Non-PE-Major College Students

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Abstract: As the key indicator of subjective well-being, general life satisfaction is the individuals’ overall evaluation of their quality of life according to the standards set by themselves. Adaptation and coping are two important variables which significantly affect life satisfaction. We assume that: (1) the relationship between adaptation and life satisfaction is influenced by the mediate of coping efficacy. Adaptation may have a direct impact on life satisfaction and an indirect effect on coping efficacy. (2) Individuals from different majors have different styles of coping efficacy which affects life satisfaction differently. To explore the intrinsic links among the three factors, considering individuals’ subjective and objective factors on general life satisfaction comprehensively, this study investigated PE-major and non-PE-major students by trying to find the factors affecting their general life satisfaction and their interactive relations in a horizontal level. It also put forward a structure model of general life satisfaction and explained the impact factors of it as well as the relationships between them. The study would supply a useful cue for further research. Using a class cluster sampling method, 201 PE-major students (120 males, 81 females) and 263 non-PE-major students (108 males, 125 females) were investigated. Four hundred and thirty-one valid questionnaires (200 sports, 232 non-sports) were collected and the recovery rate was 93.1%. By using the adaptation scale, coping efficacy scale and general life satisfaction scale, this paper investigated the mediating effects among adaptation, coping efficacy and life satisfaction, and points out differences of adaptation and coping efficacy between college students of different majors. The results indicate that 1) the score of study adaptation and life adaptation of sport major students is lower, but the score of other variables on PE-major students is higher than non-PE major students; 2) there are mediating effects between adaptation and coping efficacy on PE-majors, and there are partial mediating effects among emotional adaptation, interpersonal adaptation and life satisfaction on non-PE-major students.

Keywords: adaptation, life satisfaction, coping efficacy, mediating effect

Attitudes toward Physical Education and Physical Activity among Adolescents with Internet Addiction

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Abstract: The Internet has become one of the most popular media for socialization, education, information access, entertainment, shopping, and communication, but heavy use of the Internet results in many negative effects. Adolescents with Internet addiction usually suffer from problems with their daily routines, school performance, family relationships, mood, and self-esteem. The question of whether this would produce negative impacts on physical activity level is still unknown. The aim of the present study was to compare the attitudes toward physical education and levels of off-school physical activity between adolescents with and without Internet addiction. A total of 760 high school students (431 male and 329 female, M = 16.88 yr) were recruited for the study. Self-report scales were utilized to assess Internet addiction, attitude toward physical education and physical activity level, including the Chen Internet Addiction Scale, the International Physical Activity Questionnaire-Short Form, and the Student Attitude toward Physical Education. The results revealed that 149 participants (19.60%) were classified into the Internet addiction group. Students with Internet addiction had lower scores on perceived usefulness toward physical education and lower levels of leisure-time physical activity compared to those without Internet addiction. This result supports that Internet addiction is associated with less positive attitude toward physical education and lower levels of physical activity in adolescents. Since many psychological and cardiovascular problems are related to physical inactivity, it is suggested that prevention and intervention best be carried out for adolescents with Internet addiction. It is also important to increase students’ positive attitudes toward physical education via attractive curriculum design that may increase their leisure-time physical activity, and directly reduce the time of Internet usage.

Keywords: sedentary lifestyle, internet usage, physical education class

Effects of a Physical Activity Intervention Program on Executive Function in Overweight Children

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Abstract: Executive function (also called cognitive control) refers to a set of high-ordered cognitive processes responsible for organizing and controlling goal-directed behavior. Recent evidence suggested that physical activity and fitness were positively associated with executive function. Using the first-round data from Odense overweight intervention study, the present study was aimed at investigating the effects of a 6-week physical activity intervention program on overweight children’s executive function.

The subjects (mean age=12.01±0.42 years) were recruited from the municipality of Odense, Denmark. Participants were eligible for participation in the study if they exceeded age- and sex-specific body mass index (BMI) cut-off points for obesity based on criteria from the International Obesity Task Force. The participants were randomly allocated to either the intervention group (N=32, 56%

girls, BMI=24.9±3.1 kg/m2) or control group (N=28, 54% girls, BMI=24.3±2.6 kg/m2). The children in the intervention group were engaged in fun-based physical exercise and sports (approx. 3 hours or more per day) in a day camp for six weeks. At the camp, food intake was prepared and served according to the Danish national dietary recommendations. No calorie restriction was enforced. Children allocated to the control group received a standard intervention, which consisted of one weekly physical activity session and a meeting with a dietician. Primary outcome for the current report is executive functioning, which was measured by Trail making test (TMT) and Stroop color-word test.

After the 6-week intervention, the reduction in BMI was larger in the intervention group (adjusted mean difference, -2.28[95% CI -2.76,-1.81], p<0.001). TMT task and Stroop task performances were improved significantly in both groups after intervention (all p<0.001). However, there was no significant difference in the changes in TMT task and Stroop task scores between the groups (all p>0.05).

The preliminary results demonstrated that the 6-week physical activity intervention program for overweight children did not exert greater benefits on TMT task and Stroop task performances compared with the control group. Further research with larger samples and longer intervention periods is needed to confirm the beneficial effects of physical activity on cognitive function in children.

Keywords: physical activity, obesity, executive function, cognition

A Study on the Relationship between Perceived Autonomy Support, Physical Self-Esteem and Life Satisfaction of Junior High School Students in PE Class: Based on Basic Needs Theory

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Abstract: This investigation tested a Basic Needs Theory BNT model of physical self-esteem and life satisfaction with adolescent students participating in junior high school physical education PE classes in China. Direct relationships among perceived autonomy support in PE class, basic needs satisfaction in PE class, physical self-esteem and life satisfaction were tested in the model. The mediating roles of basic needs satisfaction and physical self-esteem were also tested. Junior high school students(N=1200) completed scales pertaining to perceived autonomy support in PE, basic needs satisfaction in PE, physical self-esteem and life satisfaction. Results from structural equation modeling revealed a good fit of the data to the hypothesized model. In the structural model all direct associations between variables were significant. Basic needs satisfaction in PE was a partial mediator in the relationship between perceived autonomy support in PE and physical self-esteem. Besides, physical self-esteem partly mediated the relationship between basic needs satisfaction and life satisfaction. The overall model accounted for 21% of variance in junior high school students’ physical self-esteem in China. BNT seems to fit our collective culture, and appears to be a solid framework to explain the phenomenon of exercise which can promote mental health in PE class and psychological benefits of exercise.

Keywords: basic needs theory, perceived autonomy support, physical self-esteem, life satisfaction

Reflective and Impulsive Determinants of Exercise Behavior

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Abstract: Models employed in exercise psychology highlight the role of the reflective system but ignore the impulsive system for explaining behavior change. However, exercise behavior seems to be governed not only by reasoned attitudes and goal-directed behavior but also by impulsive influences. We proposed a model that exercise behavior is determined by (1) reflective precursors, which contain attitude behavior, subjective norm, perceived behavior control, social support, positive outcome expectations, and exercise self-efficacy, (2) impulsive precursors, which are reflected by the affect association on exercise. We assessed the exercise behavior, reflective precursors (as measured via self-report) and impulsive precursors (as measured via Single Category Implicit Association Test) of 433 college students. The model was examined using the method of structural equation modeling. The overall goodness-of-fit indices of the model was satisfactory, $\chi^2/df=2.678$, RMSEA =.057, TLI=.928, IFI=.938, CFI=.938, and NFI=.90. The results supported that both the reflective precursors and the impulsive precursors can predict exercise behavior.

Keywords: exercise, reflective system, impulsive system, SC-IAT

Acute Exercise Effect on Neurocognitive Function: Role of BDNF

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Abstract: Extensive research has found beneficial effects of acute exercise on cognition, particularly executive function. According to studies utilizing neuroelectric measures, namely event-related potential (ERP), a majority of studies observed a greater P3 amplitude following acute exercise, implying that facilitated cognitive performance resulting from acute exercise was attained through increased attentional resources. Alternatively, some recent evidence has shown that brain-derived neurotrophic factor (BDNF) might also play a role in mediating the relationship between acute exercise and cognition; however, only a few studies have examined this issue. Therefore, the purpose of the present study was to explore the effect of acute exercise on neurocognitive function using the Stroop Test and its induced P3 component of ERP, as well as on BDNF. Using a within-subject focus and a counterbalanced design, ten college students were required to perform the Stroop task and ERP; circulating concentrations of BDNF after both acute exercise and reading treatments were assessed. The results revealed that acute exercise leads to better Stroop performance and increased P3 amplitude. Furthermore, the higher concentrations of BDNF were induced by acute exercise compared to the reading treatment. The findings suggest that the positive effect of acute exercise on cognitive performance may be through increased allocation of attentional resource as well as enhanced neurotrophic factors.

Keywords: aerobic exercise, executive function, Stroop Test, P3

Effect of Cardiovascular Fitness on Executive Function among Young Obese Adults: A Pilot Study

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Abstract: Obesity has been proven to be the causes of many diseases such as diabetes, stroke, hypertension, and risk of early death. The related studies further revealed that obesity may lead to cognitive decline, and is negatively correlated with executive function. Physical fitness has been demonstrated as having positive impacts on executive function, and studies have suggested that superior executive function are associated with individuals who have higher fitness levels. This study aims to investigate the difference in cognitive functions between young obesity populations with high and low fitness levels. Fourteen male college students (mean age = 19.5 ± 0.8 and mean body mass index > 30) were divided into two groups based on their cardiovascular fitness test (assessed by running 1600 meters). The Tower of London (TOL) test, an assessment of the planning aspect of execution function, was used as the cognitive measurement. The results indicated that the obese group with higher fitness levels performed more accurately with less total moves in Tower of London Test than those in the low fitness group, suggesting the beneficial effects of higher fitness.

Keywords: overweight, physical fitness, Tower of London (TOL) test

Obesity, Cardiovascular Fitness, and Cognitive Function

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Abstract: Obesity has been recognized as a main risk factor for causing a variety of diseases and therefore, the global epidemic of obesity has become a major public health concern. While inconsistent findings in this area have been previously presented, some recent studies have observed a similar negative relationship between obesity and cognition. Fortunately, studies have pointed out that those engaging in physical activity, or adults with high fitness levels show better cognitive functions. It is speculated whether the positive effects from fitness could extend to obese populations; however, to date, few studies have simultaneously examined the relations between obesity, fitness, and cognitive function. The aim of this study was to investigate the effects of obesity on cognition, and additionally, to examine whether fitness could moderate the relationship between obesity and cognition. Twelve male college students (mean age = 20.42 ± 1.00 years) meeting the requisite criteria were recruited and categorized into four groups: obese adult (body mass index, BMI > 28) with low fitness (n = 3) or high fitness (n = 3), and normal-weight adult (BMI ranged from 18 to 25) with low fitness (n = 3) or high fitness (n = 3). Each participant was requested to undergo cognitive function evaluations and then cardiovascular fitness measurements. Cognitive function was assessed by the stop-signal task index, stop signal response time (SSRT). SSRT presents the latency of the inhibitory process calculated by subtracting the mean stop signal delay from the untrimmed mean GO reaction time of the response task. A fitness test was applied using VO2max. A one-way ANOVA was conducted to compare the differences in SSRT among the four groups. A marginal significant difference in the SSRT among the four groups was found (p = 0.0702). In general, adults in both high fitness groups had longer SSRT than those in low fitness groups, suggesting that fitness leads to better inhibitory ability, regardless of weight status. Interestingly, the SSRT difference between high and low fitness in normal-weight adults was larger than those in the obese group, implying normal-weight adults derive more beneficial effects dealing with the visual inhibitory information processing from fitness, compared to obese adults. Our findings suggest that obesity is negatively associated with cognition. Moreover, while beneficial influences from fitness could be found in both obese and normal-weight populations, the obese population seems to demonstrate less

sensitivity in this regard than does the normal-weight population. It should be noted that the present study involved only a limited sample size and this issue should be addressed in the future.

Keywords: body mass index, exercise, cognitive function, stop-signal task, response inhibition

The Impact of Obesity on Cognitive Function: A Preliminary Study

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Abstract: The prevalence of overweight and obese individuals is on the rise. Between 1980 and 2002, an obesity epidemic doubled in adults aged 20 years or older and an overweight epidemic tripled in children and adolescents aged 6 to 19 years. Obesity has been connected with several diseases, including diabetes, stroke, and high blood pressure. Additionally, obesity has recently been linked to a higher risk for impaired cognitive function, executive function, attention, and memory. However, the negative relationships between obesity and cognition were found to be inconsistent among previous studies and none of these studies have reported the fitness status of their test subjects. Therefore, the purpose of this study was to assess the differences in cognitive performance between obese and normal weight adults with average fitness levels. Eleven healthy college students were recruited, six being within the normal body mass index (BMI) range of between 18 and 24, and the other five students were obese (BMI > 28). Cardiovascular fitness of the participants was estimated from a single-stage sub-maximal protocol. Cognitive function was assessed by the Stroop Test. While there were no significant differences found in both the Stroop congruent and Stroop incongruent conditions of the Stroop Test, obese adults showed worse cognitive performances compared with the normal weight adults, suggesting that obesity has a negative impact on cognition. In further examinations, it would be worthwhile to investigate the effects of obesity on cognitive functions using a larger sample size.

Keywords: body mass index, cognitive function, fitness

The Effects of Cognitive Appraisal and Intensity on Exercise Affect

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Abstract: To investigate the effects of cognitive appraisal and intensity on exercise affect, 91 low-active adults were selected to complete 30 minutes of treadmill running. The participants were divided into four groups: (1) 23 participants who had full knowledge of the exercise duration ran above ventilatory threshold, (2) 20 participants who had full knowledge of the exercise duration ran at 80% of ventilatory threshold, (3) 25 participants who did not know the exercise duration ran above ventilatory threshold, and (4) 23 participants who did not know the exercise duration ran 80% of ventilatory threshold. Affect was measured before, every 3 minutes during exercise, and post-exercise by Feeling Scale. Positive affect declined throughout the first half for group 1, group 3 and group 4, and continued their decline until the end for group 3 and group 4 while a rebound effect was observed in group 1. Positive affect increased from pre-exercise to pos-texercise for group 2. We can conclude that exercise intensity influences the affect during exercise, while cognitive appraisal influences the affect both during exercise and post-exercise. Intensity above ventilatory threshold reduces the pleasure of exercise.

Keywords: cognitive appraisal, intensity, affect, ventilatory threshold

The Influence of Acute Exercise on Stop-Signal Performance in Children

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Abstract: A considerable number of studies have suggested the positive associations between acute exercise and executive function. Furthermore, increasing evidence has suggested that acute bouts of exercise might have particularly sensitive effects on some aspects of executive function, such as inhibition. However, the majority of the studies focused on only young or older adults, and none of them have explored the effects of acute exercise on children. Given that executive function relies heavily on the prefrontal region that is still underdeveloped in children, the influence of acute exercise on children might be different from that shown in studies on adult populations. The purpose of this study was to investigate the influence of acute exercise on the inhibition aspect of executive function in children. Twenty children were recruited (age =10.9 ± .79 years). In a counterbalanced design, participants were assigned into either control or exercise conditions, where the exercise condition involved 30 minutes of moderate intensity treadmill running and the control condition involved 30 minutes of quiet rest on their first arrival, and then switched into another condition on their second arrival. A stop-signal paradigm was introduced at their first arrival, and measured immediately following the 30 minutes treatment, whereby stop-signal reaction time (SSRT) determined from stop-signal tasks was computed. The results indicated that the SSRT was significantly longer when assessed immediately after the 30-minute moderate acute exercise than it was when assessed after the 30-minute control condition, implying a beneficial effect of exercise on children's inhibitory ability. These findings suggest that the beneficial inhibition following acute exercise could be extended to include children.

Keywords: aerobic exercise, inhibition, executive function, physical activity

Participation in Physical Activity among Chinese College Students in Korea

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Abstract: Chinese college students in Korea accounted for approximately 66% of the total international student enrollment in Korea. Nevertheless, it has been shown that 12% of Chinese college students in Korea dropped out due to the maladjustment to life at university. However, previous studies showed that exercise and physical activities have been regarded as a valuable means to improving the quality of life by promoting physical and emotional health and stimulating the desire to live. Therefore, the purpose of this study is to examine whether participation in sports activities can have an influence on acculturative stress, mental health and adjustment to university life, all of which play important roles in whether Chinese college students in Korea continue to finish their studies or not (drop out). In order to achieve this purpose, 108 Chinese college students at universities in Korea participated in this study. Main findings of this study were that the Chinese students in Korea who participated in physical activity experienced less acculturative stress and adjusted

well to university life more so than those who did not participate in physical activity. Thus, promoting physical activity in Chinese students may reduce the dropout rate.

Keywords: physical activity, Chinese college students, dropout

The Effect of Exercise Adherence on the Physical Self-Concept at Each

Exercise Change Stage of Female College Students' Participation in a Cultural Physical Education Class

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Abstract: The purpose of the research was to investigate if physical self-concept was affected by exercise adherence at each exercise change stage of female college students' participation in a cultural physical education class. The number of participants in the research was 218, and questionnaires of the physical self-concept, of exercise change stage, and of the Korean exercise adherence were used for the survey. For the statistical analysis, correlation analysis and regression analysis were implemented after verifying the reliability and the validity of the questionnaires by SPSS 18.0 for windows. As for the result of the research, there was a mostly positive relationship between exercise adherence and physical self-concept. As for the result of the regression analysis, physical self-concept was affected meaningfully by exercise adherence at the stages of contemplation, preparation, action, and maintenance, excluding the pre-contemplation stage among exercise change stages.

Keywords: exercise adherence, physical self-concept, exercise change stages

Causal Connection of Personality Traits, Exercise Commitment and Exercise Addiction in Enthusiastic Marathon Runners

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Abstract: The aim of this study was to identify the causality among personality traits, exercise commitment and exercise addiction of club marathon runners. Personality traits, exercise commitment, and exercise addiction questionnaires were distributed to 241 club marathon runners. Reliability and validity tests, descriptive statistics, one-way ANOVA, and correlation analysis were conducted, and structure equation modeling was performed to validate the hypothesized causal model. First, for the results, male runners showed higher extroversion and conscientiousness scores (which are sub factors of personality traits), while female runners displayed higher scores of openness to experience. In exercise commitment and exercise addiction factors, male runners' scores were higher. The group of runners who finished graduate schools showed higher levels of openness to experience, and had higher cognitive flow (which is a sub factor of exercise commitment) and higher withdrawal symptom. The group of 10km runners showed higher levels of conscientiousness (which is a sub factor of personal traits) than the group of 5km runners; the 5km runners showed higher levels of openness to experience than the other groups. The group of full-course runners showed higher levels of cognition flow (which is a

sub factor of exercise commitment) than 5km runners. The group of half-course runners showed higher levels of behavioral flow (also a sub factor of exercise commitment), and showed higher levels of emotional attachment (which is a sub factor of exercise addiction). Secondly, the sub factors of personal traits in club marathon runners positively influenced exercise commitment and exercise addiction. Thirdly, the exercise commitment factors of club marathon runners positively influenced exercise addiction. Finally, for causal model verification, there is a multidimensional causality among the personal traits, exercise commitment, and exercise addiction. Theoretical and empirical discussion comparing former researches on the basis of the results were introduced.

Keywords: marathon, exercise commitment, exercise addiction, personality traits

The Effects of Physical Activity Pleasure on Intrinsic Motivation, Interest, and Flow in Physical Education Classes

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Abstract: This study was conducted to analyze the differences in enjoyment of physical activities, intrinsic motivation, fun, and flow of middle school students according to personal characteristics, and to identify the influence of enjoyment of physical activities on intrinsic motivation, fun, and flow. The subjects of this study were middle school students in Gyeonggi Province. A total of 641 data were used for final analysis from the subjects through convenience sampling among non-probability sampling method. The data were processed with SPSSWIN Ver. 12.0 and explorative factor analysis, Cronbach's α test, t-test, one-way ANOVA, correlation analysis, and multiple regression analysis were conducted. As a result of those analyses, it was found that there were differences in all factors of personal characteristics in middle school students according to school type and gender, except for grade, and that enjoyment of physical activities worked as an important factor in intrinsic motivation, fun, and flow. Intrinsic motivation also worked as an important factor in fun and flow. Therefore, students need to be more interested in the enjoyment of physical activities before they will participate in physical education classes more actively and with more positive attitude. The results of this study were also discussed based on the theoretical backgrounds on enjoyment of physical activities, intrinsic motivation, fun, and flow, as well as the results of previous researches.

Keywords: physical activity, intrinsic motivation, interest, flow

Experimental Study of Acute Moderate Exercise Intervention on Executive Function of Primary School Students

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Abstract: Executive functions, which are important for children's successful adaptation and performance in real-life situations, can be improved by physical activity. But two fundamental questions still remain, that is, which developmental time point may be more sensitive to the effect of aerobic exercise on EF than another, and which gender may be more sensitive to acute aerobic exercise than another. The aim of this study was to explore the effect of acute moderate exercise on executive function (EF) of primary school

students in order to provide a theoretical and practical basis for acute moderate exercise programs to improve children's EF. Taking third grade (eight years old) and fifth grade (ten years old) children as research subjects, 83 healthy children were randomized to either a third grade exercise (a single 30-minute moderate exercise intervention), a third grade control, a fifth grade exercise (a single 30-minute moderate exercise intervention) or a fifth grade control condition by grade and gender. Three tasks (the Flanker task, the 2-back task and the More-odd shifting task) were used to measure pupils' EF (inhibition, updating, shifting). Analysis of covariance on post-test scores revealed effects on executive function. Findings indicate: (1) Children's EF develops with the increasing of grade, and may not be gender dependent. (2) The effects of acute aerobic exercise on executive functions were significantly positive. (3) The positive effects of acute aerobic exercise on executive functions are not gender dependent. In sum, the beneficial effect of a single 30-minute acute moderate exercise on children's EF was significant and may not be gender dependent.

Keywords: acute moderate exercise, primary school student, executive function, gender, experimental study

The Influence of Adults' Exercise Participation Degree on Resilience and Exercise Adherence

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Abstract: The purpose of this study is to analyze the influence of adults' exercise participation degree on resilience and exercise adherence intention. For this, 440 adult residents in Gwangju city were sampled using the systematic stratified cluster random sampling, and 406 subjects were applied in the final analysis with unreliable data such as 'no answer' or 'double answer' excluded. The collected data was analyzed through t-test, one-way ANOVA, correlation analysis, and structural equation model using SPSS 20.0 and AMOS 16.0 programs. The following conclusions were derived:

First, the emotional control factor of men was higher than that of women in the analysis of sub-factor difference of resilience by sex.

Second, the ego extension factor and life satisfaction factor of people in their 20s were higher than those in their 50s in the analysis of sub-factor difference of resilience by age.

Third, the exercise participation group was higher than those of the non-participation group in the analysis of all sub-factor difference of resilience by degree of exercise participation.

Fourth, the higher the degree of exercise participation, the more exercise adherence intention in the analysis of difference between exercise adherence intentions.

Fifth, the degree of exercise participation put a direct positive effect on resilience and exercise adherence intention, and an indirect positive effect on exercise adherence intention mediating resilience; also, resilience put a direct positive effect on exercise adherence intention.

Keywords: resilience, exercise participation degree, exercise adherence

Investigation on High School Students' Physical Exercise and Sleep Quality

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Abstract: What is the relationship between physical exercise and sleep quality? Different scholars have different ideas. The main purpose of the research was to investigate assessment of physical exercise and sleep quality conditions of high school students in the city of Chengdu. In total, 567 high school students including 292 boys and 274 girls from five high schools in Chengdu were tested using the Pittsburgh Sleep Quality Index (PSQI) and Physical Active Rate Scale-3 (PARS-3). Results showed that the total score of PSQI was slightly negatively related to students' quantity of motion (-0.156^{**} , $P < 0.01$). Gender differences were found in sleep quality through the method of multivariate analysis of variance (MANOVA). The boys' sleep quality, daytime dysfunction, sleep disturbances, and sleep onset latency were better than the girls'. There were no significant differences in sleep duration, sleep efficiency, and use of sleeping medication between boys and girls. The main effect of students' quantity of motion was not significant. No interaction was found between different genders and students' quantity of motion. The results of this study indicated that certain differences between boys and girls exist in terms of sleep quality. However, whether physical exercise could improve high school students' sleep quality or not, further empirical research still needs to be done.

Keywords: sleep quality, Pittsburgh sleep quality index, physical exercise, high school students

Expertise Recognition of Whole and Fragmented Body Postures

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Abstract: The body inversion effect (BIE) is when inverted body posture pictures are more difficult to recognize than upright body posture pictures. Here, in two experiments, we used whole body postures or fragmented body postures as stimuli in order to investigate the difference of performance on body posture recognition between two groups of participants (PE major undergraduates and non-PE major undergraduates) who differed in the amount of exercise they did. The results revealed that both groups of participants produced a significant inversion effect in reaction time when whole body postures were presented. In contrast, only the PE group showed robust inversion effect in reaction time when fragmented body postures were presented. These findings highlight the role of the domain of expertise and suggest that exercise training of PE participants might help them to complete body posture recognition tasks.

Keywords: body posture recognition, inversion effect, expertise recognition, configural processing

Survey on the Relation of Exercise Habits and Healthy Lifestyles of College Students in Jiangsu Province

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Abstract: Through the scale to measure the present situation of college students' healthy lifestyles, we analyzed the relationship between exercise habits and healthy lifestyles. We offer suggestions and strategies to improve the level of organization and promotion of campus sports activities, and promote the formation of college students' healthy lifestyles, in order to provide a reference to

encourage students to take part in exercise actively and foster a healthy lifestyle.

Literature review, psychology metric, questionnaire survey, and statistical analysis were employed in this study. By adapting the evaluation scale of healthy lifestyle for university students, edited by Dr. Wang Dong of China, 4800 university students from third or fourth year of different majors in Jiangsu province were investigated. The content of the investigation includes: 1) basic situation: gender, age, grade, major; 2) lifestyle situation: behavior of exercise, rule of life, diet and nutrition, responsibility for health, health risk, social support, stress management. Data was processed on the relativity between

exercise behavior and the other health behaviors. Crombach Alpha consistency coefficient was used to test the reliability of subscale ($r < 0.703$).

The results showed that 28.3% of the college students have exercise habits 19.3% for men and 9.4% for women. Between age and grade, there was no significant difference on the exercise habits of college students; students in medicine and engineering were significantly higher than other majors. Students with exercise habits had special significant positive correlation with the rule of life behavior, health risk behavior and stress management behavior, and a significant positive correlation with diet and nutrition behavior, responsibility for health behavior and social support behavior; on the other side students without exercise habits had no significant correlation with them.

Conclusion: (1) This study verifies the results of relevant research that there is a positive correlation between the exercise habits and healthy lifestyles of university students; (2) The formation of college students' exercise habits has a greater influence on their healthy lifestyles' implicit factors (such as emotional stress management), while having little effect on healthy lifestyle of explicit behavior; (3) There is no significant influence for the students in PE lessons in first or second year on sustaining and maintaining exercise and the formation of healthy lifestyles.

Keywords: exercise habits, healthy lifestyle, college students

The Prediction of Tripartite Efficacy Beliefs on Performance in a College Tennis Course

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Abstract: The current study is based on the tripartite efficacy beliefs (self-efficacy: the confidence in one's own capabilities, other-efficacy: the confidence in others' ability, and relational-inferred self-efficacy: the estimation of other's confidence in one's own ability) proposed by Lent and Lopez (2002) to explore the prediction of performance of an optional tennis course in university. The study also tried to examine the relationship between performance and tripartite efficacy beliefs. Methods: Participants were 200 students recruited from two universities in Taiwan ($M = 169$, $F = 31$) who took an optional tennis course; the average age of the students was 19.9 years. After receiving the informed consent, participants were asked to complete questionnaires to assess self-efficacy, other efficacy, relation-inferred self-efficacy and performance in the tennis course. The data was analyzed by using Pearson correlation and Path analysis. Results: The results of the Pearson correlation indicated that course performance was positively correlated with tripartite efficacy beliefs (self-efficacy, other-efficacy, and relational-inferred self-efficacy). Regarding the results of path analysis, the findings revealed a full mediation effect of self-efficacy on the prediction of other-efficacy and relational-inferred self-efficacy to course performance. In other words,

we presume higher levels of other-efficacy and relational-inferred self-efficacy are helpful for students to develop higher self-efficacy, then further promote course performance. Conclusion: Lent and Lopez (2002) have suggested that other-efficacy and relational-inferred self-efficacy might be important cognitive mechanisms to improve an individual's self-efficacy, of which the results of the current study provide preliminary evidence.

Keywords: self-efficacy, other-efficacy, and relational-inferred self-efficacy

The Construct and Inducing Factors of Flow State in Physical Exercise

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Abstract: In order to understand the public exercise of the flow state structures, enrich the theoretical research of flow in sport and exercise, and instruct physical exercise, this study mainly surveyed 118 (male 66, female 52, average age 22.627±3.000 years) people who regularly participate in running and basketball activities. After the interviews and measurements, an attempt was made to construct flow state in the popular exercise. After testing, it was proved to have acceptable internal consistency and reliability; the scale was administered to 156 (male 84, female 72, average age 20.466±1.324 years) participants and 39 (male 13, female 26, average age 21.084±0.998 years) participants. Structural Equation Modeling supported the five correlation scales.

There was no significant difference between males and females. There was also no significant difference in running and basketball players on their flow state score after testing the 120 (male 61, female 59, average age 20.866±1.224 years) participants in a further study. With Input Exercise Flow State Scale score and flow frequency as independent variables, and Physical Activity Rating Scale-3 score as the dependent variable, regression analyis indicated that the five factors and frequency of flow state have significant prediction to physical activity (F = 5.254, p < .001, R2 = .218), specifically concentration and flow frequency as more important in prediction. Finally, through interviewing 10 (male 6, female 4, average age 20.231±0.890 years) high-scored flow state participants, this study concludes that four factors facilitate flow.

This study concludes that:
1. The construct of flow state in physical exercise includes five correlated factors: Concentration, Sense of control, Loss of self-consciousness, Autoletic experience, and Relaxation.

2. There are no significant difference in exercise flow state between male and female, runners and basketball players.

3. The exercise flow state and its frequency can promote people to participate in physical activity.

4. The factors which facilitate flow are physical optimal preparation and readiness, confidence and positive attitude, achievement and optimal motivation, and optimal environment. In some sense, they are controllable.

Keywords: low state, physical activity, inducing factor, controllable level

The Effect of Reflective and Affect Intervention on Physical Activity: Construction and Testing of a Reflective-Impulsive Model

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Abstract: Exercise psychology has made considerable progress towards understanding the determinants of physical activity. The application of theories from social psychology and related disciplines stimulate this field. One common element of these models is the assumption that behavior is the result of cognitive appraisal processes of the (a) expectancy and value of potential health threats and (b) possible coping responses. From these appraisal processes, a behavioral decision to reduce the health threat may be formed. More importantly, these decisions and the resulting goal-directed

behavior are typically seen as reasoned, conscious, and intentional acts that require a person's volitional control or willpower in order for them to be effective. The behavior is not only decided by the reflective system which is based on rational decision, but also influenced by the impulsive system which is based on irrational decision.

Based on the basic framework of reflective-impulsive model (RIM), which is a two-system model of social behavior, a reflective-impulsive model of physical activity (RIM_PA) was proposed. Three studies were conducted to (a) test the model, (b) examine the moderate variable which shift the weight between reflective and impulsive influences, and (c) compare the effects of association intervention and reflective intervention.

In study 1, RIM_PA was proposed and tested. The RIM_PA combines (a) reflective precursors, which integrates elements from other physical activity models, such as attitude behavior, subjective norm, perceived behavior control, social support, positive outcome expectations, and exercise self-efficacy (as measured via self-report); (b) impulsive precursor (as measured via SC-IAT), which is reflected by the affect association on physical activity; and (c) the willpower which is the moderate variable that shift the weight between reflective and impulsive influences. The physical activity, the reflective precursors, the willpower and the impulsive precursor of 1519 college students were assessed. The model was examined using the method of structural equation modeling. The overall goodness-of-fit indices of the models were satisfactory. The results supported that both the reflective precursors and the impulsive precursor can predict physical activity.

In study 2, the multi-group structural equation modeling was used to test the moderating effect of willpower on shifting the weight between reflective and impulsive influences. For the higher willpower participants, the reflective precursors had a stronger influence on physical activity than impulsive precursors, while the result for the lower willpower participants was converse.

In study 3, 160 lower affected association and physical activity participants were selected to be divided into four groups. There were 40 participants who received association intervention in group 1, 40 higher willpower participants received reflective intervention in group 2, 40 lower willpower participants received reflective intervention in group 3, and 40 participants in group 4 were the control group. The results showed that both reflective and association intervention can promote the participants' physical activity, but there are differences between them.

Conclusions: (a) Both the reflective system and the impulsive system can influence physical activity. RIM_PA can be used to interpret and predict physical activity. (b) Willpower is the moderate variable which shifts the weight between reflective and impulsive influences. (c) Both reflective and association intervention can promote the participants' physical activity, but there are differences between them.

Keywords: physical activity, dual-process model, reflective system, impulsive system, intervention

A Review of Theoretical Models on Exercise Invention

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Abstract: To date, dozens of health behavior models have been conducted to predict exercise behavior as the theoretical base of exercise intervention. These models are divided into “continuum models” (e.g. the Health Belief Model (HBM), the Theory of Planned Behavior (TPB)), and “stage models” (e.g. the Transtheoretical Model (TTM), the Health Action Process Approach (HAPA)).

The continuum model represented by TPB is supposed to have good prediction of exercise intention, but remains lower in prediction power to exercise behavior. It also lacks consideration of individual difference between exercise stages. For the purpose of raising the variance ratio of exercise, Hu and Mao (2008) added “Planning” and “Barrier Self-efficacy”, Li, Mao, and Gao (2010) added “Self-efficacy” and “Perceived Social Support” into the intention-behavior process for the purpose of raising the intention-behavior link. Although effective, the effect size was still not high.

Xu and Mao (2012) validated the TTM as the predictor of Chinese city dwellers' exercise behavior. Shen, Liu, and Mao (2012) conducted the Integration Model of Exercise Behavior (combined TPB with HAPA) to intervene Chinese adults' exercise behavior. Results supported or partly supported that the stage model is superior to the continuum model, although in some stages, the intention-behavior link were high, while some were not.

Shi and Mao (2011) indicated that the initial exercise behavior is not fully rational; it might be partly driven by affect or emotion. That led to the exploration of the reflective-impulsive model. Xu (2013, under review) conducted and tested the Reflective-impulsive Model of Physical Activity (RIM_PA), which primarily gave the evidence that exercise behavior is not only decided by the reflective (cognitive) system, but also decided by the affect association system. In this study, the cognitive system was tested mostly based on a TPB continuum model.

It is suggested that RIM_PA be further tested with stage model, in order to continue to enhance the ecological validity of researches, and even heighten the prediction power of exercise behavior.

Keywords: theoretical models of exercise behavior, continuum model, stage model, intention-behavior link, prediction power

The Qualitative Analysis of Korean Folk Dance Happiness

Jin Hwang, KwangHo Ahn, Cheon Keung, MinSun Choi, HyeJin Lee
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Abstract: The purpose of this study was to investigate the happiness of Korean folk dance. Semi-structured open-ended questionnaires were given to 56 universities, 96 professionals and 7 Korean folk dance teachers. Their contents were inductively analyzed by validity committee, N-vivo 8. Based on the results of content analysis, 413 adopted raw data were categorized into 35 specific domains and 5 general domains. “When” into 3 specific domains and 1 general domain, “Where” into 3 and 1, “What” into 12 and 1, “How” into 5 and 1, and “Why” into 12 and 1. Semi-Structured interviews were given to two universities, two professionals, and two teachers with the interview guideline for this study. The results of the interview showed that ‘When’ showed under the performance, practice, and daily life. ‘Where’ showed performance hall, practice room, and daily life. ‘What’ showed health, euphoria, commitment, performance, communication, expression, and satisfaction. ‘How’

showed cooperation, encouragement, communion, and enforcement. ‘Why’ showed value realization, dream come true, communication of emotion, agility, and specificity. Finally, we discussed the results and suggest the future direction.

Keywords: happiness, Korean folk dance, qualitative

The Moderating Effect of Physical Activity on the Relationship between Creative Personality and Creativity among Adolescents

Myoung Jin Shin, Hyun Soo Jeon, Keun Chul Lee, Sung Ho Kwon
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Abstract: This study examined the moderating effect of physical activity on the relationship between creative personality and creativity among adolescents. Research participants were 221 first year junior high school students (boys: 110, girls: 121). Exploratory factor analysis and confirmatory factor analysis were conducted to ensure the construct validity of the measurement tools. Hierarchical regression analysis was conducted in order to prove the moderating effect. As a result, the moderating effects of physical activity on the relationship between self-confidence of creative personality and creativity had eight factors. In order to examine the moderating effects of the direction and size, we examined the path difference between the groups by using a structural equation model. As a result, the physical activity group of self-confidence on creativity factor loading was .78 and the non physical activity group was .27. Factor loading of the students who participated in regular exercise creativity was higher than that of the non physical activity group. Therefore, regular exercise improved the participants' creativity. In previous studies, the problem was that there was low consistency in the findings; most studies only looked at the direct effect between exercise participation and creativity so they suggested the possibility of moderate and mediate effects. This study proved the relevance of indirect interactions on creativity, creative tendency, and physical activity so the theoretical hypothesis was proven.

Keywords: creativity, moderate effect, physical activity, creative personality

The Prediction of Tripartite Efficacy Beliefs on Satisfaction and Performance in Coach-Athlete Dyads Using Actor-Partner Interdependence Models

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Abstract: The purpose of this study was to examine the predictive utility of tripartite efficacy beliefs (self-efficacy, other efficacy, and relation-inferred self-efficacy) on coach-athlete relationship, satisfaction, and performance in coach-athlete dyads by using actor-partner interdependence models (APIM) (Cook & Kenny, 2005). The participants of this study were 139 athletes (73 males and 66 females) recruited from Division II collegiate tennis, badminton, table tennis and basketball teams. The average age of the athletes was 20.8 years. After receiving the informed consent, participants were asked to complete questionnaires which assessed their self-efficacy, other efficacy, relation-inferred self-efficacy, satisfaction, and performance in the group setting. The data was analyzed by using an actor-partner interdependent model in order to examine the actor effects and partner effects of tripartite efficacy beliefs on satisfaction and performance. The results indicated that there was a significant

actor effect of self-efficacy on satisfaction and performance. In other words, coaches' or athletes' efficacy could predict their own satisfaction and performance. In terms of the partner effect, there was no significant effect of efficacy on their partners' satisfaction and performance. In addition, coaches' efficacy has greater predictive utility than athletes' efficacy in terms of predicting coaches' satisfaction and performance. However, there was no significant difference between coaches' and athletes' efficacy in terms of predicting athletes' satisfaction and performance.

Keywords: tripartite efficacy, actor-partner interdependence models, coach-athlete

Relationship between Sport Friendship Quality, Physical Exercise, and Mental Health in Junior High School Students

Jian Yang, Zhaojun Wang, Lihua Gao
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Abstract: The study aims to make a Sport Friendship Quality Scale for Shanghai, and analyze the relationship between sport friendship quality, physical exercise, and mental health. To accomplish this, 482 junior high school students aged 12-15 took part in the study, and literature reviews, questionnaires, mathematical statistics and other research methods were employed.

Conclusions: 1. Measuring tools with good validity and reliability allowed for the development of the Shanghai Middle School Sport Friendship Quality Scale, which includes five dimensions such as intimate loyalty, companionship and trust, sport pleasure, respect and support, and friendship worth. 2. Regression analysis between sport friendship quality and mental health is at a significant level--sport friendship quality can predict the mental health of middle school students; regression analysis between physical exercise and mental health is at a significant level--students who participate in physical exercise can predict the level of mental health; regression analysis between sport friendship quality and physical exercise is at a significant level--students who participate in physical exercise can predict sport friendship quality. Sport friendship quality through the promotion of physical exercise can affect the level of mental health of middle school students.

Keywords: 12-15 year-old students in junior high school, sport friendship quality, mental health, physical exercise

Investigation on College Students' Exercise Attitude and Current Situation of Extra-Curricular Physical Exercise Behavior in Tianjin

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Abstract: College sports is the last stage of school sports education, the best period for cultivating the right sports attitude and sports fitness awareness, and forming behavior habits for college students. Sports attitude regulates the behavior selection and behavior reaction of sports participation, and affects the physical education learning and training effectiveness and efficiency. Using the methods of documentation, self-report instrument and data analysis, this paper investigated 264 college students' exercise attitude and the current situation of extra-curricular physical exercise behavior in Tianjin. It is very helpful and with important practical significance,

to put the reform of college physical education into practice with a purpose, to improve teaching quality, to fully implement quality education, to enhance the physical fitness of students, to meet the sports needs of college students, and to identify and cultivate college students' lifelong sports awareness and ability.

Keywords: college students, sport attitude, physical exercise behavior

Effects of Health Qigong-Wuqinxi Exercise on Aged People's Mental Health

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Abstract: Health qigong-wuqinxi is one of the most famous exercise practices. In order to provide a theoretical basis for the spread of wuqinxi from the angle of exercise psychology, this paper studied the psychological regulation effects of wuqinxi on aged people. According to the methods of quasi-experimental research, this research selected two similar samples, i.e. two groups as the research objects. The experimental group consisted of 32 aged people from the health qigong-wuqinxi team at Harbin Physical Education Institute (HIPE) whose average age was 65±5.2. This group of people had been practicing wuqinxi for 16 months, with the frequency of 3-5 times a week and 50 minutes each time. The controlled group was a random selection of 30 aged people from HIPE's retirees with an average age of 64±3.8. This group of people had no systematic physical exercise during the period of research except for some irregular walks. Before and after the experiment, the two groups were tested on their mental health using the Mental Health Scale for Aged People developed by Wu Zhenyun. The results show that before the experiment no significant difference was found between the two groups' test scores on mental health,p>0.05. Then the changed figures of the two groups' scores were compared, calculated by the deduction of test scores before and after the experiment, using independent sample T-test. Results showed significant difference was found between their total scores of mental health (social adaption, interpersonal relationship and cognition (emotion (p<0.01))). It was analyzed that: Practicing wuqinxi required the aged people to memorize and experience the movement, relax the body and mind, and focus on each movement. Thus the cognition of the experimental group was improved. Movements of wuqinxi are imitations of five animals which are vivid, funny, exquisite and elegant. During the exercises, the aged people experienced happiness with effects to their emotion. Thus the emotion of the experimental group was distinctly improved. Due to the form of practicing in teams, there was more communication between them and friendship was enhanced. Thus the social adaption and interpersonal relationship of the experimental group was improved. In summary, practicing wuqinxi promoted the mental health of aged people. Compared with the controlled group, wuqinxi exercisers improved much more on their capability of social adaption, interpersonal relationship and cognition; moreover, the effect of wuqinxi on their emotion was greater.

Keywords: qigong-wuqinxi, aged people, mental health

Retired Athletes' Dimension Analysis Based on General Well-Being

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Abstract: Objectives: (Based on the overall happiness methods) 1) Research retired athletes' psychological state from six dimensions. 2) Make a reasonable comparison for different types of players. 3) Fully understand the mental health status of retired athletes.

Research tools: The questionnaire used for the general well-being of the retired athletes scale GWB (Fazio, 1977), and the scale in the United States National Center for health statistics compilation, were mainly used to estimate well-being.

Research contents: (1) Contrast dimension analysis of general well-being between retired weightlifting athletes and retired table tennis athletes. (2) Contrast dimension analysis of overall well-being between the policy of resettlement retired athletes and jobs retired athletes.

Steps of research: (1) literature review (2) questionnaire survey method (3) interviews (4) statistics analysis of overall well-being dimension Comparing the retired athletes who were given jobs to those who were not given jobs, the survey showed significant differences on happiness: the given jobs athletes felt happier than the not given jobs athletes. For satisfaction of life and anxiety no significant difference was found between the two. But there was a significant difference on the health worry, energy, depressed or happy state of mind, emotional and behavioral control dimensions. The given jobs athletes only scored lower in the life satisfaction and interest dimensions.

The retired weightlifting and table tennis athletes had a significant difference in the happiness factor, with retired weightlifting athletes scoring below the retired table tennis athletes. No difference was found in the dimension of relaxation and tension (anxiety) between the two groups. Life satisfaction and interest, health concerns, energy, depressed or happy state of mind as well as emotional and behavioral control dimensions were different. Retired weightlifting athletes' happiness was only higher in the dimensions of relaxation and tension (anxiety).

To be full of confidence is a must for the athletes; they must mature and have the ability for self control, consciously thinking that they are strong. By strengthening their psychology and self-confidence, retired athletes psychological malaise can be overcome. In practice, with a life full of self-understanding and self-acceptance can retired athletes realize their value.

Keywords: retired athletes, mental health, overall happiness

A Study on the Relationship of University Students' Psychological Capital, Exercise Behavior and Personality Development

Jian Yang, Fuliang Chen
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Abstract: The purpose of this study was to examine the relationship among university students' psychological capital, exercise behavior and personality development in China. A cross-sectional study design was used. Participants N=1734 Mage=21.3 years SD=1.7 years completed assessments of positive psychological capital questionnaire (PPCQ), exercise behavior questionnaire (EBQ), and positive psychological quality scale (PPQS). Direct relationships among students' psychological capital, exercise behavior and personality development were tested in the model. The mediating roles of exercise behavior between psychological capital and personality development were also tested. Results from structural equation modeling revealed a good fit of the data to the hypothesized model. In the structural model all direct associations between variables were significant. Structural equation modeling analyses provided support for a conceptual model whereby psychological capital predicted exercise behavior, which in turn was associated with personality development. Overall, exercise behavior plays a partial mediator role between psychological capital and personality development. Because

psychological capital affects personality development by exercise behavior directly and indirectly, we cannot neglect the function of psychological capital and exercise behavior in university students' personality development. Regular exercise behavior is an important guarantee factor in healthy personality development.

Keywords: psychological capital, exercise behavior, personality development

The Relationship among Impression Management, Exercise Behavior and Mental Health for Female Undergraduates

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Abstract: Based on related research on impression management, exercise behavior and mental health, a hypothetical theory model of impression management, exercise behavior and mental health which was carried out by female undergraduates has been established. The variables of well-being, affect balance, study and life satisfaction are often classified under mental health. In this study, psychological scaling method was used to measure 500 female undergraduates. The female students are from six universities. The scales involved the Impression Management, Exercise Behavior, Well-being, Affect Balance and Study and Life Satisfaction Scales. Structural Equation Modeling was used to test the statistics and the hypothetical theory model. The research indicates that the goodness of fit is acceptable between the theory model and the observed data. Impression management has a significant positive influence on exercise behavior, study and life satisfaction and affects balance. Exercise behavior has a significant positive influence on well-being, affect balance and study and life satisfaction. Impression management can also have an influence on emotional health through exercise behavior.

Keywords: impression management, exercise behavior, satisfaction, well-being, affect balance

Relationship among Middle School Students' Sport Friendship Quality, Physical Exercise Behavior and Mental Health

Jian Yang, Zhaojun Wang, Lihua Gao
East China Normal University

Abstract: This study tested 482 middle school students by using the middle school students' sport friendship quality scale, physical exercise behavior questionnaire and mental health scale to investigate the relationship among middle school students' sports friendship, physical exercise behavior and mental health. The study shows that the middle school students' sports friendship quality scale has good item discrimination, reliability and validity, which satisfies the psychometric needs, and can be used to measure and assess the middle school students' sports friendship quality. The favorable sports friendship quality can advance the youth to participate in physical exercise. Sports friendship quality can predict the youth's physical exercise behavior. Physical exercise behavior has better effects on predicting middle school students' mental health. Sports friendship quality and physical exercise behavior play a positive role in the mental health of youths, and in the development of society.

Keywords: sport friendship quality, physical exercise, mental health, intermediate effect

Relationship between Sport Psychological Skills and Self-Concept Discrepancies of College Student-Athletes

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Abstract: Based on the methods of literature review, interviews, questionnaire and statistical analysis, the paper researched Guangdong Vocational Institute of Sport’s student-athletes’

psychological skills and self-concept discrepancies, in order to explore the relationship between them and give suggestions for training student athletes.

The situation of college student athletes’ psychological skills: Scores for college student athletes’ psychological skills were relatively low, and for psychological preparation was relatively high. Women’s anxiety control, movement motivation and collective importance were all significantly higher than the men’s. With the increase of grade, the scores for the psychological skills’ six dimensions also rose. The collective-project athletes’ anxiety control and collective importance scored higher than the personal-project athletes’.

The situation of college student athletes’ self-concept discrepancies: All dimensions of actual ideal discrepancies respectively are charm, interpersonal, family, morality, schoolwork and mood from high score to low score. Men’s mood and morality self-concept discrepancies had higher levels than the women’s. With the increase of grade, the scores for interpersonal, schoolwork, family and charm self-concept discrepancies also rose. The scores for students from low-income families were higher than those from higher-income families on interpersonal self-concept discrepancies. The scores for students from middle-income families were higher than those from higher-income families on family self-concept discrepancies. The scores of personal project in interpersonal, family, and schoolwork overall were higher than of family project.

The relationship between psychological skills and self-concept discrepancies: Anxiety control was significantly negatively associated with all dimensions of self-concept discrepancies. Attention allocation was negatively associated with schoolwork and mood self-concept discrepancies, the self-confidence negatively with morality, schoolwork, mood, family, charm and overall dimension, the psychological preparation negatively with family, charm and overall dimension, the sport motivation negatively with schoolwork, mood, charm and overall dimension, and the collective importance negatively with interpersonal, mood, and charm dimension.

Keywords: self-concept discrepancies, sport psychological skills, college student athletes

Physical Activities’ Effect on the Pro-Social Behavior of 3 to 6 Year Old Children

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Abstract: This study discusses the scenario of sports games on pro-social behavior of children aged 3 to 6. Through analyzing the data by means of Statistical Product and SPSS and AMOS, consulting some experts and interviewing the teachers and parents of some young children, a conclusion is drawn was follows: pro-

social behavior of young children aged 3 to 6 can be divided into four dimensions, including compassion and consolation in emotional dimension, help and donation in altruistic dimension, cooperation and sharing in coordinative dimension, and keeping promises and taking turns in responsible dimension. The results of the study shows that children aged 3 to 4 in kindergarten develop well in sympathy and consolation behavior, and children aged 4 to 6 achieve a certain level of development in help, donation, cooperation, sharing, keeping promises and taking turns behavior. Experiments prove that sports games play a promoting role in the development of pro-social behavior of young children. The supporting evidence for this study includes the observations of teachers and parents, and talking with young children.

The study shows that sports games can help develop the pro-social behavior of young children in emotion, altruism, coordination and responsibility. The concrete results are as follows 1. They (sports games) develop remarkably the sympathy behavior of children between the ages 3 to 4; they develop the sympathy behavior of children from age 4 to 5 to a certain degree and the effect is not as remarkable as it is from age 5 to 6. 2. They develop the consolation behavior of children aged 3 to 6 and the effect is remarkable. 3. They develop the help behavior of children aged 4 to 6 and the effect is remarkable. 4. They develop the donation behavior of children aged 4 to 5 to a certain degree while they fail to develop the children aged 5 to 6. 5. They develop the coordination behavior of children aged 4 to 6 and the effect is considerably remarkable. 6. They develop the sharing behavior of children aged 4 to 6 and the effect is considerably remarkable. 7. They develop the keeping promises behavior of children aged 4 to 6 and the effect is considerably remarkable. 8. They develop the taking-turns behavior of children aged 4 to 6 and the effect is considerably remarkable.

Keywords: physical activities, 3 to 6 year old children, pro-social behavior

Research on the Shame of Students with Disabilities and the Relationship with Physical Exercise

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Abstract: In order to research the actuality of the shame of students with disabilities and explore the relationship between physical exercise and the feeling of shame, 800 students with disabilities from Shandong Special Education Technical Secondary School were surveyed with the middle school students’ shame measurement scale with the random sampling. The results of the questionnaire show that the amount of exercise of students with disabilities is less than that of normal students. As well, students with disabilities who prefer to exercise are inferior to those who dislike exercise in personality shame and body shame, and more than those who dislike exercise in behavior shame and ability shame. The students with disabilities who prefer to exercise with others are inferior to those who exercise alone in shame and its four dimensions, which provide methodological support for the remission of shame of middle school students who do physical exercise. Finally different amounts of exercise of students with disabilities experience shame and in its 4 dimensions is inconformity, and it is able to infer tentatively that moderate or small quantities of exercise make for the remission of the shame of students with disabilities.

Keywords: disabilities students, shame, physical exercise

Influence of Group Exercises on Interaction Anxiety of College Students

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Abstract: This study was designed to explore the impact of interaction anxiety of college students during group exercises, in order to provide a reference which can not only improve the interaction skills of university students but also relieve their anxiety.

Methods: With the Interaction Anxiety Scale and Stratified random sampling method, 600 sophomore students with different interaction anxiety levels were selected from Taiyuan University of Technology, North University of China, University of Shanxi and Shanxi University of Finance and Economics as subjects. Natural groupings were based on their interaction anxiety level and their participation in group exercises and non-group exercises were simultaneously investigated. This study observed the changes of interaction anxiety level of students in each group with quasi-experimental design and cross-lagged research paradigm. After one year’s time, the interaction anxiety level of students was tested again, and cross-lagged correlation coefficient of each group was analyzed.

Results: 1. There were significant differences in interaction anxiety between the two group (P<0.05). 2. The group exercises with the purpose of interaction were more conducive to a lower level of the participants’ anxiety than the projects of group competitive sports. 3. There were significant differences of the effect of exercises between group events and individual events (P<0.05). 4. There was good correlation between participation in group exercises and low anxiety level (r=0.374). 5. The bias of students about group exercises depended on gender differences, girls preferred to ease into exercises.

Conclusion: 1. Group exercises were good for the interaction anxiety of college students. 2. Group exercises with the purpose of interaction were conducive to the reduction of university students’ interaction anxiety level.

Keywords: group exercises, college students, interaction anxiety, cross-lagged study

The Influence of Health Belief on College Students’ Physical Exercise Behavior Intention and Behavior Habit

Hong Guang Xie
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Abstract: Currently, the researches on college students’ physical fitness and health focus on “What factors – influence on physical fitness”, which can well explain what factors will influence college students’ physical fitness and health, but fails to give a good explanation for the issue of “the physical fitness and health evaluation – how to influence the health behavior”. With the aid of literature analysis and based on the Health Belief Model, this thesis puts forward a research hypothesis from the perspective of “the physical fitness and health evaluation – how to influence the health behavior” and adopts the structural equation to construct a validation model.

The main conclusions are as follows: The “Physical Fitness – Health Belief Scale” has good reliability and validity and therefore can be applied in the investigation and evaluation of college students’ physical fitness – health belief.

In the physical fitness – health belief model, “the physical fitness and health evaluation result concerns” is affected by the variables “perception of the seriousness of disease and physical weakness”, “conditions of constitution and susceptibility to diseases” and

“perception of exercise benefits”. The variable “perception of exercise benefits” has the most significant influence on the variable “the physical fitness and health evaluation result concerns”.

Among the factors affecting the variable “self-efficiency of physical fitness and health evaluation”, “the physical fitness and health evaluation result concerns” and the “perception of exercise benefits” have direct impact on the “self-efficiency of physical fitness and health evaluation”, while the “conditions of constitution and susceptibility to diseases” and the “perception of the seriousness of disease and physical weakness” impose an indirect impact on the “self-efficiency of physical fitness and health evaluation”.

With the “self-efficiency of physical fitness and health evaluation” as a medium, each factor of the physical fitness – health belief model impose an indirect impact on the physical exercise “Behavior Intention” and “Behavior Habit”, which in an empirical manner supports the research hypothesis that “self-efficiency medium exists in the physical fitness – health belief model”.

The model relating to the correlation of physical fitness – health belief and physical exercise behavior has an effective good fit. The hierarchy relation between each physical health belief variable in the model and physical exercise behavior intention and behavior habit are reasonable. The model has excellent explanatory power.

Keywords: college students, physical fitness and health, health belief, physical exercise, behavior intention, behavior habit

Development of the Sports Atmosphere Scale in Exercising Groups

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Fujian Normal University

Abstract: Sport atmosphere is not only the prerequisite of the existence and development of exercising groups, but also the most prominent aspect to improve group members’ exercise adherence. Based on document analysis, open investigation and structural interviews, this research established a scale for evaluating sport atmosphere in exercising groups. This scale was employed to investigate 20 exercising groups, including 600 subjects and the test data conducted through item analysis exploratory factor analysis and confirmatory factor analysis. The results showed that sports atmosphere contains an external and internal atmosphere. The internal atmosphere includes 4 sub-factors, which are exercise atmosphere, support within group, motive interactive, and information exchange within group. The external atmosphere includes 3 sub-factors, which are group activities resources, scientific management of groups and the leadship of core character. The “sport atmosphere scale in exercising groups” shows good reliability and validity, and can be used as an effective measurement tool in future researches.

Keywords: Sports Atmosphere, Exercise Groups, Scale

Promoting Individual Exercise Persistence: A New Perspective on Group Intervention

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Abstract: By using the documentary method, this paper analyzes the current research status of a group’s intervention on promoting individual exercise persistence. Research states that since participating in organized groups is a means of getting exercises for

individuals, it is necessary to enhance the ability of groups to create conditions which enable maximum sports persistence of participants. Therefore, taking advantage of the different groups by using various forms and promoting the transformation and individual sports persistence, this trend is the common belief of our future research. In the future, we need to solve: (1) the function positioning of sports activities groups; (2) measurement methods, that is, how to measure the common belief of the team members, and how to analyze the data of a hierarchical structure; (3) the effective conditions and action mechanism of group intervention; (4) how to make extensive and in-depth discussion of issues related to group intervention based on the research background of Chinese collectivism culture; (5) how to break through the existing research discovery and data model to develop the psychological explanation of group intervention, which helps us to understand it better and put forward an integrated model of group intervention to promote individual exercise persistence.

Keywords: sports activities groups, group intervention, exercise persistence

Characteristics of the Psychological Processes Involved in Ba Duan Jin Practice

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3. Capital Normal University

Abstract: Ba Duan Jin is one of the classical Chinese qigong health practices, which consists of gentle, smooth, and mindful movements. Ba Duan Jin is characterized by its profound manipulation of the mind and body. In this article, we discuss three intrinsic psychological features of Ba Duan Jin that promote practitioners' physical and mental health. First, the forms and their movement sequences are summarized by poetic phrases ("kǒu-jué"). These phrases aid memorization by integrating practitioners' declarative memory of explicit instructions with the procedural memory necessary for skill learning, which improves the encoding and retrieval of the action program. Second, Ba Duan Jin combines specific body movements with a belief in their health-promoting functions. For example, the movement of holding one arm aloft is associated with 'regulating the functions of the spleen and stomach'. The benefits of such beliefs have been confirmed by modern psychological studies. These studies found that if participants were taught to believe that the physical exercise they engaged in had many health benefits, they would benefit more both physically and mentally, than those who did the same type and amount of physical exercise but had not received instruction about its benefits. Ba Duan Jin's combination of motor learning and the placebo-like effect of belief significantly enhance its efficiency. Third, Ba Duan Jin requires the intensive practice of health qigong exercises and mindfulness. It emphasizes the harmonizing of three key types of consciousness: the consciousness of one's mind, the consciousness of one's breath, and the consciousness of one's body and its movement. According to Ba Duan Jin, practitioners should not move and control their body by intention or will. Rather, they should control their bodies using their breath. The breath is the agent through which one's physical movements are executed. The physical movements, in turn, provide feedback for and support the practitioner's constant, moderate and mindful control over the holistic mind-body activation process.

Keywords: Ba Duan Jin, mindfulness, procedural memory, consciousness

Exercise self-regulatory efficacy and physical activity in Chinese university students: Exploring the

inclusion of motivation

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Abstract: Previous studies have focused on the direct association between exercise self-efficacy and physical activity based on self-efficacy theory. Although the regulatory component of self-efficacy has been suggested to be a key point when promoting physical activity, the role of motivational regulation as a mediator on relations between exercise self-efficacy and physical activity is still unexplored. The purpose of this study was two-fold. First, the purpose was to investigate the relationship between regulatory self-efficacy and physical activity behavior among Chinese university students. Secondly, the study aimed to explore whether motivational regulation acted as a mediator between regulatory self-efficacy and physical activity. Three hundred and nine participants (144 males, 165 females) completed three questionnaires including the adapted Chinese version of Behavioral Regulation in Exercise Questionnaire, Chinese version of the Self-efficacy for Exercise Scale and Leisure Time Exercise Questionnaire. Structural equation modeling indicated that exercise self-regulatory efficacy could positively predict self-reported physical activity behavior. Secondly, motivational regulation partially mediated the 'self-regulatory efficacy– physical activity' association. Among four types of motivational regulations, identified and introjected regulation significantly mediated the association between exercise self-regulatory efficacy and physical activity behavior. High levels of perceived self-regulatory efficacy for exercise were related to increased changes in identified regulation and introjected regulation, which in turn, promoted more physical activity participation. The present study contributed to the research explaining the relative value the four types of motivational regulation has toward influencing physical activity. Findings highlighted the importance of considering exercise self-regulatory efficacy and motivational regulation when studying physical activity behavior.

Keywords: physical activity motivation, self-regulatory efficacy, physical activity behavior, self-determination

Psychological factors in injury prevention and rehabilitation

Athletes' Attitudes toward Physiotherapists

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Abstract: To date, evidence in support of attitudes and beliefs influencing athletes' willingness to seek sport psychology services exists (e.g., Maniar et al., 2001; Martin, 2005; Martin et al., 2001); however research in relation to athletes' attitudes and beliefs toward physiotherapists is very limited. Given the unique and close relationship which can exist between the physiotherapists and the athlete (Ray & Wiese-Bjornstal, 1999), coupled with the impact that the physiotherapist can have on the athlete, the rehabilitation process and the eventual outcome, understanding the athletes' attitudes toward physiotherapists is of importance. Thus, the purpose of the present study was to explore athletes' attitudes toward physiotherapists. A total of 176 undergraduate university students (54% male; 29.5% female, with M/SD age 20.34/2.72) enrolled in sport related courses in the East Midland region of England, United Kingdom who regularly participated in sports completed the Attitudes toward Physiotherapist form (ATP-F; adapted from the Sport Psychology Attitudes-Revised form, SPA-R; Martin, Kellmann, Lavallee, & Page, 2002). The results from the two separate 2 x 4

multiple analyses of variance (MANOVA) revealed no significant differences in attitudes toward physiotherapists between those who had previous experience with physiotherapy and those who did not. A significant main effect, however, was found for gender Wilks' Lambda = 0.93, F (4, 142) = 2.670, p = .035, hp2 = .070. Follow up univariate and discriminant function analyses revealed that all the subscales of the ATP-F (stigma tolerance, confidence in physiotherapist, personal openness, and cultural preference) were also significant. Overall it appears that males, when compared to their female counterparts, were more likely to have negative attitudes toward physiotherapists yet still expressed confidence in their ability to facilitate a successful recovery. Furthermore, males appeared to be more willing to work together with their physiotherapists and do the necessary tasks associated with physiotherapy while also identifying with their physiotherapists' race/ethnicity or culture. Physiotherapists need to consider the impact that gender differences have on athletes' attitudes toward them as they potentially could influence the rehabilitation process and eventual outcomes. Recommendations and suggestions will be provided to physiotherapists with the hope of increasing their ability to tailor their services provided to athletes based on gender differences.

Keywords: sport injury rehabilitation, athletes attitudes, questionnaire survey

How to Understand the Experience Lived by Injured Athletes?

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Abstract: This study aims to identify and understand the lived experience by injured athletes who are in treatment and away from practice, proposing an original method to this field. The interest to conduct this investigation in this research line came from the recognition of the significant number of injuries in the context of high performance sport. Researchers developed studies in order to allow them to intervene on the predictive handling and rehabilitative factors of injury. Based on this global scenario and keen to contribute to the scientific research already been developed, in 2008 at the University of São Paulo a qualitative research in accordance with the prerogatives of the philosopher Edmund Husserl, Phenomenology's founder. This methodology once systematized and applied to the field of sports experiences included the next procedures: 1.Elaboration of guiding questions in the light of this theoretical model seeking to attain the rigor required for a semi-structured interview; 2. Twenty interviews from a diversified sample: men and women from several sport modalities between 17-28 years old; 3.Intentional Analysis of data for elucidating the meaning units arranged as Categories; 4.Archaeology and "reconstruction" of the phenomenon from the data collected. After these steps, the following results were found categorized as seven categories which expose essential components from the experience lived by athletes, specifically: 1.Essential aspects of the sport, 2.Interpersonal Relations, 3.Circumstantial Aspects, 4.Objective relationship with the body, 5.Sadness, 6.Existential changes, 7.Injury as learning; and a Central Core, marked by the contrast between the Body Adversity caused by the injury and the Willing to return to effective practice. The phenomenological description of the categories and the dynamics inherent to it regarding the Central Core highlighted the need for psychological intervention over the mismatch between "willing and cannot effectively do" which draws the moment of athletes treatment. The consequences of this "opposition" appears in the form of sadness, frustration, lack of motivation to adhere to rehabilitation, discouragement towards sports career, among other psychological responses that should be the focus of the professional attention in conformity with specific features and history life of each athlete. The knowledge required for intervention is related to Sports Psychology and must understand the athlete as a whole, not only related to physical and body issues to be recovered from. The

apprehension and the phenomenological analysis can enlighten the intentional horizon of the experience by these athletes. These results invite psychologists, coaches, medicine doctors and physiotherapists to comprehend the personal dynamics of each injured athlete by a global understanding, helping them all to establish a sensitive relationship.

Keywords: injured athletes, body adversity, psychological responses, phenomenology

History of Stressors Impact on Sport Injury Occurrence: A Meta-Analysis

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Abstract: The probably most frequently cited model in sport injury prediction from a psychological perspective is Williams and Andersen's (1998) "stress injury model". In the model it is suggested three categories of psychological factors, i.e. personality, history of stressors and coping will influence the athletes' response to a potentially stressful situation. Most research attention the last 10 years has focused on the category history of stressors. This category includes different types of stressors such as negative life event stress, positive life event stress, hassle and previous injuries. Given that history of stressors has gained most attention in sport injury research the aim of the study was to, in meta-analysis, investigate the joint as well as separate effects of published studies aimed to investigate history of stressors impact on injury occurrence. The literature review resulted in 49included articles. Of these 49 articles, 36 provided sufficient information for calculation for an r to z-transformation. In the total sample of selected studies, 67 different effect sizes could be calculated. The overall correlation effect size for the relationship between Stressors and injury occurrence were .129 (p<.001), 95 % CI (.096,-.161) using a random effect model. The results indicated heterogeneity between studies (Q = 214.41, df = 66, p < .001). Moreover, the results showed that negative life event stress (r = .184) and previous injuries (r = .225) displayed the strongest correlation with injury occurrence while positive life event stress showed the weakest (r = .023). Last, the result from a meta-regression confirmed that high methodological quality was related to higher correlational effects (β = .018 (.005), p < .001, 95 % CI = .009 - .03). Even if the correlational coefficient only showed a low to moderate overall effect it is suggested that stressors have an important impact on injury risk. This line of argument is for example supported by the calculated fail- and safe number indicating that 3,196 studies with zero effect results would be necessary to decrease the effect to zero. Given that stress seems to influence injury risk athletes are recommended to take part in life style interventions (e.g. mindfulness), to develop effective strategies for decrease their stress levels.

Keywords: athletic injury, meta-analysis, prediction, stressors

Effect of Personality Characteristics on Stress Fractures

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Abstract: Repeated exertion into the bone in a certain direction with a metallic object, lead to an abnormal stress and ultimately fatigue fractures (March fracture), and the so-called stress fractures. Such fractures occur in a special group of people such as young athletes, ballerinas and the soldiers. These fractures more common occur at new soldiers by excessive and sudden walking and physical training or at severe athletic activity (walking, running, jumping, etc.)

without warming up the body muscles and ligaments slowly. It was noted that stress fractures become especially in the trainings of new military staff and particularly in the first 2 weeks. At the Milgrom's series, 33% of new troops had stress fracture within the first 2 weeks. Personality is defined as a person's behaviors in order to adapt to its environment and functional integrity of a set of feelings, thoughts, skills, abilities, and habits based on individual differences. Therefore, a stable life style may also affect the personality traits. The purpose of our study was to investigate whether there is a relationship personality trait in terms of stress fractures which can be seen after switching to an active life after an inactive period and to contribute to the limited literature on this subject. Eleven patients (mean age:22) was diagnosed and operated with stress fractures at Department of Orthopaedics and Traumatology, Gulhane Military Medical Academy between 2002-2004 were included in the study. Femoral and tibial stress fractures were present in these patients. The Minnesota Multiphasic Personality Inventory (MMPI) was administered. Before applying this test, description about the scale and the study with mutual negotiations were made and written informed consent was taken. To date many personality tests have been developed and were used for different purposes. However, the MMPI did not intend for analyzing normal personality. In this study, it was used to examine whether stress fracture affects extreme components of the personality. In a study, and the relationship between the patient's weight and motor skill with personality characteristics at stress fractures were studied and no difference was found. Our study is consistent with the literature, no significant difference was observed between the personality traits and stress fracture. Therefore, in patients with stress fracture no specific personality trait is defined.

Keywords: stress fracture, MMPI, personality

Mediated and Moderated Effects of Action Planning and Anticipated Regret in TPB of Sport Injury Rehabilitation Adherence

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Abstract: The purposes of this study were: 1. To predict sport injury rehabilitation adherence intention and behavior in the theory of planned behavior. 2. To examine the mediated effects of action planning on the relation between intention and behavior. 3. To examine the moderated effects of anticipated regret on intention-behavior, intention-action planning, and action planning-behavior. 4. To explore the moderated effects of anticipated regret on mediated effects of action planning in the relationship between intention and behavior. The participants were 213 injured athletes (age 23.58 ± 4.46 years old) in rehabilitation programs. After filling out the informed consent, participants were asked to complete a series of inventories, including measures of the theory of planned behavior, action planning, anticipated regret, and sport injury rehabilitation adherence scales. The data were analyzed by regression analysis. Results of this study indicated that: 1. Except attitude, subjective norm and perceived behavior control predicted sport injury rehabilitation adherence intention significantly; intention and perceived behavior control predicted behavior significantly. 2. Action planning mediated the relationship between intention and behavior. 3. The moderated effects of anticipated regret was only significant in the relation between intention and behavior (β= .17, pβ= .04, p> .05) and action planning-behavior (β= .05, p> .05). 4. Anticipated regret could not moderate the mediated effects of action planning on the relation between intention and behavior. The results of the present study provide evidence that action planning and anticipated regret extended the theory of planned behavior and validates its application in the context of sport injury rehabilitation adherence. The implications for practical applications

and future directions are also discussed.

Keywords: intention, health behavior, implementation intention

Association Study on Factors of Psychology and Injury for Elite Track and Field Athletes in Shandong

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Abstract: Based on 71 participants from Shandong's track and field team, this study assesses whether stress, mental fatigue and psychological factors are related to injury.

Psychological stress scale for Chinese athletes and Athlete Burnout Questionnaire (ABQ) and NEO Five-Factor Inventory (NEO-FFI-R) were used to measure stress, mental fatigue and personality psychological factors. Using Pearson correlation analyses, an assessment of whether the score of psychological factors is related to the score of injury was performed. Psychological assessments were conducted before the season and following injury.

Pearson correlation analyses showed that a positive correlation was found between the score of injury and the score of stress, which includes sport injury, defeat in competition, life encounters and inside and outside pressure. The score of stress varied significantly in the injured athletes by independent-samples test analyses. There was no obvious correlation between the score of mental fatigue factors and injury, but the score of emotion/physical exhaustion and sport devaluation varied significantly high in the injured athletes. There were no correlations between personality and injury, and no significant difference in personality was found between the injured and non-injured athletes.

The results indicate that higher levels of stress and mental fatigue can increase the incidence of injury, and personality factors are not related to injury for track and field athletes. The results are used to provide a theoretical basis for inventing data mining technology and mobile computing technology for early warning system for athletes' injury.

Keywords: stress, mental fatigue, personality, track and field athletes, injury

Research on the Psychological Control on Sport Injury Based on SAIM in College Students

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Abstract: This article describes what psychological factors contribute to the occurrence of sport injury in college students. We developed the Questionnaire on Psychological Factors of Sport Injury in College Students (QPSC) based on the Model of Stress and Athletic Injury (SAIM). A survey was conducted with this questionnaire using students (N=230) from four universities in Wuhan, China. The results showed the top four of the most significant factors that would cause sport injury in college students: (1) an easy-going personality; (2) stress from study and work; (3) duration of doing exercise; (4) negligence in sports. Finally, recommendations were made according to the four factors mentioned above in order to lower the incidence of sport injury in college students.

Keywords: SAIM, sport injury, psychological, control, college students

Re-Injury Worry, Sport Confidence, and Attention as Predictors of Re-Injuries during a Competitive Season

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Abstract: Sport injury is an unfortunate physical event which may cause loss of hours of training and participation in competitions. In addition to the physical consequences of an injury, athletes struggle psychologically. Returning to sport and/or competition following an injury, athletes may experience re-injury worry and low levels of attention and self-confidence, thus decreasing performance. The purpose of the present study was to describe the predictive ability of the re-injury worry, confidence, and attention to the total of the re-injuries in the beginning, middle, and end of a new competitive season. The sample of the study was 80 athletes of basketball, handball, and water polo, aged 18 to 40 years old. The athletes had an athletic musculoskeletal injury M=3.7 months prior to the collection of the data and they had followed properly their physiotherapy program. All the athletes completed the Causes of the Re-Injury Worry Questionnaire (CR-IWQ; 2 factors-12 questions; Cronbach alpha =.93) and the Sport Confidence Questionnaire of Rehabilitated Athletes Returning to Competition (SCQ-RARC; 2 factors-14 questions, Cronbach alpha=.92) before the beginning of the competition, and the Attention Questionnaire of Rehabilitated Athletes Returning to Competition (AQ-RARC; 2 factors-10 questions, Cronbach alpha =.95) upon the end of the competition. Also, the present study used: (a) a demographic questionnaire of athletes, (b) a form related to athletes' only one previous injury, and (c) a form related to the possible re-injuries during the new competitive season. Hierarchical multiple regressions were performed to investigate the predictive ability of the six factors from the three questionnaires to the total of re-injuries. The results of the study showed that the three instruments: (a) predicted the total of the re-injuries at the beginning of the competitive season, (b) predicted partly the total of the re-injuries at the middle of the competitive season, (c) only attention predicted the total of the re-injuries at the end of the competitive season. Researchers, using the CR-IWQ, SCQ- RARC, and the AQ-RARC, can assess the causes of the re-injury worry, confidence and attention, objectively. The factors from the questionnaires partly predict the probability of a re-injury during the competitive season on contact sports, thus can enhance the athletic performance. Future research should be conducted to examine the relationship between the physical and psychological characteristics in re-injury's prediction using athletes from different contact sports.

Keywords: worry, confidence, attention, re-injury, sport

Self-Efficacy and Sports Injury: Risk or Protective Factor?

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Abstract: The number of sports injuries is dramatically increasing regardless of categories and modalities. A full understanding of the phenomenon demands a complete identification of the risk factors and the injury mechanisms for appropriate prevention and rehabilitation. Regarding psychosocial factors, Andersen & Williams (1988, 1998) proposed the Stress-Injury model. On the other hand, a high sense of efficacy facilitates information processing and cognitive performance in different contexts, including decision making, and could foster people with high levels of self-efficacy to choose more challenging tasks and set higher goals (Bandura, 1997). Bandura

himself hypothesized that athletes with higher levels of self-efficacy are exposed to greater risk. If so, high levels of self-efficacy might lead to an increase in risk-taking behavior and in sport injury. Contrary to that, athletes who are more efficacious are more likely to actively seek problem solving strategies and ways to manage the stress (Chase et al, 2005). Moreover, several studies have suggested that a high (and adjusted) estimation of ability results in a more accurate perception of the risks involved and thus a decrease in risk-taking behavior (McKenna et al., 2006). According to these results, it would be expected that people with higher levels of self-efficacy are those with more coping strategies and, then, less prone to a sport injury. This study was aimed to analyze whether self-efficacy beliefs promote injury or protect athletes from injury. A convenience sample of 297 Spanish athletes (Male, N=239; Female, N=58; M age=25.2, SD=3.87 years) from 25 sports (including individual sports such as swimming, weight-lifting or skiing, and team sports, including co-operation team sports such as rowing or skating and opposition team sports such as football and basketball) participated in the study. Data was collected retrospectively asking athletes about the sport injuries suffered during the past season. At the same time, they were assessed in several psychological variables. The assessment instruments used were the Spanish versions of the Kim et al.'s (1997) Approach to Coping in Sport Questionnaire, ACSQ, and the Zimet et al.'s (1988) Generalized Self-Efficacy, GSE, scale. Regression analysis showed that self-efficacy and some coping strategies were protector factors while some other strategies were a risk factor of being injured. Furthermore, a structural equation model using the variables with significant regression coefficients showed self-efficacy beliefs influenced sports injury by mediation of several coping strategies. These results are relevant for the prevention and rehabilitation of sports injuries.

Keywords: self-efficacy, sport injury, coping strategies

Self-Efficacy, Mental Fatigue and Social Support of Biathlon Athletes

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Abstract: Biathlon is Europe's number one winter sport, attracting a large number of local fans. Since this project has its particularities, it was a big challenge on the athletes' psychological quality. Long-term heavy load exercise training causes not only physical injuries but also mental fatigue in biathlon athletes. This popular European winter sport in our country is unfamiliar for most of us; having an extremely low degree of concern in turn had an impact on Chinese biathlon athletes' mental fatigue and self-efficacy. In this paper, we used literature research, interviews, psychological measurements, and researched on self-efficacy, mental fatigue and social support for biathlon athletes. A comparison of psychological fatigue and self-efficacy levels in different levels of sport, sports life, age and genders of biathletes was also done. The study showed that by improving biathlon athletes' social support and self-efficacy levels the degree of mental fatigue can be reduced, thereby promoting the improvement of performance.

Keywords: biathlon, mental fatigue, self-efficacy, social support

Psychology of coaching

The Implementation of Problem Based Learning Styles to Explain the Coach-Athlete Relationships to Undergraduate Students

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Abstract: A meta-analysis by Dochy et al (2003) found that there was a significant and positive effect on students skills when using problem based learning styles, and that students engage with slightly less knowledge but retain more knowledge than those taught traditionally, they could also elaborate more on information than those taught traditionally and there was a positive effect on student skills that was immediate and lasting. The central components of problem based learning are that students work in groups to provide a possible solution and that the focus is on the process of problem resolution as well as the actual solution (Savin-Baden, 2003). This study attempted to explore whether problem based learning styles are suited to lecturing Coach-Athlete relationships. Sixty four (female, n=25; Mage=22.64, SD=2.02 and male, n=39; Mage=24.30. SD=4.86) students attended a lecture on the topic of Coach-Athlete relationships, a problem based learning task was implemented using images of a coach showing a hostile approach and another image of a coach using a friendly approach. These images were used to initiate discussions about the potential problems the scenarios could elicit. Students filled out an evaluation sheet about the session. Eight one percent (n=52) of participants found the task helpful to aid learning, 65% (n=42) participants indicated that using this style of lecture could aid learning more than a traditional approach and 73% (n=47) participants enjoyed the task. It may be useful to use problem based learning styles in lecture sessions to engage students with the topic area of Coach-Athlete relationships.

Keywords: coach, athlete, problem based learning

Perception of Athletes on the Amount of Corrective Feedback and the Coach Controlling Style

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Abstract: Research in the sports context has predominantly focused on studying the relationships between the perception of interpersonal style of autonomy supporting and the positive feedback from the coach. However, there are limited research about the consequences of the controlling interpersonal style (intimidation) and the effects that the amount of corrective feedback has on the intrinsic motivation of athletes. The aim of this study was to test a model that evaluates the effect of the amount of corrective feedback and controlling style of the coach (intimidation) on the intrinsic motivation and at the same time as predictive of the positive effects of the university athletes. The participants comprised 232 athletes from 7 teams at Universidad Autónoma de Nuevo León, México, 180 men and 51 women; age varied between 15 and 24 years (M = 18.78 ± 1.90). Athletes answered the following questionnaires: Corrective Feedback Scale, Sport Motivation Scale, and Positive and Negative Affect Scale. The results on the reliability of the scales were the next: amount of corrective feedback, (alpha = .78); intimidation, (alpha = .80); intrinsic motivation, (alpha = .96); and positive affects, (alpha = .86). The intimidation indicator of the coach's controlling style and the amount of corrective feedback negatively predict intrinsic motivation (beta = -.14 and beta = -.28), and this one positively predicts the positive effects (beta = .26). The model was found to have adequate goodness of fit indices: (2 / df = 1.30, CFI = .98, IFI = .98 y RMSEA = .036). It is concluded that in line with previous studies, the controlling interpersonal style of the coach has negative implications on the athletes' intrinsic motivation. Grounded in the postulates of cognitive evaluation theory, a subtheory of SDT, the amount of corrective feedback in the controlling forms undermine the intrinsic motivation; and the intrinsic motivation were positively related to positive affect.

Keywords: amount of corrective feedback, Mexican athletes, interpersonal style and control style

Coach Controlling Style and Autonomy Support as Predictors of Self-Confidence and Pre-Competitive Anxiety

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Abstract: Two dimensions of coaches' behaviors have been considered in the literature; namely, the autonomy supportive and controlling features of their interpersonal style. Until recently, sport research has not concurrently addressed the implications of both coach autonomy supportive and controlling styles to athletes. According to this, the objective of this study was to test a model, which relates the social context created by the coach (controlling style and support for autonomy) with the intensity and direction of the anxiety (cognitive and somatic), and self-confidence.

The participants were 317 Mexican university athletes (M = 21.23 years of age; SD = 2.036) of both genders (212 men and 105 women) from both individual sports and team sports. They responded to a set of questionnaires that measure the variables of the study: Sport Climate Questionnaire, Scale of Controlling Behaviors of the Coach, and Competitive State Anxiety Inventory (2R) and its adaptation of directionality. The applications were within the 23 hours prior to their competition in the national Universidad 2012. The reliability of the scales ranged between alpha = .78 to .87. The model tested demonstrated adequate fit for the dimension of the intensity of the anxiety (X2/df = 2.24; RMSEA = .063; CFI = .97; NNFI = .97) as for the dimension of direction (X2/df = 2.17; RMSEA = .063; CFI = .98; NNFI = .98). Therefore, the autonomy support was negative predictor to the somatic and cognitive anxiety in intensity dimension (beta = -.05, beta = -.16) and positively predicts self-confidence (beta = .24), but positively with cognitive anxiety in direction dimension (beta = .04); otherwise, the controlling style was positive predictor of the anxiety in intensity (beta = .29, beta = .27) and direction (beta = .25, beta =.29) dimension, and negative predictor of self-confidence (beta = -.16). Aligned with SDT, the model provides empirical support for the transcendental role played by the coach in generating the climates of autonomy support that are associated with positive cognitive responses, and controlling environments are associated with markers of discomfort (cognitive and somatic anxiety).

Keywords: coaches' behavior, autonomy support, anxiety

Need Supportive Coaching Positively Affects Athlete Performance

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Abstract: According to Self-Determination Theory and the Hierarchical Model of Intrinsic and Extrinsic Motivation, social-contextual factors are important determinants of motivation, and the three basic psychological needs of autonomy, competence, and relatedness is thought to mediate this relationship. In a sport context, the motivation–performance relationship was investigated. We postulated that need supportive coaching, as perceived by the athletes, would satisfy athletes' basic psychological needs, thereby contributing to more self-determined types of motivation, and ultimately enhance performance. One hundred floor-ball players (mean age 17.5 years, SD 1.7) completed a questionnaire at midseason assessing their perception of need supportive coaching (Interpersonal Supportiveness Scale-Coach), need satisfaction (Basic Needs Satisfaction in Sport Scale), and motivational regulations (Behavioral Regulation in Sport Questionnaire); their respective

coach then rated individual athlete-performance at the end of the season. A structural equation model supported the motivational sequence: χ^2 (48) = 65.49, p = .05, CFI=.97, TLI = .96, RMSEA = .06, 90 % CI [.01, .09]. Need supportive coaching had a direct effect on need satisfaction (Beta = .82, p< .001) and indirect effects on self-determined motivation (Beta = .34, p = .004), practice strategy use (Beta = .09, p = .02), and performance (Beta = .29, p = .002). Self-determined motivation did not display a significant direct effect on performance; however, an indirect effect was detected through practice strategy use (Beta = .10, p = .04). Need supportive coaching also displayed a direct effect on practice strategy use (Beta = .61, p< .001). The model explained 18 % of the variance in performance. Our results suggest that self-determined motivation among team-sport athletes is linked to performance indirectly through practice strategy use. In addition, need supportive coaching exhibited both an indirect and a direct effect on athletes practice strategy use. This indicates that not only does need supportive coaching affect need satisfaction and self-determined motivation among team-sport athletes, but may also enhance sport performance through its direct influence on athletes practice strategy use.

Keywords: motivation, coach, need satisfaction, self-determination theory, performance

Psychological Distance as a Factor of Regulation Interactions “Coach-Athlete”

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Abstract: One of psychological measurements organization of the athletic performance is an investigation of athlete's interactions with another subject-preparation, firstly with coaches. Importance of this measurement is concluded in estimation of information sufficiency level and emotional comfort of athlete's personalities. Such features can be united with such notion as a psychological space of an athlete's personality. One of the linear measurements of the psychological space is a psychological distance - special type psychological space, in which all profound and formally-dynamic features of the relations between coach and athlete convolute to measurement mentally "far-close". It was discovered that estimations to real psychological distance between coach and athlete greatly differ between groups with different level of skill, and in different condition of sportive-pedagogical process: real psychological distance (in drill/ in competition/ out of sport) - I level (31.67/21.50/65.67); Candidate to Master (12.33/20.5/74.33); Master of sport (61.63/47.63/68.9); International Master (64.75/65.83/71.58); Elite athlete (44.67/44.87/65.93); ideal desired psychological distance (in drill/ in competition/ out of sport) - I level (5.67/9.50/24.67); Candidate to Master (9.67/7.33/15.00); Master of sport (45.38/41.06/67.50); International Master (44.92/53.29/53.92); Elite athlete (35.13/33.87/66.27).

The statistical analysis of estimation "real" and "ideal" psychological distance shows the existence of most statistical difference in training situations (T=317, 5; r period of the interaction of the coach and athlete and often has defining sense for efficiency of the athletic-pedagogical activity. In other condition of interactions between coaches and athletes, such as "in competitions" (T=487, 5; r=0, 14) and "out of sport" (T=577, 5; r=0, 15), essential differences between experimental data were revealed, however they did not have statistical meanings. Summary was revealed of athletes (n=61), which took part in experiment, 35 persons were not a satisfied available relations, which fill their subjective space and need psychological interference in organization of athletic-pedagogical process, 23 persons strove to more close relations then 12 desired more distance relations in different condition of the interaction with coaches.

The psychological actions directed by athlete on realization and regulation own psychological space, including psychological vicinity-remoteness's other subject of common activity, another important features, sides and particularities greatly influence on the level of personal competency in organization (self-organization) of the training process, expansion and activation necessary psychological resource, as well as save of ecological conditions for all subject of athletic performance.

Keywords: psychological distance, interaction, psychological resource

Validation of Psychometric Proprieties of the RESTQ-Coach Brazilian Version

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Abstract: The purpose of this study was to validate a Brazilian version of the Recovery, Stress Questionnaire for Coaches (RESTQ-Coach). The RESTQ-Coach Brazilian Version is an assessment tool for Brazilian sport coaches. Also, using Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA), the purpose of this study was to verify the adequacy of the theoretical model by Kallus e Kellmann (1993). A sample comprised of 424 coaches, average age of 37.06 (±9.20) years, was divided into eleven different sports modalities, consisting of five team sports and six individual sports. The results of the CFA shows that the original model of the questionnaire proposed by Kallus e Kellmann (1993) is inadequate for this sample, and that the EFA was identified as the best solution to a factorial validation of the instrument, which is composed of six factors. This solution disclosed general internal consistency values of α = .85. Values of the global adjustment indicators of the Brazilian model for six EFA factors were general stress, specific stress, recovery, self efficacy, physical well-being, and cognitive techniques domains. The measurements adjusted indicators for 6 constructs were: χ^2 = 9.660,239 e gl = 2695, p=0.001; CFI= .96; TLI= .95; RMSEA .07, expressing their quality. The content validation from the judges does confirm the quality of the instrument in the Brazilian version. We concluded that Kallus e Kellmann (1993) model was not corroborated by the AFC for this Brazilian sample. The best factorial solution to the RESTQ-Coach Brazilian version is composed by six constructs.

Keywords: coach, validation psychometric, stress, recovery

A Review of Foreign Researches on Coaches-Athletes' Interpersonal Communication and Conflict

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Abstract: In sports, especially in high level competitive sports, the relationships between coaches and athletes, athletes and parents, and athletes and athletes are very important. In the several kinds of interpersonal relationships, there is no doubt that the relationship between coaches and athletes is the most important, because it may affect the level of training and competition performance directly. Nevertheless, in past researches, most studies have focused on the coaches' leadership theory, behavior, and methods, but few researches have focused on the status of the equivalent study. In fact, the study of social behavior, especially through the observation of leadership behavior, should not be a substitute for the research on social relationship. Therefore, the relationships between coaches and

athletes seem outstanding. According to empirical studies, the coach's responsibility not only lies in teaching sport techniques but also lies in building interpersonal relations with athletes. There are few domestic scholars who have laid the foundation for this kind of research; many relevant problems concerning coaches and athletes' relationship still remains to be explored.

The research collected relevant study findings (domestic and overseas) by documentation retrieval, and analyzed the main research problems and new theoretical models. Put forward are the definition and theoretical framework, expansion of the researcher's specialized knowledge, making the coaches and athletes become experts in dealing with interpersonal relationship, and improving the quality of sporting experiences.

The research put the theoretical framework used into the field of communication and organizational conflict for coach-athlete relationship and to expand the researcher's specialized knowledge. The competence-based model of interpersonal conflict links to interpersonal communication and relationship quality, and the contingency approach to conflict management also concerns the balance of the self and the others, which includes five forms of dealing with interpersonal conflict. Communication is subtly associated with interpersonal conflict, because whether it is verbal or nonverbal communication, it can often cause or deflect conflict; it can be a conflict management tool. The professional knowledge of interpersonal relationship includes participation, empowerment, authenticity, as well as the ability to resolve conflict and differences; it can be used to enlarge the view on the interpersonal level of the coach-athlete relationship.

Conclusion: 1) In the future, when researching interpersonal levels of communication and conflict, and both intersection points of coach-athlete relationships, the content of the communication and connection factors in the coach-athlete relationship should be examined. 2) In practical applications, development and experiments should be based on the empirical research of coach-athlete relationship; 3) The intervention study based on empirical and theoretical research can further reveal the complexity of communication in coach-athlete relationships.

Keywords: coaches-athletes, interpersonal communication, interpersonal conflict, foreign researches

A Case Study of Advancing Soccer in Developing Countries

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Abstract: Recently it is becoming more and more common to offer intensive soccer training programs as a way of contributing to developing countries in Asia. However, not much research has been done to investigate the effectiveness of such training programs. This study examines the actual situation and content of the training methods used with the Bhutan National Team as one of the examples. In this paper, we present the ways by which the competitive level of soccer in developing countries can be improved based on the first author's experience as a manager of Bhutan's national team and head coach of the Bhutan Football Academy under the Japanese Football Association's Dream Asia Project. The data from their activity report were collected for a period of one year and a half and analyzed by dividing the activities into two types: one type was mainly about the preparation aspects of soccer games, such as player selection, training period, travelling, and making adjustments; the second type was related to techniques, strategies, and physical and mental strengths utilized during soccer games.

Specifically, we argue that the following three things are essential

to advance soccer in developing countries: (a) to create an environment in which the players can always take part in, including practices, meetings, training camps, and every game without any concerns about their jobs or other social circumstances; (b) to start training players from a much younger age and give them as many opportunities as possible to accumulate experience playing in games, especially big games such as international matches; and (c) to support them by gathering information about opponents, conditions of the competition sites, means of transportation, weather condition on match day, etc.

We also recommend that coaches who are expatriated to advance soccer in developing countries should understand not only matters related to soccer, but also all aspects of the countries, such as their culture, history, language, and education. This paper offers various implications to the worldwide efforts in improving the competitive level of soccer in developing countries.

Keywords: Bhutan, national team, training, coaching, game

Sociometric Diagnosis of a Sports Team as an Indispensable Tool for Coaches

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Abstract: In contemporary sport, knowledge in sports psychology seems to be vital for the achievement of better results for both individual athletes and whole teams (team sports). Particularly for the latter situation, an adequate sociometric diagnosis, which ought not to be our only focus, should be the basic tool for "sociometric" evaluation of individual players as well as the whole team. In the present paper a precisely developed research tool called "SUS" Scale was used, that is, the Scale of Sociometric Attitudes, invented by Edward Wlazio (1985, 1990, 1999, 2003), Bukowska, and Supiński (2003). For this study, a group of football players from MKS Kluczbork football club was investigated. The research material comprised of results achieved by 20 players aged 19-34 years old. Sociometric positions of football players and interpersonal atmosphere within the team followed by sociometric positions of first team players were determined. An appropriate ability to interpret obtained results enables a coach to realize not only which players are most likable or not and to what extent, but also who is considered the best and worst-skilled football player. Coaches gain knowledge of which player should be the team captain and who is not fit to work in this area. Finally, the knowledge gained from the study may be combined with the coach's own observations, enabling him to determine the optimal composition of a football team to complete tactical and technical tasks and achieve team goals in current league matches.

Keywords: diagnosis, sociometry, sports group

Study on the Construction of a Three-dimensional Teaching Materials' System of the Olympics for Chinese Universities

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Abstract: Olympic education is the main channel to spread the Olympic culture. The ideals of the Olympics can be shared by popularizing Olympic education at all school levels. By establishing the Olympic demonstration school, offering Olympic courses, setting

up Olympic education institutions, etc., we can maintain the cultural heritage of the Olympics.

The teaching material of the Olympics is the basis of the Olympic culture and education, the latter being the foundation and the main source of the former. It is therefore necessary to develop a series of Olympic teaching material in order to improve the Olympic education in universities and to promote Olympic education activities. This project aims to develop Olympic teaching material which would embody a new education idea that would integrate physical education, art education, moral education and intelligence education, adopt full multimedia three-dimensional means, synthesize reading, audio-visual participation, and build a new Olympic teaching material system model for universities.

The three-dimensional teaching material system is not the same as traditional books, but is a three-dimensional teaching resource and an integral materials design system. Based on traditional paper teaching material, the three-dimensional teaching material system is subject curriculum-oriented, and takes multi-media, multi-form, multi-purpose and multi-level teaching resources as its main content. Overall, this teaching material is a complexity of constitutive teaching publications which include mutual supporting resources. The three-dimensional Olympic teaching material system adopts many educational methods, for example reading, audio-visual, participation and so on. This material motivates students' various receptors to study so that they can receive information comprehensively, stimulates students' study interest, expands the effects of propaganda and education of the Olympics, and satisfies the different needs of Olympic education.

Keywords: three-dimensional teaching material system, Chinese universities, Olympic education

Development and Preliminary Psychometric Testing of the Chinese Coach-Athlete Relationship Scale

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Abstract: The present study was designed to develop an instrument to measure the coach-athlete relationship on the road to excellence in Chinese sports culture. Four groups participated in the study: Group 1 consisted of 12 coaches and 12 athletes from Chinese individual sports, Group 2 was 367 Chinese professional athletes, and Group 3 and Group 4 were both composed of 176 Chinese professional athletes. A 44-item preliminary version of the Chinese coach-athlete relationship scale was developed based on the qualitative analysis of a semi-structured interview of Group 1 and distributed to Group 2 for feedback. After pilot testing and item analysis, a revised and shortened 27-item version of the instrument was distributed to Group 3 for confirmatory factor analysis. A final version of the instrument containing 20 items based on statistical analyses was constructed and administered to Group 4 for assessing psychometric properties. The final version of the instrument consisted of three subscales, namely intimacy and devotion, communication and consensus, and active cooperation. The first two subscales both included 8 items and the last consisted of 4 items. Internal consistency analysis indicated that all alpha coefficients of the three subscales were above 0.80. Structural equation modeling analysis produced acceptable fit indices (Chi-square=367.75, DF=167, TLI =0.91, CFI=0.92, RMSEA=0.08). Regression analysis showed that the scale had good predictive validity for relationship satisfaction and significant predictive power for performance satisfaction. Psychometric findings provided support for the internal consistency reliability, construct validity, and predictive validity of the scale scores.

Keywords: Chinese coach-athlete relationship, reliability, validity

The Influence of Sports Cooperative Learning on Peer Relationship of Pupils

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Abstract: Through analyzing and comparing the different influences of the traditional teaching model and sports cooperative learning on peer relationship intimacy, encouragement, praise, communication, mutual help and comfort, and concern and devotion, this study tried to find the active role of sports cooperative learning, and provided a practical guide for primary school physical education teaching.

The main methods of this study included classroom observation, measurement method, and experimental method. The subjects were students of three grades in a primary school in Beijing. Through these methods, this study observed the different influences of the traditional teaching model and cooperative learning model on peer relations, and summarized the role of cooperative learning in promoting students' peer relationships.

Conclusions: 1. In primary school physical education class, the teaching model of cooperative learning can improve students' peer relationships distinctly. 2. In primary school physical education class, the sports cooperative learning model can improve six aspects of students' companion relationship according to the size of influence (from largest to smallest), they are: attention behavior, communication, intimacy, encouragement behavior, mutual help behavior and devotion behavior; there is little influence on comfort behavior. 3. In primary school physical education class, the cooperative game teaching method can promote students' companion relations.

Keywords: sports cooperative learning, peer relationship, pupils

Organizational Learning of Coaches in Chinese National Sports Teams

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Abstract: Based on investigation of coaches in advanced classes of China Sports Coach Post Training (CSCPT), the condition of organizational learning of coaches in Chinese national sports teams was explored.

China Sports Coach Post Training has served an important role in the renewal and supplement of coaches' individual knowledge and skills. Individual learning is the foundation of organizational learning (Argyris & Schon, 1978, Cangelosi & Dill, 1965; Duncan & Weiss, 1979; March & Olsen, 1975); there is no corresponding relation between individual learning and organizational learning (Senge, 1990). This research aims to investigate and analyze the status quo and correlation of the on-job training and organizational learning of Chinese national team coaches.

Participants, 149 Chinese national coaches
Instruments: On-job training appraisal and coaches' organizational learning appraisal.
Data analyzed by SPSS 11.5 and Amos 4.0.

Results: (1) Internal consistency of two sub-questionnaires was 0.796 & 0.927; CFA was used to analyze the structure of organizational learning sub-questionnaire, which indicated the data was valid. (2) Estimating organizational learning can predict the situation of training appraisal to a certain extent ($R^2=0.28, F_{1,381}, P<0.05$). (3) Organizational learning emphasizes the deep cognition to study ($F=1.083, P<0.05$), the organizational learning advocates open

mentality (F=1.717, P<0.05). (4) There were significant interactions between learning cognition and training appraisal (0.221, P<0.05). (5) Organizational learning advocates team learning and focuses on organizational knowledge, memorizing and information sharing (F=1.619,P<0.05). (6) Organizational learning emphasized on “the training of systematic perception” (F=1.318, P < 0.05).

Conclusion: (1) “Coach’s questionnaire” has favorable reliability and validity. (2) High-level coaches have low satisfaction to on-job training and have more profound understanding on organizational learning. (3) On-job training is the organic component of coaches’ organizational learning. (4) Organizational learning of national team coaches pay more attention to shared vision, being open-minded, and systems thinking.

Keywords: organizational learning, Chinese national sports team, coach

Qualitative Exploration on Coaches’ Mental Fatigue

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Abstract: Coaches’ mental fatigue is associated with the coaching behavior and the performance of the athletes. Despite the popularity of this phenomenon in coaches, mental fatigue is far less well known in sport literature until now. In this study, 13 senior coaches were interviewed with semi-structured interview outline to explore the symptoms, impact factors, coping strategies and coping resources of the coaches’ mental fatigue. The results show that the symptoms include negative cognition, exhaustion, mobilization dysfunctions, behavioral and physical responses. The balance between stresses (endogenous stresses and exogenous stresses) and resources (psychological resources, physiological resources and interpersonal resources) determine the development of mental fatigue. Different from the popular conceptualization of burnout in sports psychology, mental fatigue has an adaptive function. Early diagnosis, prevention and intervention of mental fatigue are further discussed.

Keywords: mental fatigue, coaching, burnout, qualitative

The Process of Nurturing High-Level Coaches in China

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Abstract: The aim of the study was to explore, from the personal and social point of view, the process of nurturing high-level coaches in China, and attempt to develop a nurturing model that suits the social cultural environment in China.

Thirteen high-level coaches participated in this study, and a 100-150 minute face-to-face semi-structured interview was carried out for each coach. All interviewees were current coaches who had 10 years or above training experience. There was one participant recruitment criterion - coaches from China must have trained athletes who had won medals at world-level competitions, for instance, the Olympic Games and World Championships. Data collected from the interviews was analyzed using the grounded theory coding program.

The study found that there were nine factors that affected the development of high-level coaches: system; social political economic factor; history and culture; coaching career development; sport development and platform; social support and family; professional experience accumulation; exploration and philosophy of coaching;

personality and behavioral characteristics. Among them, social political economic factor, history and culture, and system are the macro factors; while exploration and philosophy of coaching, personality and behavioral characteristics, and professional experience accumulation are the micro factors. The two factors – sport development and platform, and social support and family - interacted with each other.

Further analyses found that “sport development and platform” as a factor had a far-reaching impact on the development of high-level coaches. If high-level coaches wanted to have a better career development, not only should they possess excellent internal personality, they should also find a good working environment - a comprehensive platform for special case development, support from the society, and an effective combination of human resources. In conclusion, the results of this study provided a theoretical framework to the nurturing and career development of high-level coaches in China.

Keywords: China, high-level coaches, nurturing model

Relationship of Coaches’ Professional Pressure, Occupation Pledge and Occupation Exhaustion

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Abstract: Burnout is a consequence of prolonged job stress and is most often characterized by exhaustion, cynicism, and reduced professional efficacy (Maslach, Jackson, & Leiter, 1996). Career stress represents the pressure coming from the occupational requirements. Professional commitment is psychological attachment to and identification with one’s profession (Morrow & Wirth, 1989), including the emotional commitment, specification commitment, and duration commitment. The occupation of being a coach is unique and demands high professional capacity; a coach is constantly under tremendous pressure from social expectations. The stress that a coach faces may result in burnout while the professional commitment which a coach holds may render the coach to stick to the career.

The aim of this study was to exam characteristics of coaches’ job-burnout, career stress and professional commitment and their relationships. Three hundred and fifty-two coaches were measured with the Coach Job-burnout Questionnaire, Career Stress Questionnaire, and Professional Commitment Scale. The results indicated that:

(1) The emotional exhaustion dimension of job-burnout was significantly related to general career stress and general commitment and all their dimensions. The correlation of emotional exhaustion and career stress was positive, while that of the emotional commitment and specification commitment were negative. The depletion dimension of job-burnout was significantly associated with general career stress and commitment and all their dimensions except with the specification commitment. The correlation of job-burnout and specification commitment, and duration commitment was positive while with the emotional commitment was negative. The inefficacy dimension of job-burnout was positively related to task-pressure, emotional commitment, opportunity commitment and specification commitment, and negatively related with role-pressure and interpersonal pressure. Except the low correlation with interpersonal pressure, the correlations of knowledge exhaustion of job-burnout and career stress and commitment were both significant.

(2) Regression analysis indicated that the career stress predicted job-burnout. The greater the pressure, the greater the level of job-burnout. The emotional commitment was also an important predictor

of job-burnout even if the effect size was smaller. The emotional commitment negatively predicted emotional exhaustion and de-personalization of job-burnout, but positively predicted the inefficacy and knowledge exhaustion of job-burnout. Emotional commitment was a dispensable factor which affects job-burnout.

(3) Descriptive statistics found that the coaches’ overall scores on the professional commitment were high, especially of the emotional commitment. The coaches’ scores on career stress had just reached the “higher” level, while task-pressure was the highest, expectation-pressure and organization-pressure the second, role-pressure, self-pressure and interpersonal pressure the lowest. The coaches’ overall score on burnout was not high except for the knowledge depletion dimension. The demographic differences of job-burnout were not significant.

In this study the relationships among coaches’ career stress, professional commitment and job-burnout were demonstrated and the prediction of coaches’ job-burnout was explored. An attempt to discover the generating mechanism of coaches’ job-burnout was also made. Knowing about the status and characteristics of coaches’ job-burnout is necessary for it provides a reference to promoting the development of coaches’ career and well-being.

Keywords: job-burnout, career stress, professional commitment, coach

How to Discriminate between a Swordplay-Suitable Athlete and a Broadswordplay-Suitable Athlete from the Perspective of Personality

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Abstract: Swordplay and broadsword-play are two main styles of weapon-play in modern Chinese martial arts. There are two sides of the blade in swordplay while the broadsword has only one side of the blade. The presentation style of the two is quite different. When coaches decide whether a young athlete should practice the sword or not, they usually base it on their own experience. This study wants to give a quantitative standard to help coaches distinguish between a swordplay-suitable athlete and a broadswordplay-suitable athlete.

Firstly, this study introduced 10 Chinese martial art coaches and athletes, based on the grounded theory the author proposed that the athletes of swordplay and broadswordplay are different in some characteristic of personality (like extraversion or acting style). Secondly,

we used the Children’s Personality Questionnaire (CPQ) to test the personality of children martial art athletes. The results showed that the broadswordplay athletes and swordplay athletes have significant differences in the following factors: Sensitivity (I), t=2.413, p=.021<.05. Vigorous (J), t=-3.167, p=.003<.05. Perfectionism (Q3), t=2.119, p=.040<.05. Tension (Q4), t=-3.413, p=.001<.05. In the factor A-Warmth (t=1.790, p=.081) and factor N-Privateness (t=-1.910, p=.063) there are marginally significant difference between the two kind of children athletes. This result verified the theory that the author raised. Finally, in order to apply the result into practical situation to help the coaches to decided weather a children athlete should practice the sword or broadsword, we used the Cattell’s 16 Personality Factors Questionnaire (16PF) to test the personality of 39 high level martial art athletes (age 21.79±1.82), then did the discriminant analysis using 6 related factors from the 16PF. The results of the original data to make the judgment of the correct rate of 67.46%. Preliminary developed a method that can distinguish the swordplay-suitable athlete or Broadsword play-suitable athlete from

the perspective of personality.
Keywords: sports atmosphere, exercise groups, scale

Psychophysiology and neuroscience perspective

Swimming Ameliorates Depression in CUMS Rats: Relevant to Proinflammatory Cytokines and IDO Activation

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Abstract: Chronic stress is involved in the development of depression and causes immune alterations. Indoleamine-2, 3-dioxygenase (IDO) plays a pivotal role in mediating the depression-like behaviors in response to immune activation. Physical exercise has been shown to reduce the stress impairment and ameliorate depressive symptoms. The objectives of the present study were to confirm that chronic unpredictable mild stress (CUMS) induces depression-like behavior and inflammatory responses within the brain, and then investigate whether swimming alleviates the depression-like behaviors induced by CUMS through proinflammatory cytokine-induced alteration of IDO in the brain. It has been found that CUMS exposure induced depression-like behavior (t = 2.109, P< 0.05 for sucrose intake; t = 5.130, P< 0.001 for poking number, t = 3.500, P< 0.001 for rearing number, t = 3.132, P< 0.01 for distance in center), increased serum corticosterone (CORT) level (t = 6.090, P< 0.001), decreased 5-HT level (t = 3.050, P< 0.01) in the prefrontal cortex and caused elevated levels of IFN (t = 3.882, P< 0.01), TNF-α (t = 2.733, P< 0.05) and IDO (t = 6.299, P< 0.001) in the prefrontal cortex. Regular swimming exercise ameliorated depressive symptoms induced by CUMS (t = 4.698, P< 0.001 for sucrose intake; t = 5.636, P< 0.001 for poking number, t = 2.852, P< 0.05 for rearing number). The exercise reduced serum CORT level (t = 5.439, P< 0.001), increased 5-HT level (t = 2.490, P< 0.05) as well as decreased levels of IFN (t = 2.727, P< 0.05), TNF-α (t = 3.091, P< 0.01) and IDO (t = 5.080, P< 0.001) in the prefrontal cortex in CUMS rats. These findings suggest that CUMS activates the HPA axis and induces immune activation, which may stimulate IDO activity, leading to the reduction of 5-HT levels in the brain, thereby resulting in depression. Swimming may inhibit activation of inflammation/IDO pathways induced by CUMS, thereby ameliorating depression.

Keywords: chronic stress, cytokines, depression, IDO, swimming

Pre-shot EEG Coherence during Skilled Air-Pistol Shooting: A Comparison of Best and Worst Shots

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Abstract: EEG coherence is a frequency-dependent measure of the degree of linear relatedness between time series simultaneously recorded from two locations. Coherence values indicate the magnitude of correlation between the respective amplitudes derived for a given frequency (or band) from the two time series. High EEG coherence implies communication between different areas of the cerebral cortex while low coherence is indicative of regional

autonomy or independence. Researchers have observed that, compared to lesser skilled shooters, experts engaged in less cortico-cortical communication, particularly between left temporal association and motor control regions, which implied decreased involvement of cognition with motor processes.

This study focused on coherence between Fz and other brain areas (F3,F4,T7,T8,C3,C4,P3, P4, O1, O2), as well as T7 and Fz ,Cz,Pz. Best performance was predicted to exhibit less cortico-cortical communication between Fz or T7 and other brain areas in comparison to the worst performance. Eleven skilled air-pistol shooters from the Shanghai shooting team were recruited in this study, with the best and worst shooting performances measured for each participant. Coherence was assessed for two frequency bands ,alpha, 8-13Hz, beta, 13-22), using sites F3, F4, Fz, C3, C4,

Cz, T3,T4, P3, P4, O1, and O2. EEG data were epoched 1 second consecutively for a 3- second aiming period prior to trigger pull. Coherence estimates for each band between the Fz electrode and all bilateral active electrode sites in the five regions were subjected to a 5 × 2 × 3 × 2 (Region × Performance × Epoch × hemisphere) ANOVAs with repeated measures were employed. Coherence estimates for each band between the T3 electrode and three midline electrode sites were subjected to a 3 × 2 × 3 (Region × Performance × Epoch) ANOVAs with repeated measures were employed. All statistical analyses were based on the Fisher z-transformation of the coherence values. The results only reveal a significant main effect for region, such that coherence estimates for alpha and beta bands were higher in the regions closer to Fz, except for the temporal and occipital regions. The results did not support the prediction which was related to the shooting levels of subjects.

Keywords: coherence, air-pistol shooting

Comparison of Executed and Rejected Shots on EEG in Shanghai’s Women’s Air-Pistol Athletes

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Abstract: The aim of this study was to compare the EEG activity between the executed and rejected shots and investigate the differences. During the preparatory period of shooting, athletes will execute a shot when they ready. But even excellent shooters do not pull the trigger every time after aiming. Sometimes they will withdraw their rifle from the target. By comparing the two cases of EEG activity we can understand the involved attentional processes associated with the pre-shot state. Twelve female air-pistol athletes were instructed to shoot 40 shots and allowed to sit about three minutes after each block of 10 shots. Investigators did not instruct participants to reject shots. Alpha and beta spectral power were obtained for the 3-s period prior to the execution or rejection shots. EEG data were collected using Neuroscan Synamps 2 with a band-pass filter setting of 0.05-100Hz. The sampling frequency was 500Hz. Impedance values for all electrode sites were maintained below 5 kΩ. Reference electrode was placed on the vertex. A frontal midline site served as the base. Vertical and horizontal eye movements were measured in which vertical EOG was assessed by electrodes placed above and below the right eye while horizontal EOG was assessed by electrodes located at the outer orbital. Data reduction occurred off-line using NEUROSCAN EDIT 4.3 software. Each participant’s continuous data were subjected to an eye-movement artifact algorithm, removing ocular artifact and epochal into three 1-s periods prior to each trigger. The site of analysis electrodes was on the left and right frontal, central, temporal, and parietal lobes. Data were transformed to power spectral density values (mV2) and natural log transformed. Mean 8–13 Hz and 13–30 Hz log data constituted the alpha and beta power, respectively. In this paper, a main effect for the location was observed

in alpha spectral power, suggesting that the brain acts differently between executed and rejected shots. Additionally, the left power is significantly greater than the right hemisphere. The interaction of Locations × Hemisphere was significant, the power of the left frontal, temporal and parietal lobes is greater than the right. Activation in the right hemisphere is dominant during the executed and rejected shots. Studies had indicated that the left hemisphere has been associated with verbal activation; the right has been associated with visual-spatial processes, so it suggests that the subject’s visual-spatial processes increase while the verbal activation is decreased.

Keywords: EEG, shooting, preparatory period, alpha power, beta power

The Effects of Answering Position and Font Size on Visual Searching of Sports Psychology Curriculum IBT

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Abstract: Eye movements are widely used to investigate cognitive processes during visual searching of Web-based content. Currently, researches on web interface designs indicate that the location and font size of target zones would affect individuals’ access to web information. Computer examinations also contain individuals’ information search on the interface. Whether the location and font size of the answer zone in computer examinations would affect individuals’ access to information and thus affect examination performance is not clear; therefore, this paper investigates this situation. The study focused on the characteristics of visual search and the effects of answering position and font size on the students’ visual search behavior in the internet-based test (IBT) of Sports Psychology curriculum, in order to provide substantial evidences for the design of the operator interface.

This study was a 2x2 (Answering position: left-upper\left-middle\centre\middle-upper; and Font size: 12 pounds\16 pounds) mixture experimental design. The between-group variable was answering position. And the repeatedly measured variable was font size. The dependent variables involved performance of the test and the coulometer index which were collected by EYELINK II, included fixation duration, fixation number, scanning distance, etc. Sixty undergraduates who had just finished the Sports Psychology curriculum course were arranged to one of four groups (gender-balanced-design): left-upper (LU), left-middle (LM), centre (C), and middle-upper (MU). All the groups were requested to accomplish the IBT of Sports Psychology curriculum. MANOVA was used to assess the differences between groups. Values of P < 0.05 were considered significant.

Results: (1) The main effect of font size was significant in the index of mean fixation duration (F=6.905, P=0.010). The mean fixation duration in a 16 point font size condition was significantly lower than that in the 12 point (259.86ms vs. 282.17ms, P<0.0001). (2) The main effect of answering position was significant in the index of fixation counts (F=7.933, P<0.0001). Tukey’s HSD post hoc test indicated the fixation counts of the LU group were significantly lower than the MU group (363.88 vs. 476.20, P=0.024) and the C group (534.83, P<0.0001). (3) The main effect of answering position was significant in the index of saccade counts (F=7.936, P<0.0001). Post hoc test showed the saccade counts of the LU group were significantly lower than MU group (363.00 vs. 475.50, P=0.024) and the C group. (4) When focused on the searching for key words in test items, the latency of saccade was found to be significantly lower in the 16 point font size condition than that in 12 point (247.34ms vs. 966.36ms, t=6.61, P<0.0001).

Conclusions: (1) The left-upper answering position in IBT can benefit visual search performance, compared with the centre and middle-upper position. (2) The 16 point font size condition in IBT is more efficient in visual search than 12 point.

Keywords: sports psychology curriculum, visual searching, eye movements, answering position, font size

The Effects of Competitive Situations on Cognitive Processes and Behavior as Evaluated by the CNV Components

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Abstract: The present study investigated various attitudes toward social-psychological stress among individuals by examining behavior and contingent negative variation,CNV in a cued reaction time task under critical competitive situations. Participants exhibiting high or low levels of competitiveness completed the task, competing on reaction speed with a visible or invisible opponent. The measures of individual arousal,early CNV,and motor preparation or stimulus anticipation,late CNV,were collected and analyzed by a principal component analysis,PCA. For subjects exhibiting low levels of competitiveness,the amplitude of the late CNV was larger and reaction timeRT was shorter when winning a trial and the early CNV was also larger and RT was shorter when competing with a visible opponent. For subjects with high levels of competitiveness the late CNV was larger in competitive situations with a visible opponent than with an invisible one independent of RT. The early CNV exhibited a more anterior distribution while the late CNV was located predominantly from the central to the parietal region and from the midline to the right hemisphere, a distribution which resembles that of stimulus-preceding negativity (SPN). These findings suggest that less competitive individuals have a chance of winning when motor preparation is adequate and their arousal level increases when they are acutely aware of their opponents, and that more competitive individuals may be highly motivated to win when they become more aware of their opponents.

Keywords: early CNV, late CNV, arousal, motor preparation, anticipation

Can Tai Chi Reshape the Brain? A Morphometric Study on the Brain

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Abstract: Although research has provided abundant evidences for Tai Chi-induced improvements in psychological and physiological well-being, little is known about possible links to brain structure of Tai Chi practice. Using high-resolution MRI of 22 Tai Chi Chuan (TCC) practitioners and 18 controls matched for age, sex, education and intracranial volume, we set out to examine the underlying anatomical correlates of long-term Tai Chi practice with different regional specificity. For this purpose, we adopted the attention network test (ANT) to explore the effect of TCC on executive control. Also the surface reconstruction was applied in association with a recently validated automated brain parcellations approaches. In two parcellation approaches, we consistently detected significantly larger surface area of the right orbital gyrus, greater cortical volume of the superior temporal cortex and orbital gyrus in both hemispheres in the TCC group. Moreover, we consistently found that more TCC experience is associated with greater surface area of the left precentral gyrus and the ANT performance of the TCC group is significantly correlated with the surface area of the left postcentral

gyrus. These findings indicate that long-term TCC practice could induce regional structural change and also suggest these selective brain structures adapting to TCC exercise is likely to be the neural correlates of TCC for health promotion.

Keywords: Tai Chi, aerobic exercise, brain plasticity, morphometry

Functional MRI Study on Gender Differences in Chinese Chess Experts

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Abstract: Gender differences are commonly believed to exist in board-game experts. Participation and dropout rates, duration of practice, gender differences in intelligence, visual-spatial ability and gender stereotypes are thought to be possible factors for the differences. Although these factors might lead to functional brain changes, there were no such researches on gender differences of brain function in board-game experts before as former brain mapping researches have only been done on male players. Using problem-solving processes, this study focused on the brain’s functional differences between female and male Chinese chess experts (grandmasters and masters) by functional magnetic resonance imaging (fMRI).

Nine male subjects age 29.22 (S.D. = 10) years old and six female subjects age 32.33 (S.D. = 5.65) years old participated in this study. A block-design paradigm was applied. In the design, subjects were presented with three problem-solving stimuli in alternating blocks: a blank board, a board with pieces arranged randomly, and a board with an endgame chess position. The endgame problems were selected from a Chinese Chess Data base (<http://www.dpxq.com/>) and reviewed by two Chinese chess experts. In the blank and random conditions, subjects were asked to fixate on the center of the board. In the game condition, subjects were asked to think of the next best move for red. The analyses focused on contrasts between the random and game conditions.

Female experts had higher activation than male experts in the left middle occipital gyrus and left precuneus (uncorreted, p< 0.001). There are gender differences of brain function in Chinese chess experts which were revealed by an unparalleled activation of the middle occipital gyrus and precuneus. Different visual-spatial ability between male and female experts might be one reason for these differences.

Keywords: gender differences, experts, problem-solving, fMRI, Chinese chess

Association between Systemizing and Brain Activation during Information Processing of a Baseball Hitting-Specific Visuospatial Go/No-Go Task: An fMRI Study

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Abstract: It is believed that we develop two important dimensions of cognitive styles: “systemizing”, which is a drive to analyze and construct rule-based systems; and “empathizing”, which is a drive to understand another’s mental state and respond to it with an appropriate emotion. Together, these form the Systemizing-Empathizing theory (Baron-Cohen, 2002). These are largely considered innate dimensions, evidenced by the fact that biological factors such as fetal testosterone influence both systemizing and empathizing. Recently, it has been suggested that these dimensions, especially systemizing, affect the development of spatial cognitive function. Thus, the aim of this study was to examine whether systemizing or empathizing is associated with brain activation during information processing of a baseball hitting-specific visuospatial Go/No-Go task (BHT).

Twenty right-handed, healthy male Japanese university students with a mean age of 20.0 (SD = 1.76) participated in this study. They were asked to answer the Systemizing Quotient (SQ) and the Empathizing Quotient (EQ) tests. Event-related functional magnetic resonance imaging (fMRI) was then conducted using a 3-Tesla Philips system, Achieva Quasar Dual® with an 8-channel coil (SENSE-Head-32P®). During the fMRI sessions, a horizontal row of four white square frames was displayed on a black screen. With regard to the BHT, subjects were asked to respond by pressing a right-handed button whenever 1 of the 2 inside frames turned green (Go-task), and to not respond whenever 1 of the 2 outside frames turned green (No-Go task). SPM8 software was used for the preprocessing of the fMRI images and voxel-based statistical analysis.

In order to examine whether systemizing or empathizing is associated with brain activation during a BHT, we analyzed the correlation coefficients between systemizing or empathizing and the blood-oxygen-level-dependent (BOLD) activity of the brain during the BHT. In the “Go task”, systemizing showed a significant positive correlation with the activation of the right cingulated gyrus and the left insula, while empathizing showed no significant correlation. In the “No-Go task”, systemizing showed a significant positive correlation with activation of the left inferior frontal gyrus, while, empathizing showed no significant correlation. These results suggested that systemizing is associated with brain activation during BHT-related information processing.

We conclude that systemizing is associated with brain activation during information processing of BHTs, whereby specific brain regions are activated depending on execution and inhibition. This study suggests that an innately prepared trait may play an important role in fulfilling baseball hitting-specific spatial cognitive function.

Keywords: systemizing, empathizing, fMRI, baseball hitting-specific visuospatial task, brain region

Brain Region Related to the Better Performance of Baseball Players in the Baseball Hitting-Specific Visuospatial Task: An fMRI Study

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Abstract: Expert baseball hitters react faster in the baseball hitting-specific visuospatial task (BT) than non-players do. Specifically, compared to non-baseball players, expert baseball hitters correctly decide whether to swing the bat or not more often. This suggests that long-term practice of hitting the baseball might activate functioning of some brain parts. However, the specific brain regions that baseball hitters use during the BT are still unknown. The aim of this study was to identify the brain regions related to information processing in baseball players during the BT. Subjects were 12 right-handed healthy male Japanese university baseball players (BPs) and 13 non-baseball players (non-BPs). Their mean age was 20.0 (SD = 1.76). We used the event-related design in fMRI sessions conducted using a 3-Tesla Philips system, Achieva Quasar Dual® with an 8-channel coil (SENSE-Head-32P®). In the fMRI sessions, a horizontal row of 4 white square frames was displayed on a black screen. In the

BT, the subjects were asked to respond by pressing a right-handed button whenever 1 of the 2 inside frames (strike zone) was colored green, and to not respond whenever 1 of the 2 outside frames (ball zone) was colored green. In the control task (CT), the subjects were asked to respond whenever any 1 of the 4 frames was colored green. Each instruction for the BT or CT was presented before the task. The Statistical Parametric Mapping 8 software was used for preprocessing the fMRI images and voxel-based statistical analysis. In order to identify the brain regions activated for information processing during the BT, we evaluated differences in blood-oxygen-level dependent activation between BT and CT. Then, we analyzed the difference in the activated region between BPs and non-BPs using unpaired t-tests. The results showed that compared to non-BPs, BPs had significantly greater activation in the corpus callosum, which is known to facilitate interhemispheric communication, and in the cerebellum, which is known to coordinate motor control. This result indicated that the corpus callosum and cerebellum were activated by the BPs for information processing during the BT. We argue that during information processing in baseball hitting, the interhemispheric connectivity via the corpus callosum and the coordination of motor control via the cerebellum are better in BPs than in non-BPs. This study suggests the corpus callosum and cerebellum may show a plasticity that can be shaped by long-term practice of baseball hitting.

Keywords: baseball players, visuospatial task, fMRI, corpus callosum, cerebellum

Influence of Tactile Input on Corticospinal Excitability during Motor Imagery under Same Voluntary Drives

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Abstract: We investigated whether there were differences between touching different but same weighting objects during motor imagery. Participants were instructed to imagine delivering a shuttlecock while holding nothing (Null condition), a real shuttlecock in the left hand and a racket in the right hand (Real condition), or analogue in corresponding hand (analogue condition). Analogues were made by equal weighting of paper and shaped similarly. Corticospinal excitability was assessed by monitoring motor evoked potentials (MEP) in the first dorsal interosseous muscle following transcranial magnetic stimulation over the motor cortex during motor imagery and rest. MEPs were tested by two-way ANOVA with repeated measures using the within-subject factors of task (MI and rest) and object (null, real and analogue). The results showed increased MEPs during imagery than rest. During imagery, MEP amplitude under real conditions became larger than those during other conditions. On the other hand, MEPs were the same between real conditions and analogue conditions during rest. It suggests that tactile input plays a

vital role in motor imagery with objects under same voluntary drives. The present findings may contribute to further understanding the mechanism of motor imagery and suggests the significance of tactile input on motor imagery.

Keywords: motor imagery, tactile input, analogue, real objects, voluntary drives

Effect of Moderate Exercise on the Natural Killer Cell and Heat Shock Protein 70 Reactivity after Psychosocial Stress in College Students

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Abstract: Physically active individuals have lower rates of morbidity and mortality, and recent evidence indicates that physical activity may be particularly beneficial to those experiencing stress. Psychosocial stress increases physiological stress responses, including the natural killer cell (NK) and heat shock protein 70,HSP70,expression. The aim of this study was to study the effect of moderate exercise on NK and HSP70 after Trier Social Stress Test (TSST) in healthy male college students. Forty-eight healthy male college students were randomly divided into two groups: control group (C) and 10-week physical exercise group (P). Students in the P group were subjected to moderate exercise for 10 weeks, three times every week; those in the C group were not arranged exercise. All students underwent the Trier Social Stress Test before and after ten weeks while NK and HSP70 expression in the peripheral blood of the participants were repeatedly measured after the end of the stressor. Findings indicate that: (1) Compared with the C group in the pre-test, NK and HSP70 expression in the P group were not significantly differentt= -1.01, P<0.05 and t=1.53, P<0.05,respectively. (2) Compared with the C group in the post-test, NK in the P group significantly increased, but HSP70 expression was significantly lowered,t=2.50, P <0.05,respectively. In sum, individuals who maintained the 10-week moderate exercise may be protected against the effects of physiological stress responses from acute psychosocial stress.

Keywords: Trier Social Stress Test, moderate exercise, heat shock protein 70, college student

Neurophysiological Representations of Manual Action

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Abstract: Most sports involve manual handling of sport equipment, or the hands are critically involved in the motor performance; the hands are one of the most important tools for bodily interactions with the environment. It is still unclear how various grips are neurocognitively represented and what functional significance such representations have. Here, we investigated the neurophysiological correlates (the electroencephalogram, EEG) of different grips in humans.

We recorded the EEG while participants saw pictures of human hands in different grip postures. A priming paradigm was used presenting two pictures shortly one after the other (SOA 100 msec; prime followed by target) and the relation between the pictures was varied. The grip type was varied (precision vs. power grip) and the grip type between the two pictures could be congruent or incongruent.

Participants had to classify the target superficially (hand vs. foot classifications; critical trials) and also pay attention to the prime picture (catch trials). Furthermore, the presentation of the hands (from left vs. from right) was manipulated to investigate the potential role of apparent motion (opening or closing the hand).

Preliminary analyses of the event-related brain potentials (ERPs) show a relatively early effect of grip type at right posterior electrodes after target onset (200-350 msec; F (1, 25) =17.5; p < .001). This effect was only observed for different presentations directions, i.e., if apparent motion was impossible. In addition, we found a relatively late effect of grip congruence over the motor cortex (F (1, 21) =13.4; p < .001) but only if the stimuli permitted an apparent motion (same presentation direction of both hands). The early ERP effect of grip type suggests that the representations of precision and power grips have distinct neurophysiological correlates. The later ERP effect over the motor cortex can be interpreted as a movement simulation of the perceived (apparent) motion (Neuper et al., 2006). Under these conditions of apparent motion, the early ERP effect of grip type was not observed which seems plausible as the specific grip type was task irrelevant.

The results suggest that the representation of human grips and, thus, presumably the motor control of the hand involves distinct neurophysiological representations. The apparent motion effect together with the absence of a grip type effect points to a dynamic functional integration of the grip representations into action files (analogous to event files; Hommel et al., 2001). The results may contribute to the fundamental investigation and evaluation of mental training.

Keywords: EEG, grasping, mental representation

Research on the Characteristics of Excellent Curling Players’ Encephalofluctograph

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Abstract: The DA research finds that: 1. Comparing with the people of the same age, they show a higher level of Ach and DA in their average test value than that in ordinary subjects of ordinary people. These three same ages in the female group while the test value of 5-HT is significantly lower than in male players. 2. The two neurotransmitters of norepinephrine (NE), excited muon is significantly higher than their peers in the female group, which indicates that the curling players are more capable of dealing with complicated and delicate movements than their peers in the female group; 3. The inhibiting medium (INH) in the curlers is lower than that in the female group, indicating that after male players train, the visual center is quite different from their peers in the female group.

Keywords: curling player, encephalofluctograph, brain function

Voluntary Exercise Promotes Neurogenesis in Juvenile Mice by Activating the Notch Signaling Pathway

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Abstract: Physical exercise has been shown to increase adult

neurogenesis in the dentate gyrus and enhances learning and memory. The notch signaling pathway is a key regulator of various steps in neuronal development, including the inhibition of cell cycle exit and neuronal differentiation of neural stem cells. However, it remains unknown whether the notch signaling pathway is involved in exercise-induced neurogenesis and the associated facilitation of learning and memory in the dentate gyrus.

To gain insight into the potential role of this signaling pathway in exercise-induced proliferation, 20 male C57BL/6 mice were randomly divided into a running group (n=10) and control group (n=10); the running group did voluntary wheel running for 8 weeks. Eight mice for testing of newborn cells in the dentate gyrus were datelabelled with BrdU for seven consecutive days at the 5th week. At the 8th week, 12 mice all participated in the test of Morris water maze. All were killed on the last day of exercise to assess proliferation by immunohistochemical method and activation of the notch cascade by western blotting and RT-PCR.

Voluntary exercise increased cell proliferation and improved learning and memory. Immediately after exercise, the NICD intracellular fragment protein expression level was enhanced, Jagged-1 mRNA, Notch-1 mRNA, Hes-1 mRNA were upregulated, but the expression of PS1 mRNA, Hes5 mRNA, Hes6 mRNA remained unchanged.

Results based on the above experiment suggest that activation of the notch signaling pathway plays a significant role in promoting cell proliferation during exercise and exercise-associated increase in learning and memory in the dentate gyrus.

Keywords: voluntary exercise, neurogenesis, notch signaling pathway

Sport expertise Differences in Mental Toughness between University Level Rugby Players of Different Participation Levels

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Abstract: Mental toughness is one of the most important psychological characteristics for achieving excellent sport performances. In this regard research proved that fifty percent of success in rugby could be attributed to the mental toughness of the players. The aim of this study was to determine the differences in mental toughness between male university level rugby players of different participating levels. The mental toughness level of each player was determined by means of the Psychological Performance Inventory (PPI). The PPI questionnaire consists of 42 items measuring seven six-item subscales, namely: self-confidence, negative energy control, attention control, visualization and imagery control, motivation, positive energy and attitude control. The questionnaire was completed in a classroom setting with a sport psychological consultant present for the duration of completion, to answer any questions and/or to explain any unfamiliar terms. Initially, the North-West University's Varsity Cup's training squad consisted of 52 players. The 23 players who were chosen for the final Varsity Cup team were assigned to Group 1(elite) and the remaining 29 players were assigned to Group 2 (sub-elite). The mean age of the players was 21.3 years. Group 1 obtained statistically significant better scores in attention control (p=0.02), with a moderate practical significance (d = 0.64) and visual and imagery control (p=0.05), also with a moderate practical significance (d = 0.50) than Group 2. Furthermore, despite the few statistically significant differences Group 1 had higher averages in all the subscales as well as the total mental toughness score compared to Group 2. From the results of

this study it is clear that the players of the final Varsity Cup team had a higher level of mental toughness than the rest of the players. These results emphasize the importance of mental toughness in rugby and can show that coaches, sport scientist and sport psychological consultants need to consider this psychological component in the preparation of the players instead of only focusing on the physical and tactical aspects of the rugby during training and conditioning.

Keywords: sport psychological skills, mental toughness, rugby

Perfectionism, Goal Orientation, and Self-Efficacy with Rhythmic Gymnasts

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Abstract: Perfectionism is an important psychological variable influencing the way the cognitive, affective, and behavioristic characteristics of the athlete function. Perfectionism is connected with orientation towards higher goals and more successful performance. According to the theory of goal orientation towards achievements with high task orientation success is a result of improvement of skills, self-development, and hard work, to positive and adaptive behavior directed to achievements. Ego-orientation is connected with type of behavior directed to domination, superiority and obedience, comparison of one's personal abilities with those of the others. Self-Efficacy is connected with one's self-confidence in one's own ability to act in a way that one's contributions lead to the desired result, with one's vision of one's own abilities to act successfully in certain situations. The aim of the present study is to reveal the special features of perfectionism, task orientation, and Self-efficacy with elite rhythmic gymnasts, the interconnections among the researched constructs, as well as the specifics in their manifestation compared to other kinds of sports. In order to fulfill the aim of the study we used: 1) Multidimensional Perfectionism Scales (Frost-MPS), Frost, Marten, Lahart,& Rosenblate (1990); 2) Task and Ego Orientation in Sport Questionnaire – TEOSQ (Duda & Nicholls, 1992); Self-Efficacy Methods in Sport (T. Iancheva, Tzv. Misheva, Aleksova, 2006). Object of the research are 48 elite rhythmic gymnasts aged between 14 and 24 (national athletes – girls and women, ensemble, individual). The results obtained and the established regularities reveal great specificity in manifestation of the studied indexes with the rhythmic gymnasts compared to the athletes practicing other kinds of sport: comparatively low values of the index 'Personal Standards'; high values of the index 'Worries about mistakes'. The obtained results are valuable for the purposefulness of psychic impacts and for optimization of the sports-competitive activities.

Keywords: perfectionism, goal orientation, self-efficacy, rhythmic gymnasts

Sources of Stress and Coping Strategies among Malaysia Male Elite Cyclists

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Abstract: Cycling is a combination of endurance and sprinting sport in which cyclists must cope with tremendous physical, physiological and psychological demand in training and competition. For example, for the previous 2012 Olympic London, the route range between 140km (women) to 250km (men) and took from 3 hours 35 minutes (140km) for women to 5 hours 45 minutes (250km) for men to complete. Weather and track condition can vary from hot and humid

to wet, windy and rainy route, and from indoor track to outdoor track. Cyclists must deal with cold, heat, dehydration, exhaustion and pain. This study explores the sources of stress and coping strategies used by male elite cyclists (n=5; Mean age=25.8 years old; SD=1.3). Semi structured individual interviews were conducted to capture the sources of stress and coping strategies used by male elite cyclists. The responses given by the male elite cyclist were analyzed and common themes were developed. The results indicate a few main common of such as sport training concern with pressure to perform and competitive concern. Although they perceived stress from different angle and time, these cyclists used some common cognitive (problem-focused) and behavioural (emotion-focused) strategies (e.g., setting and managing goal, relaxation techniques) to deal with stress full situations. It is vital to sport psychologist and coaches to understand the common sources of stress and effective coping strategies used by male elite cyclists, in order to generate psychological intervention program for cyclist of all levels.

Keywords: Stress, coping, cognitive, behavioral

The Research of Exercise Self-Efficacy on Overweight and Obese College Students

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Abstract: To explore overweight and obese students' exercise self-efficacy, this project researches 136 college students who are overweight and obese and analyzes the characteristics of exercise self-efficacy through the methods of literature, questionnaires and mathematical statistics. Result: the level of exercise self-efficacy on overweight and obese college students is low, and higher in males than females. Group exercise programs are superior to a single-person exercise program. Physical exercise intensity, time and experience have an effect on the improvement of self-efficacy. Therefore, to improve overweight and obese college students' exercise self-efficacy, we should mainly use the methods of group exercise and increase the exercise intensity and duration appropriately so college students will develop long-term adherence to exercise habits.

Keywords: overweight, obese, college students, exercise self-efficacy

Review of the Influencing Factors of Sports Field Research Methods

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Abstract: In recent years, research on influencing factors of various phenomena in the field of sports has increased quickly, but the source of influencing factors is not very clear, and there is no clear method which is suitable for studying the impact factors. This article reviews literature about influencing factors in the field of sports over the past 10 years using the method of literature, expert interviews, mathematical statistics analysis, the sources' ways on the impact factors and research methods. In summary, the sources of influencing factors: literature, field surveys, questionnaires, and some subjective judgment; research methods: factor analysis, confirmatory analysis, regression analysis and some subjective analysis. In conclusion, the analysis of the influencing factors in the field of sports is not standardized, and it is recommended that a suitable method for the study of influencing factors is regression analysis, which can provide direct reference theory for the follow-up study.

Keywords: sports, influencing factors, research methods

Changes in Mood States and Salivary Cortisol Levels in Elite Female Water Polo Players

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Abstract: Psychological and physiological markers have been used to maximize competitive sport preparation. The aim of this study is to evaluate the effects of two months of training and competitions on mood states and salivary cortisol diurnal variation in a group of 15 female elite water polo players. The mood was measured by POMS questionnaire. Saliva samples were collected three times per day (08:00h, 14:00h and 20:00h, before breakfast, lunch and dinner, respectively) for three following days per session to determine the diurnal rhythm of free cortisol. Results show that the beta coefficient values of the slope of the regression of cortisol values on sampling time, expression of the stress response system resiliency, was significantly flatter after the training period. Values of the area under the cortisol curve 'with respect to ground' (AUCg), index of total cortisol output, and those of the beta coefficients of the slope of the diurnal change in cortisol level were highly negatively correlated between them. The slope correlated positively with dysfunctional POMS scale (tension-anxiety, depression-dejection, anger-hostility, fatigue-inertia, and confusion-bewilderment) and negatively with the functional one (vigor-activity). On the contrary, AUCg correlated negatively with dysfunctional factors and positively with the vigor index. In addition, changes in the scores of the subscale tension-anxiety were negatively correlated with changes in AUCg and positively with the changes in the slope of the diurnal variation in cortisol levels. Our findings offer support for the hypothesis that subclinical hypocortisolism and flattened diurnal rhythm of cortisol play a role in determining dysfunctional mood states.

Keywords: waterpolo, female athlete, cortisol, mood state, stress responses

The Influence of Cognitive Load and Task Difficulty on Badminton Players' Working Memory Capacity

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Abstract: The working memory span of sports experts is far greater than working memory capacity of normal people. This is because when the technical and tactical modes are distinguished by sports experts, they can extract relevant perceptual schema information according to specific sports situations, combining them with long working memory to form specific retrieval structures, indicating cognitive advantages in movement. The aim of the present study was to explore badminton players' working memory capacity and its influencing factors. Sixteen experts and 16 novice badminton players were selected as subjects. Professionally simulated video memory of badminton was selected as the experimental task to explore athletes' characteristics of working memory span under the conditions of different task difficulty and cognitive load. The results showed that working memory capacity of the novices is about three rounds with six shots. Working memory span of the experts is more than four rounds with eight shots more, but not more than nine shots. Furthermore, the working memory span was impacted by the cognitive load and the task difficulty; the working memory performance of complex tasks is significantly better than the working memory performance of simple tasks. Whether working on the simple tasks or the complex tasks,

working memory span of the experts was significantly better than the novices'. The experts should be better than the novices in the speed of work memory retrieval. These results are in line with long working memory theory proposed by Ericsson & Kintsch (1995), suggesting that the long-term working memory is a specialized skill, and is gradually developed in the process of skill formation.

Keywords: working memory capacity, cognitive load, task difficulty

Subcortical Inflation in Sport Experts Brains

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Abstract: Several recent studies have identified structural changes in the cerebral cortex that occur with extensive motor training. However, limited studies have been conducted to explore structural changes of subcortical structures, which are thought to play important roles in motor functioning. This study aims to localize the shape differences of the subcortical structures between diving athletes and non-athlete groups.

Cross-sectional design was adopted in our study. Specifically, 12 professional divers with top-level diving skills and 12 age-and-education-matched healthy controls who had no training experience were recruited and scanned with 3 Tesla Magnetic resonance imaging (MRI). FSL-FIRST, a model-based segmentation and registration tool was developed to explore the possible shape differences of the subcortical structures between diving athletes and the novice group. A group analysis was performed by calculating vertex-wise F statistics to investigate the localized shape differences. Vertex-wise correlation analysis was also performed between the vertex location changes and the years of training experience in the diving group.

Comparisons of the vertex locations between the diving and control groups showed that divers exhibited significant regional inflation in the bilateral thalamus (left, $p=0.0086$; right, $p=0.0188$, corrected) and the left globus pallidus (left, $p=0.02816$, corrected). Two patches of inflation were seen in the left thalamus. One was located at the anterior end in the dorsal region and one at the posterior end in the ventral regions. Three patches of inflation were seen in the right thalamus. One was located at the anterior end in the dorsal and ventral regions and the other two were located at the posterior end in the dorsal and ventral regions. Before the FDR correction, regional inflation also existed in the right globus pallidus, indicating that this area has a tendency for inflation. In addition, no significant correlation between the vertex location changes and the years of training experience was observed in divers.

In conclusion, we investigated the subcortical shape difference between divers and novices using a vertex-based shape analysis method. We found significant regional inflation in the thalamus and globus pallidus in divers. Consistent with recent studies, we hypothesize that the observed regional inflation are due to the effect of extensive training. However, we cannot rule out the fact that these structural differences might be innate. Future studies are warranted to determine the relative contribution of predisposition and training.

Keywords: brain plasticity, motor experience, sports experts, MRI

Reflections on Domestic Consulting

on Psychological Sport Culture

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Abstract: Sports psychological consultation is the principle of sports psychology. Combined with a social and cultural background, psychological counseling can explain the cognitive, emotional and behavioral problems that exist in sports participants. This knowledge helps the implementation of the target process. Therefore, despite individual psychological factors, we must consider the impact of social and cultural factors if counseling is to be effective domestic athletes' psychology; we should figure out the impact of the culture level.

When carrying out psychological counseling on exercise participants, from the cultural perspective, sport psychologists should pay attention to the following three aspects, namely: philosophical thinking, philosophical correction and technical adjustments. Specifically, technical adjustments refer to both the habits and expectations of society and culture in the process of the consultation, including the proper consulting relationship, the suitable talks and communication, and the appropriate explanation and direction. Philosophical thinking and philosophical correction are more abstract, which require that cultural factors be taken into account, for example, how to change the choice of personality development, sport performance, consulting behavior of the consultant (sport), and then make a guided suggestion to healthy thinking, mature psychology, hygiene performance, reasonable training and match target. In addition, when starting the implementation of sports psychological consultation, we should also consider other factors associated with Chinese culture, such as traditional thinking, popular ideas, and collective values.

Keywords: domestic consulting psychological sport, reflections on culture

Theoretical and applied issues

Self-Esteem between Egypt and Saudi Arabia Evaluation of the Athlete's Physical and Skills Attribution in Soccer

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Abstract: Although the gap between athlete evaluation of the athlete's physical and skills attribution in many sports activities is a frequent topic of discussion, little in the way of empirical data currently exists. The main purpose of the study was to determine the gap between the athlete and coach evaluation of athletes' physical and skills attribution among Soccer athletes. The descriptive approach was used in this study. The sample consisted of 45 Soccer athletes; 25 Egyptian athletes soccer and 20 Saudi athletes Soccer and 10 coaches involved in the training process of these players, 4 coaches from Egypt and 2 coaches from Saudi Arabia. Physical – self scale was introduced to collect data consisting of five dimensions: strength, speed, flexibility, endurance, and reaction time. Soccer skills chart by a group of experts consisting of eight items: Defensive, Offensive, Long Passing, and Short Passing, Dodge the ball, positioning, Ground passes, and Over passes. Both tools have a five-rating scale. The purpose of this study is to identify the self-esteem of athlete's soccer Egyptians and Saudis, in each of the physical skills and soccer skills. The results indicated a significant difference in evaluation between coaches and Saudi athletes in athletes' physical-self in strength, speed, flexibility, and reaction time except in endurance. On the other hand, there were some differences among Egyptian athletes in

strength and speed only.

Keywords: self-esteem couch, athletes Soccer

Toward the Validation of a Measure of Challenge and Threat in Sport

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Abstract: To date no reliable and valid measure of Challenge and Threat in sport has been developed. This study reports 4 stages in the development and validation of a Challenge and Threat in Sport (CAT-Sport) measure. In stage 1 item's indicative of Challenge and Threat were derived from existing measures (Cognitive Appraisal Scale, Skinner and Brewer, (2004), Challenge and Threat Construal, Ptacek et al. (1994), The Primary and Secondary Appraisal Scale, Gaab et al, 2009) and focus groups with current athletes. This yielded a 21 item instrument with each item scored on a scale of 1 (strongly disagree) through to 6 (strongly agree). In stage 2, the questionnaire was distributed to a sample of 127 (n = 80 male, n = 43 female) 21.1 kilometers (km) runners (Mage = 38.87, SD = 9.69) and 70 (n =56 male, n=14 female) 32.2 km runners (Mage = 42.22, SD = 9.48). A principal components factor analysis with Oblimin rotation yielded a two-component solution, one labeled challenge (variance = α =.84) the other labeled threat (variance = α =.71) leaving a 12-item questionnaire. Criteria for components extraction included: (a) eigenvalues greater than 1.0 to indicate that a component explains more variance than any single item; (b) a minimum of around 5% explained variance per component and; (c) components loading of .4 and above (Guadagnoli and Velicer, 1988). Items that cross-loaded were also removed. In stage 3, this 12-item questionnaire was distributed to a second sample of 57(n=32 male, n=25 female) 10km runners (Mage=38.62, SD=12.86) and 90 male (n = 55 male, n=35 female) 16.1km runners (Mage = 40.53, SD = 10.59). The two-component solution was tested using Confirmatory Factor Analysis (EQS version 6.1). A correlated 2-factor model best fit the data (Satorra-Bentler scaled 115.09 ($p<0.01$); Goodness of Fit Index (GFI) =0.80, Root Mean Square Error of Approximation (RMSEA) =0.13, Robust Comparative Fit Index (RCFI) =0.85) although the goodness of fit indices fell below commonly agreed threshold criteria (Hu and Bentler, 1999, GFI 0.9, RMSEA 0.10, RCFI= 0.95). Stage 4 provided an exploratory examination of the instrument's criterion validity in each sample of runners (using the final 12 items across both samples). When running times were standardized, a significant positive association was observed between challenge and running speed with all the distances combined, (r =.173, p =<0.01). No statistically significant correlations were observed between threat and performance. In conclusion report of Challenge is correlated with faster running performance.

Keywords: challenge, threat, measure

Athletes' Self-Evaluation: The Exploratory Analysis of the Relative Measurement of Well-Being

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Abstract: With research development, the traditional way of thinking that individuals self-evaluate their performance or affective and cognitive responses to the performance in absolute values came into question. According to a relative view, self-evaluation of affective and cognitive responses to performance is affected by interpersonal comparisons and that alternatives affect evaluation of an attribute or a task (e.g., Hsee, 2000). The comparisons were shown to be

generated to ease the evaluation process when the evaluation is compound or in a vague evaluative situation i.e., to gain an intelligible reference point. Research indicated that individuals tend to evaluate their competence (Festinger, 1954), happiness (Veenhoven, 1991, Kahneman, et al., 2004) or motivation (Sheldon, 2003) in relative terms whether it considers individuals' wealth (Hsee, Hastie, & Chen, 2008), health (Veenhoven, 2008) or athletic performance (Slawinska, et al., submitted). Current study further inquires into how athletes self-evaluate their Well-being by exploring the relationship between relative measures of well-being, determination for success, perceived physical attractiveness, perceived ability, confidence, and their association with absolute measures of perceived effort, self-evaluation of ability and perceived chances for success. Participants were 44 elite Polish volleyball players with mean age 16.42 (\pm 2.63) years and mean competitive experience 5.49 (\pm 1.90) years. Individuals answered questions on relative measure on ability, confidence, determination for success and physical attractiveness as well as questions on perceived exerted effort and perceived chances for success. All questions were single or double items, measured on a 10-point semantic scale ranging from not at all (1) to very much (10) (Osgood, Suci, & Tannenbaum, 1957). Results showed strong positive association of the relative measure of Well-being with relative measure of physical attractiveness, health and ability and confidence, and a negative relationship with determination for success. Study also found a positive relationship between Well-being and self-evaluation of perceived exerted effort and chances for success and a negative relationship with self-evaluation of ability. Furthermore, relative measures of physical attractiveness, health and ability, confidence, perceived effort and chances for success were found to be strong predictors of athletes' Well-being.

Keywords: self-evaluation, relative measure, well-being, affective and cognitive responses

Does Mental Toughness Really Work? An Evaluation on Tenpin Bowling Performance

Carlin Lee, Tony Morris, Mark Andersen
Victoria University

Abstract: Often in sports, having mental toughness is a post hoc status "conferred" to athletes who displayed high levels of performance under high pressure competition contexts. It would be beneficial to sport psychology research and application of sport psychology, if there is a clearer indication of whether mental toughness is able to influence athletes in their performance. With the aim to increase understanding of how mental toughness is related to performance, this study examined the prediction of performance from tenpin bowlers' mental toughness attributes. These attributes were measured by the Mental Toughness Inventory (MTI; Middleton, Marsh, Martin, Richards, & Perry, 2005). The MTI consists of 12 mental toughness factors: Mental Self-concept, Self Efficacy, Potential, Positive Comparisons, Goal Commitment, Personal Bests, Perseverance, Task Value, Task Specific Attention, Task Familiarity, Stress Minimization, and Positivity. Performance was operationalised using tenpin bowling averaged results over 15 games (over 5 weeks). MTI data were collected from 97 participants (male = 80, female = 17) of mean age 35.85 (SD = 13.05) years, using on-line and hardcopy administration of the scale. Their skill levels varied from league to national experience, with mean years of experience being 13.18 (SD = 11.37) years. All subscales, other than Mental Self-concept, were found to be significantly correlated with the average scores; the strongest correlations were with Potential (PT), Task Value (TV), and Task Familiarity (TF) at $p<.01$. It was found that the 11 subscales accounted for a significant 31.4% of the variances to the prediction, $F(8, 88) = 5.04$, $p<.001$. A secondary regression analysis found that three predictors of PT, TV, and TF accounted for a significant 27.6% of the variances to the prediction, $F(3, 93) = 11.80$, $p<.001$.

The participants’ age contributed a significant 4.5% to the variance of the prediction of average bowling scores, with the PT, TV, and TF subscales contributing an additional 25.7% to the prediction, $F(3, 92) = 11.28, p < .001$. Years of experience contributed a significant 41.6% to the variance of the prediction of average bowling scores, with the same subscales contributing another 10.5% to the prediction, $F(3, 92) = 6.73, p < .001$. It is hence conclusive that some mental toughness attributes contribute more than others to the performance of the subjects in this study. However, more research should be done to examine whether the same results can be achieved for other sports contexts.

Keywords: mental toughness, application, performance

Academic Stress between Student Athletes and Non-Student Athletes

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Abstract: The present study deals with the comparison of Academic stress of student athletes and non- student athletes by using Gadzella’s Life Stress Inventory (B. M. Gadzella, 1991). Five categories of academic stressors namely frustrations, conflicts, pressures, changes, and self-imposed and four categories describing reactions to these stressors like physiological, emotional, behavioral, and cognitive were comprised. The sample consisted of 50 student athletes and 50 and non student Athletes from different colleges and departments of Swami Ramanand Teerth Marathwada University Nanded at the end of 2011-2012 academic year in their study. Those Students were participating in intercollegiate tournament have considered student athletes and those students were not participating any sporting activities at minimum intercollegiate tournament as considered non student athletes. Exclusion criteria were the presence of chronic medical conditions such as asthma, heart disease or any other condition that would put the subjects at risk when performing the tests. The subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs. They completed an informed consent document to participate in the study. The mean age of student athletes were 23.3 ± 3.64 , height were $178.33 + 15.56$ cm. the weight were $69.29 + 4.01$ Kg. Similarly, the mean age of student athletes were $22.3 + 3.45$, height were $175.67 + 14.99$ cm. the weight were $73.98 + 7.01$ Kg. The significant deference of frustration ($t = p < .05$), conflicts ($t = p < .05$) and self-imposed ($t = p < .05$) were found in students athlete and non students athlete in academic stressors sub dimension with combined sample ($t = p < .05$). While comparing reaction to stressors, there were significant difference found in Physiological ($t = p < .05$), Behavioral ($t = p < .05$), and cognitive ($t = p < .05$) with combined sample ($t = p < .05$). Students athletes reported higher frustrations and self-imposed stressors with academic stressors and greater physiological and cognitive reaction to stressors than non athlete students.

Keywords: academic stress, student athletes, academic stressors, reactions to stressors

The Acceptance and Action Questionnaire–II in Chinese Athletes

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Abstract: The present study aimed to examine the reliability and validity of the Chinese translated version of Acceptance and Action Questionnaire–II (AAQ-II) in a sample of Chinese athletes. The AAQ-II, together with 3 other questionnaires, namely the Training and Competition Well-being Scale (TCWS), the Sport Competition

Anxiety Test (SCAT), the Satisfaction with Life Scale (SWLS), and the abbreviated Profile of Mood States (POMS, including seven subscales: tension, depression, fatigue, vigor, confusion, anger, and esteem-related effect), which used for validity tests of the AAQ-II were completed voluntarily by 330 (153 males, 177 females) athletes in Mainland China. Among these 330 athletes, 27 were randomly selected to complete the AAQ-II again one month after the first assessment so as to evaluate the test–retest reliability of the AAQ-II. Results from confirmatory factory analysis (CFA) indicated that a one-factor solution fit the AAQ-II data satisfactorily. Reliability coefficients, including composite reliability and test–retest reliability, were also satisfactory. In addressing the validity, it was found that the AAQ-II was negatively associated with training and competition well-being (TCW), vigor, and esteem-related effect. It was also positively correlated with anxiety (SCAT), tension, anger, fatigue, depression and confusion. The factorial invariance was established across genders. The Chinese version of the AAQ-II appears to be a reliable and valid instrument to assess levels of psychological inflexibility and experiential avoidance for the Chinese athletes in Mainland China.

Keywords: Acceptance and Action Questionnaire–II, experiential avoidance, psychological inflexibility, Chinese athletes

Effectiveness of Eye Movement Desensitization and Reprocessing (EMDR) Technique in Acute Stress Disorder Occurring after Traffic Accidents

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Abstract: In this study, we aimed to investigate the efficacy of eye movement desensitization and reprocessing (EMDR) technique in the treatment of acute stress disorder that may occur after traffic accidents and deteriorate the quality of life of patients. 30 adult patients treated in the Orthopedics and Traumatology Clinic of Gulhane Military Medical Faculty between 2007–2008 for traffic accidents and showed acute stress disorder symptoms enrolled to the study. These patients were at least primary school graduates, and voluntary. All patients underwent one EMDR session for traumatic events. Impact of event scale (IES-R), state-anxiety inventory (STAI-1), trait anxiety inventory (STAI-2) and the Beck depression inventory (BDI) were administered to the patients before and after one month of the application of EMDR. Scores of IES-R, STAI-1, STAI-2 and BDI scores decreased significantly after the application of EMDR treatment. Scores STAI-1 was higher in patients with multiple organ injury than patients with single organ injury. The difference of the scores were statistically significant in the first month after the application of EMDR when compared the decrease of the single organ injury trauma group IES-R scores to multiple organ trauma injury group IES-R scores. EMDR treatment was effective on the symptoms of acute stress disorder occurring after the traffic accidents. Severity of physical injury of patients was positively associated with the state anxiety levels and inversely associated with the clinical response of EMDR.

Keywords: acute stress disorder, EMDR, traffic accident

Evaluating Tenpin Bowling Performance through the Sport Mental Toughness Questionnaire

Carlin Lee, Tony Morris, Mark Andersen
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Abstract: Often in sports, having mental toughness is a post hoc status “conferred” to athletes who displayed high levels of performance under high pressure competition contexts. It would be beneficial to sport psychology research and application of sport psychology, if there is a clearer indication of whether mental toughness is able to influence athletes in their performance. With the aim to increase understanding of how mental toughness is related to performance, this study examined the prediction of performance from tenpin bowlers’ mental toughness attributes, as measured by the Sport Mental Toughness Questionnaire (SMTQ; Sheard, Golby, & van Wersch, 2009). The SMTQ consists of four subscales of Confidence, Constancy, Control, and an overall Global Mental Toughness. Performance was operationalised using tenpin bowling averaged results over 15 games (over 5 weeks). SMTQ data were collected from 94 participants (male = 77, female = 17) of mean age 35.86 (SD = 13.16) years, using on-line and hardcopy administration of the scale. Their skill levels varied from league to national experience, with mean years of experience being 12.99 (SD = 11.47) years. The average bowling scores were found to be significantly correlated to the SMTQ subscales, other than the Control subscale. These Confidence and Constancy subscales accounted for a significant 6.4% of the variances to the prediction, $F(2, 91) = 3.14, p = .048$. The participants’ age contributed a significant 5.4% to the variance of the prediction of average bowling scores, with the Confidence and Constancy subscales contributing an additional insignificant 5.8% to the prediction, $F(2, 90) = 2.96, p = .057$. Years of experience contributed a significant 42% to the variance of the prediction of average bowling scores, with the same subscales contributing another insignificant 1.4% to the prediction, $F(2, 90) = 1.13, p = .327$. It is hence conclusive that some mental toughness attributes contribute more than others to the performance of the subjects in this study; however, age and experience may play a bigger part. However, more research should be done to examine whether the same results can be achieved for other sports contexts.

Keywords: mental toughness, application, performance

Becoming a Sport Psychologist: Entrance, Training, and Sustenance

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Abstract: Sport psychologists are primarily concerned with assisting athletes to reach their human potential and maximize their athletic performance through the use of psychological skills training. There has been an explosion of research examining factors that may lead to superior athletic performance. The research on the ‘practitioner’, however, has been scarce. Although the field of sport psychology has been around for a while, the path to formal education and training opportunities for individuals who wish to pursue this field still remains ambiguous. There is also great variation between different countries in the length of time for education, training, and selection processes operative in sport psychology. This lack of clarity and consistent structure for the formal training and support for sport psychologists has direct bearing on the credibility of the field as a whole. Irrespective of the certification procedure for formal training in sport psychology, most countries have non-credentialed individuals who operate as ‘sport psychologists’, often based on their individual reputation and scheming marketing gimmicks. It, therefore, becomes difficult for the clients to differentiate between the qualified practitioner endorsed in sport psychology and the ‘cowboys’ (mental skills trainer, mental coach, performance coach, mind trainer, and so on). The present review will attempt to postulate a framework for becoming a sport psychologist and try to address the above issues. This will include three main phases: Entrance (getting into a recognized and

accredited sport psychology course), Training (relevant psychological skills training based on scientist-practitioner model and empirical research), and Sustenance (practicing effectively in the field). This framework will hopefully encourage changes to be made to the current system and provide a coherent structure for those who wish to pursue this field and become competent sport psychology practitioners.

Keywords: sport psychologist, formal education, training, sport psychology, certification

An Eye Movement Research on the Effect of Line Spacing and Font Size on the Performance of a Computer Test for a Sports Psychology Course

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Abstract: This study primarily probes the rationality of the interface of a computer test for a sports psychology course, specifically its effect of line spacing and font size, and in turn provides a theoretical and empirical basis for reforming the interface settings. This research randomly chose 30 undergraduates who studied sports psychology during the last semester. They were divided into two groups based on their scores from the paper-based test of the sports psychology course. A 2×2 factor mix was designed; line spacing was the between-subject factor which included two levels, 20-pixel and 25-pixel; font size was the within-subject factor which included two levels, 12-point and 16-point. Eye movement data of the subjects were recorded during the computer text and their performance and eye movement indexes were analyzed. Result & Conclusion: (1) Compared with the 25-pixel line spacing, the 20-pixel line spacing is beneficial for the operator to answer and search for key information. (2) 12-point font size and 16-point font size have no significant affect on performance and information gathering. (3) line spacing and font size has no interaction on performance ($F = 0.007, p = 0.932$) and every eye movement indexes.

Keywords: sports psychology, computer test, eye movement research, performance

A Study on Predictors of Exercise Intention and Behavior of Middle-aged and Elderly Chinese

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Abstract: Introduction: The Theory of Planned Behavior (TPB) is one leading social-cognitive theoretical model that explains motivational influences on behaviors in many domains, as well as exercise. However TPB-related exercise research is scant in mainland China. The Health Action Process Approach (HAPA) is a model that explains the motivational process of initiation, maintenance, withdrawal and relapse of health behavior. If HAPA proposes that perceived resource is a predictor of health behavior, then can perceived resource predict exercise behavior effectively? The purpose of this study was to examine the predictive utility of social-cognitive variables of TPB and perceived resource for explaining exercise intention and behavior among middle-aged and elderly Chinese. Methods: There were 246 middle-aged and elderly participants (144 men, 102 women) aged 35-77 ($M = 54.1, SD = 7.20$) who completed anonymous questionnaires of their attitude, subjective norms, perceived behavioral control (PBC), intentions, perceived resource and exercise behavior.

Linear regression analyses on TPB model indicated that attitude (beta= .079, p= .070 > .05) and subjective norm (beta = -.069, p= .124 > .05) and PBC (beta = .748, p= .000 <.01) explained 55.8% of the variance in intention; and that attitude (beta= .084, p= .158 > .05) and subjective norm (beta = .079, p= .198 > .05) and PBC (beta = .316, p= .001<.01) and intention (beta = .086, p= .328 > .05) explained 18.2% of the variance in behavior. Linear regression analyses on TPB's extended model indicated that perceived resource (beta= .153, p= .013 < .05) and PBC (beta = .634, p= .000 <.01) explained 56.1% of the variance in intention; and that perceived resource (beta= .113, p= .117 > .05) and PBC (beta = .341, p= .000 <.01) explained 17.8% of the variance in behavior.

For middle-aged and elderly Chinese, among variables of TPB and its extended model, perceived resource and PBC are significant predictors of their exercise intention, and PBC is only a significant predictor of their exercise behavior.

Implications: The study findings are not sufficient proof that TPB is a valid framework for predicting exercise intention and exercise behavior of middle-aged and elderly Chinese. This implies that it is necessary to construct a new theoretical model to predict exercise intention and behavior of middle-aged and elderly Chinese effectively.

Keywords: theory of planned behavior, exercise, intention, behavior, middle-aged and elderly Chinese

Application of Health Action Process Approach to Physical Activity among Japanese Youths

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Abstract: Psychological factors are important determinants for physical activity promotion. There are numerous social cognitive models such as the health action process approach model (HAPA) that predict physical activity (PA). However, few studies have examined the HAPA for PA among Asians. This study examines the application of the HAPA for PA among Japanese youths. Participants included 1019 Japanese university students (male = 519, female = 500) aged 18 to 23 years (M = 18.73, SD = 0.64). All participants completed a questionnaire composed of sociodemographic variables (e.g., gender and age), a modified physical activity index, and social cognitive variables (risk perception, outcome expectancies, self-efficacy, behavioral intention, and planning). Structural equation modeling using the maximum likelihood estimation was employed to examine the HAPA. The results of the HAPA confirmed that the model fit indices satisfied the statistical requirements (GFI = 0.985, AGFI = 0.940, CFI = 0.967, RMSEA = 0.082). The HAPA explained 31 % of the variance in PA among Japanese youths. Each path between the observed variables in the HAPA was found to have a significantly positive influence on each variable, whereas the path of negative outcome expectancies to behavioral intention had a significantly negative influence. The results showed that the HAPA was an applicable model for explaining PA among Japanese youths. The path of negative outcome expectancies to behavioral intention had a negative influence because Japanese youths may expect a negative outcome (e.g., losing time for personal activities). This finding implies that health education to promote PA may be necessary to decrease Japanese youths' negative outcome expectancy.

Keywords: health action process approach, physical activity, Japanese youths

Examining Predictors of Psychological Skills Training

Behavior among Japanese Archery Athletes

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Abstract: Kyudo (Japanese archery) is a traditional Japanese sport. Kyudo athletes tend to feel higher anxiety than other sports athletes because the competitions are based on the hitting ratio. Psychological skills training (PST) is an effective method for improving athletes' psychological states. However, few athletes practice PST regularly. This study examined the predictors of PST behavior among Kyudo athletes on the theory of planned behavior (TPB) and investigated the differences on the basis of sex using the TPB model. The subjects included 253 Kyudo athletes (male = 174, female = 79, mean age = 19.98, and SD = 1.29). They completed a set of questionnaires including a face sheet and social-cognitive variables in TPB (behavioral intention, attitude toward the behavior, subjective norm, perceptive behavioral control, and PST behavior). Multiple group analysis using structural equation modeling was conducted to investigate the differences on the basis of sex using the TPB model. The result showed that the TPB model had acceptable fit indices (GFI = 0.994, AGFI = 0.958, CFI = 0.996, and RMSEA = 0.055), and all paths in the TPB were significant (p< 0.001). Multiple group analysis showed that the females' subjective norm had a positive relation with behavioral intention (β = 0.30, p = 0.001), whereas the males' subjective norm did not have such a relationship (β = 0.09, ns). The result suggested that the TPB supported the Kyudo athletes' PST behavior. Moreover, the result of multiple group analysis indicated that female Kyudo athletes have more sense of social responsibility and norm than males, and thus the PST behavior of female Kyudo athletes increased by recognizing expectations and evaluations from coaches and teammates. In the future, effective methods for PST interventions should be considered.

Keywords: psychological skills training behavior, Kyudo athletes, theory of planned behavior, multiple group analysis

Current Research Status and Prospect of Empirical Studies on Sports and Psychological Stress in China

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Abstract: By consulting reference materials, this thesis statistically analyzes the research literature in the field of "Sport and Psychological Stress" and aims to figure out the current research status, the existing problems and the future trend of development. By processing and analyzing the data, the current research status is revealed as follows: First, it is generally confirmed in mass sports that sports can help reduce psychological stress and improve both physical and mental health; Second, the major research direction of school sports focuses on physical education, and many researchers suggest that quantitative physical activities have important roles to play in relieving mental stress and improving mental health status; Third, at present, scholars in China have done a lot of research on competitive sports and psychological stress and achieved certain results, which provide theoretical guidance and service for athletes to deal with stress before their training or competition. However, there are still problems existing in the field: a late start on the research, single research method, a lack of qualitative researches, narrow research perspective, with the main subjects of research being athletes and college students; as well, the focus and hotspot of most research is only concerned with competitive sports while less

attention is paid to school sports and mass sports. In order to deal with these problems, Chinese scholars had better broaden the research field, improve and innovate the research method, generalize the subject of research, and enhance international cooperation to provide a new direction for the study and development of psychological stress in China.

Keywords: sports, psychological stress, current status, prospect

The Effects of Self-Control on Sports Performance

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Abstract: Nowadays, the research on self-control in sports focuses on two aspects: (1) Self-control can cause ego depletion. Previous studies suggested that self-control needs resources which are limited and will be depleted after some time (similar to muscles getting fatigued after working for a long time). People's resources attenuate after self-control, so that their reaction in the subsequent self-control task will be worse. The Meta-analysis of 83 studies about self-control found that the ego depletion effects caused by self-control had stability. Stable outcomes could be obtained in different types of depletion tasks and fields. (2) Defining the conceptualized structure of self-control. Researchers adopted different methods such as documents analysis, expert interview and questionnaire survey to define athletes' self-control. One is comprised of four dimensions: self-efficiency, self-supervision, emotion-control and behavior-control. Another study which measured the structure of self-control of athletes concluded that it was composed of cognitive regulation, emotion-control, task performance regulation, and habit breaking.

Research on athletes' self-control mainly adopts the paradigm of double unrelated self-control task, which leads to depletion effects. However, there were some contradictions in theory and practice about this kind of research paradigm and results. For example, if self-control leads to depletion effects, is self-control needed? For an athlete, the ability of self-control is crucial. Breath-regulation, attention-regulation and emotion-regulation before competition are all beneficial to the performance of the subsequent competition. The higher the ability of self-control an athlete has, the better he will operate self-control and the better he will perform in sports. Therefore, future studies should firstly re-define the concept of self-control, including self-inhibited control which the previous research mainly focused on, and self-approach control which was overlooked. For the direction of future research, studies should pay more attention to the positive effects of self-control. Adopting a dual self-control task paradigm (unrelated task is self-inhibited control, related task is self-approach control), studies could explore the subsequent effects of self-control, and especially reveal the positive effects of self-approach control. Based on all of the above, studies could explore the various aspects (the whole and the parts) of self-approach control further and the differences of sport performance caused by the different intensities of self-approach control, and/or even explore its mechanism from a psychological, behavioral, brain nerve (ERP) and gene aspect.

Keywords: self-control, ego depletion, self-approach control, self-inhibited control, sport performance

Validity Assessment of the FIT Model's Stage Measurement for Health-enhancing Physical Activity

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Abstract: The FIT Model (Four Steps from Inactivity to Activity) (Brehm, Duan, 2010) describes six stages (Not Considering, Considering, Preparing, Exploring, Fluctuating, Maintaining) of the process of health-enhancing physical activity behavior change. It also includes ten psychological correlates (self efficacy, barriers, outcome expectations, body concept, affective attitude, plan, intrinsic motivation, activity situation, activity emotions, activity support), which are assumed to influence the stage transition. The purposes of the current study were to test the validity of the FIT model's stage measurement.

In this cross-sectional study, there were 2082 adult participants (M=38.72 years, SD=8.67) of whom 45.3% were German, 57.7% Chinese and 43% male. The questionnaire packets contained physical activity (PA) behaviors (types, frequency, and intensity), stage algorithm and ten psychological correlates. For data analysis, sensitivity [the proportion of persons who are accurately classified as performing the behavior (the last three stages) over the total number who meet the criteria], specificity [the proportion of individuals accurately classified as not performing the behavior (the first three criteria) over the total number who do not meet the criteria], ROC curves, and AUC were computed to evaluate measurement quality. Polynomial contrast and planned contrasts were run to examine stage assumptions (nonlinear trends and discontinuity patterns).

In the low behavior criteria (energy consumption of PA of mild, moderate and high intensity), sensitivity and specificity were 93% and 75% respectively; in the high behavior criteria (energy consumption of PA of moderate and high intensity), sensitivity and specificity were 94% and 68% respectively; there was no difference of sensitivity between low criteria and high criteria (X²=0.56, P=0.45), however, when using low behavior criteria, specificity (X²=15.05, P<0.001) and AUC (that is 0.86; Z=4.472,P<0.05) were higher, which implies that the FIT model's stage algorithm has more quality to measure the PA which includes mild intensity. Additionally, no significant differences of sensitivity and specificity were found in gender and age, but nationality. Besides, there were significant nonlinear trends (quadratic, cubic and fourth-order terms) on the psychosocial correlates across the stages. Furthermore, 71.4% discontinuity patterns of psychosocial correlates across adjacent stages were revealed.

The majority of the study hypotheses related to stage measurement were confirmed, which provide empirical evidence to support the utility of the FIT Model's stage assessment for PA.

Keywords: stages, sensitivity, specificity, nonlinear trends, discontinuity patterns

Advantages and Disadvantages of Using Online Assessments in an Intervention Program in Cycling

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Abstract: NTIC offers new opportunities to sport psychologist intervention programs. Time constraints, spatial separation with the athlete and the need to complement face to face sessions, are some good reasons to utilize online assessments in a classical psychological intervention. In this poster, we present the combined intervention done with a 25-year-old female cross and MTB cyclist. The intervention goal was not to reduce the athlete's level of performance in competitions. After evaluating the cyclist's difficulties thoroughly, we decided to make a psychological program for the remaining four months of competition. The final program consisted of 16 sessions, 8 of which were done online. The online sessions were done through chat rooms as a way to reduce the intervention expenses while maintaining close contact with the athlete. The online

sessions were specially designed to solve some of the athlete's doubts, to get feedback about the achieved training goals and the sensations lived in competition as well as to reinforce and maintain the attitude and strategies prepared during the face-to-face sessions. The major difficulty was to maintain a coherent conversation because of the athlete's tendency to write long phrases. In this type of intervention, the sports psychologist's communication skills are essential for success.

Keywords: online assessment, psychological training, cycling, performance preparation, mental strength

The Study of Undergraduate Students' Physical Activity Based on the Social Ecological Model

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Abstract: The social ecological model includes intrapersonal, interpersonal, organizational, community and policy five level factors. Different levels of factors could influence the participation of physical activity. The aim of the present study was to explore effects on undergraduates' physical activity by using three levels of the social ecological model, which are intrapersonal factors, interpersonal factors and organizational factors. The study was based on a survey among a sample of 262 undergraduate students (Male, n= 146, Female, n = 116). Participants were randomly selected from one university. Measures included exercise motivation, self-efficacy, social support, and organizational support for physical activity which participants responded to by using a 5-point Likert-type scale for each item, and exercise level (frequency, intensity and duration). Based on the physical activity guideline for adults, participants did the equivalent of at least 150 minutes of moderate intensity physical activity each week, which renders the exercise level as high; if they exercised less than the standard, the exercise level is low. The data from measures were analyzed using independent T-tests. Research result showed that participants' exercise motivation, self-efficacy and social support differed significantly according to their exercise level (t= -4.491, P < 0.05; t= -5.342, P< 0.05; t=-3.415, P< 0.05). The high exercise level group had higher levels of exercise motivation, self-efficacy and social support. The exercise frequency, intensity and duration showed significant gender differences (t=4.571, P < 0.05; t=6.357, P<0.05; t=4.304, P<0.05). Males did better than females in these three aspects. Different sources of social support on level of motivation, self-efficacy and social support were analyzed by using One-Way ANOVA. Results showed that exercise motivation and social support levels differed significantly (F= 3.158, P < 0.05; F=3.561, P< 0.05). Friends' social support was a significant mediator for exercise motivation. Support from both friends and girl/boy-friends can increase the level of social support. For the scores of the questionnaire of organizational support, an average score greater than 3 means the organizational support level is high, otherwise the level is low. The data was analyzed using independent T-tests. Research results showed exercise levels did not show significant differences according to their organization support level. The improvements of exercise motivation, self- efficacy and social support can promote exercise levels of undergraduate students. Further research is required to explore effects on undergraduates' physical activity by using community and policy two level factors of the social ecological model.

Keywords: psychology; environment; cross-sectional design

Differences between Chinese and Western Athletes: An Analysis of

Cultural Psychological Differences

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Abstract: Chinese athletes' cultural characteristics have been researched in existing studies. The general characteristics of Chinese athletes can be extracted and refined from the studies about athletes' cultural and psychological differences based on the cultural perspective. Therefore, it can be used to direct the competitive sport psychology research and avoid the problems of ignoring the cultural differences and scale misuses.

Based on local competitive sport psychology scales, this study chose scales from the Handbook of Psychological Scales for Sport Sciences II, and Research Progress of Sport Psychology Measures (Mao, Dong & Yu, 2012). The focus was on the cultural differences of Chinese and western athletes. The scales which showed differences between the two groups were analyzed.

The findings indicated that there were differences between Chinese and western athletes on the following aspects: achievement motivation, anxiety, stress, coping style, self and attitude. Among these, most of the cultural differences can be explained from the facet of social orientation. However, the exception is coping style (Chinese athletes have a special coping style named transcendence coping), which can be understood only by Confucian and Taoist cultures. In conclusion, studies about social orientation and cultural differences between Chinese and western athletes have been investigated much more recently, and it should be regarded as an important facet for Chinese sport psychologists. As well, more attention should be paid to other kinds of cultural differences stemming from Chinese traditional culture except for coping style.

Keywords: Chinese athlete, western athlete, cultural differences, social orientation

Review on Influence Factors and Evaluation of Coping with Stress in Sport

Min Wu, Wang Bin, Lv Ye, Xiu Peng
Central China Normal University

Abstract: As an important process in the dynamic procedure of competitive stress, coping with stress has significant influence on the performance and well-being of athletes. The aim of this paper was to review the literature on coping with stress in sport, introducing the definition and relevant theories of coping with stress. The type of coping strategies used by athletes is influenced by stable factors (age, gender, personality and coping self-efficacy), and by situational factors (type of sport, skill and stress appraisals). The evaluation of coping strategies mainly concentrated on coping effectiveness and subjective performance. Based on these evidences, more attention on developmental issues to guide the formulation of sport-related models to enhance our theoretical understanding is required. Additionally, future research needs to further address some personal differences of coping strategies used by athletes and study the reasons for the differences. Finally, researchers should pay more attention to the evaluation model of coping with stress, not only focusing on negative outcomes but also on positive outcomes as well, such as athlete engagement, goal attainment and competition satisfaction.

Keywords: coping with stress, influence factors, evaluation

Evolution of Scientific Service Subject in Chinese National Sports

Teams

Yang Zhao, Yan Shi
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Abstract: In this study, literature, questionnaires and expert interviews found that: (1) with the improvement of scientific training in Chinese national sports teams, scientific service subject had gone through three stages of evolution: athletic subject stage, training subject stage and research subject stage. The evolution went from "Individual R & D" to the "Organized systematic game". (2) Cycling in the Beijing Olympic Games, the scientific service subject of the Chinese national sports team, had heterogeneous characteristics in organizational composition, with younger male-dominated character in elements of the members; the technology staff as a whole had higher education, diversification of knowledge carrier dimensions, and had researchers from research institutes to the the many sports research institutions and universities directly under the General Administration of Sport; "organization proximity" was greater than "geographical proximity." Scientific and technical personnel come from multiple departments, including sports scientific research institutions, sports colleges, and athletic training and management, which together achieve specialized production and co-production of knowledge.

Keywords: Chinese national team, scientific service, team composition

Differences between Chinese Athletes and Western Athletes: Summary of Indigenous Research Results in Sport Psychology

Yang Wenbo
Beijing Sport University

Abstract: Psychology came from the western world. Sport psychology is a branch of psychology, which inherited psychological theories and methods from the western world. Domestic sport psychological workers find many issues in practice when psychological theories and methods from the western world are used. After investigating cultural factors in psychological theories and methods, some pioneering sport psychologists proposed specific research strategies and channels (Zhang, 1999; Si, 2000); so far, there has been more than 10 years' worth of accumulation. This research mainly summarizes all these research results in sport psychology in China. Chinese athletes have their features in several facets, such as motivation, self-esteem, stress, attitude, and so on. On the basis of Si's (2011) explanation, Yang's Social Orientation Theory was used to explain what we found, and we propose that Chinese athletes may have two kinds of self-actualizing orientations: social orientation and individual orientation. In the end, we suggest that researches in social orientation have broader perspectives, and researches of this orientation should be given more attention in broader regions, more specifically, and more practical.

Keywords: Chinese athletes, western athletes, culture, social orientation

Visualization Analysis on Hotspots and Frontiers of Sport Psychology from 2000 to 2012: Based on Five International Sport Psychology Journals

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- 3. School of Health Science, Wuhan Institute of Physical Education
- 4. School of Physical Education, Central China Normal University

Abstract: This research used the software Cite Space to make visual analysis for 2038 articles about sport psychology from five journals which were published between 2000 and 2012, and aims at revealing the knowledge foundations, hotspots and frontiers in the field of sport psychology. The results show that the knowledge foundations of sport psychology include self-efficacy theory, self-determination theory, and the theory of planned behavior, as well as structure equation modeling and qualitative research. The researches hotspots mainly concentrate in performance, motivation, physical-activity, self-efficacy and anxiety. And the research fronts of sport psychology mainly consist of self-determination theory, choking, cohesion, youth sport and social support.

Keywords: sport psychology, mapping knowledge domains, co-citation analysis, Cite Space

Research Review on the Influencing Factors in Exercise Adherence

- Juanjuan Yan¹, Mingqiu Fu²
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 - 2. Chongqing University of Posts and Telecommunications

Abstract: The benefits of exercise can only be realized in those people who exercise regularly; however, a large number of individuals do not adhere to exercise. To deeply explore the factors of people's exercise adherence and obtain some revelations for a personalized intervention program, a systematic review of researches about the influencing factors in exercise adherence published from 2006 onward was conducted. Through combing and analyzing, this article found those personal factors (including demographic factors and biological factors), psychological/cognitive and emotional factors, behavioral attributes factors, environmental factors (including physical environmental factors and sociocultural environmental factors) as well as exercise activity's characteristics, influence exercise adherence. However, the long-term exercise program (knowledge of the exercise) as well as the prolongation of the exercise sessions was not associated with exercise adherence. Overall, some progress has been made in this field; special populations have been the focus of the current study, and the research directions have steered towards longitudinal and intervention studies. It not only encourages exercise adherence among special populations, but also infers the causal relationship between sports activities and factors influencing adherence and provides an inspiration to develop individualized exercise programs. The efforts of future research should be focused on strategies which can improve exercise adherence. Deeply exploring the influencing factors of physical activity in different types and contexts, the information of physical activity pattern in different life stages is also needed. All of these give implications for domestic research.

Keywords: exercise, adherence, Influencing factors, physical activity, review

Exploration of Sustainable Development in Sports Leisure Based on Social Cognitive Entropy

Xuefang Zou, Jin Wang, Yinping Tang, Jie Liu, Lei Xu, Chen Zhao, Wanxin Du
Zhejiang University

Abstract: Sports leisure as a social behavior is a social

phenomenon reflecting individuals' perception of opportunity to participate in sports leisure. This study discusses the sustainable development of sports leisure by introducing the concepts on social cognitive entropy.

According to the theory of social system, as sports leisure infers a social system, there is an exchange in the entropy flow between the system and the environment system. Consequently, the cognitive entropy of sports leisure is defined as the extent of the individuals' cogitation and reaction to these systems. Furthermore, the sustainable development of sports leisure puts forward the algorithm of entropy increase negative entropy. We used the classical calculation for the total entropy of a system in this research. For sustainability of system entropy, we followed the three conditions: (1) When total entropy is below zero, the system will break down; (2) when total entropy is just

at zero, the system is in a stationary state; (3) when total entropy is above zero, the system is in a sustainable state. Participants (N = 764, ages 12-70 years) completed the Leisure Sports Cognition and the Environment Cognition Questionnaire. Significant difference was found while comparing the social cognition with different demographic characteristics. Leisure sports cognitive entropy is -0.32. The results indicated that leisure sports' social system presents an unsustainable state.

Our results support the theoretical interpretation on the sustainability of the leisure sports system. Furthermore, it provides a new framework to understand the sports behavior from a multidisciplinary perspective.

Keywords: leisure sports, sustainability, social cognition entropy, social system

Family Affection of Chinese Athletes in Competitions Content and Structure

Xin Li¹, Zhong Qiu Zhang², Bing Wu¹
1. Zhengzhou University
2. China Institute of Sport Science

Abstract: Because of the research, the interview outline of the athletes' family affection behavior was set out by a series of interviews with 20 athletes and their family members. The whole research included 500 athletes who were involved with the special survey questionnaire of athletes' family affection (the importance of athletes is filled by others) and survey questionnaire of the affection effect and its benefits (both the forecast and formal questionnaires are filled by the athletes). Also, based on the valid questionnaires (including 129 questionnaires of the important others and 307 questionnaires of the athletes), both the contents and the structures of the affection benefits were analyzed and tested. Its dimension include effects of emotional support, effects of guidance and control, and effects of negative feedback ($\alpha=0.91, 0.84, 0.86$). The whole paper discussed the reasons and traits of the effects of the affection benefits.

Keywords: athletes, friends and relatives, important others, family affection

Study on the Psychological Model between Social Class and Sports Consumption Behavior

Liu Ying

Chengdu Sport University

Abstract: Sports consumption is a personal consumption behavior in sports activities. It is not only an individual phenomenon, but also a social phenomenon with certain social attributes. It has become a popular research area to study sports consumption from the perspective of social class. The current documents mainly focus on the different sports consumption behaviors of different social classes, and identify the consumption differences of different social classes. However, there is no model found between social class and sports consumption. That restricted our knowledge on sports consumption, and our assumption of the influence social structure change brought to the sports consumption. In this paper, it claims that the effect of social class on sports consumption is conducted via the effect of the individual consumption psychology. Therefore, we will explain the sports consumption difference of different social classes by the psychological model, based on the consumer cognition theory, consumer motivation theory, consumer experience theory and planned behavior theory.

According to the SES by the American sociologist Duncan, Chinese sociologist LI Qiang put forward our nation's social class scale by amending the western scale to our social situation. This research has adopted the social scale to conduct the study of Chinese social classes.

The research took a stratified systematic sampling method, dividing 286 (2006) administrative areas to two samples, big city and middle-sized & small city. After random sampling, the results showed
1. Sports consumption cognition and consumer experience motivation have a direct effect on the consumer experience and sports consumption desire, and an indirect effect on the sports consumption experience and desire, and the sports consumer cognition has a direct effect on the sports consumer motivation.

2. Social class influences sports consumption behavior via the effect on consumer psychology, one of the important ways of social class development.

3. Social class brings effect to the sports consumption behavior at the end through modeling the appropriate consumer psychology to its classes.

Keywords: social class, sports consumption, psychological model

The Effect of Exposure to Violent Videos on Implicit Aggression of Male College Students

Chu Yuede
Beijing Sports University

Abstract: Implicit social cognition refers to the social behaviors being performed unconsciously. Much evidence has shown that implicit social cognition plays an important role in aggressive behavior, and exposure to violent medium (television, videogames, etc.) would promote aggressive behaviors. A few paradigms (AT, Preference test and Initialization Test) were used to investigate implicit aggression. The purpose of this study was to investigate the effect of violent videogames and offensive sports on implicit aggression of male college students.

Sixty male college students were divided into three groups (20 students in each group). The students from group A were exposed to CS videogames, and students from group B were exposed to boxing match videos, and the students of the control group (group C) were not exposed to the 'aggressive' videos. The main procedures were as follows: In the initial stage, students of group A and group

B were asked to watch videos of CS games or a boxing match for about 5 minutes respectively, but no video material was displayed to students of group C. In the learning stage, all 60 students were asked to look at 40 pictures, and to remember the assailant and defendant information in each picture within 2 seconds. In the testing stage, the 40 pictures used from the learning stage were reassembled randomly, and each assailant or defendant picture was combined with a nonviolent character. Thus 20 pictures containing assailants and 20 pictures containing defendants were used for the testing stage, and each student was asked to select characters of his favor.

The data were analyzed with one-way ANOVA. The findings suggested that the selection of assailants by students of group A or B were significantly higher than that by students of group C ($p<0.05$), indicating that both CS games and offensive sports would influence implicit aggression. The significant difference of probability of assailant selection between group A and group B suggested that CS games would have more impact on implicit aggression than boxing matches.

Keywords: Implicit Aggression, Implicit Social Cognition, Violent Video Games

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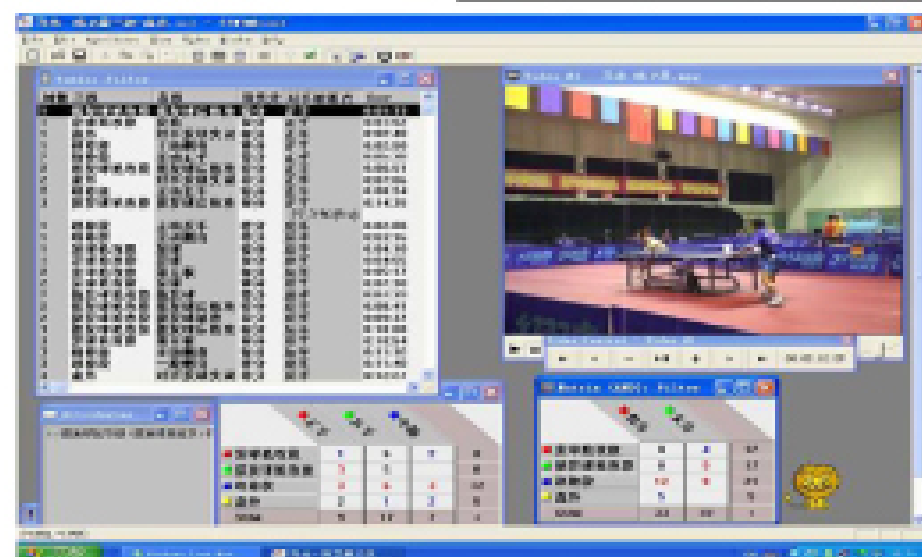
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可以在多台Windows操作系统的
计算机上安装

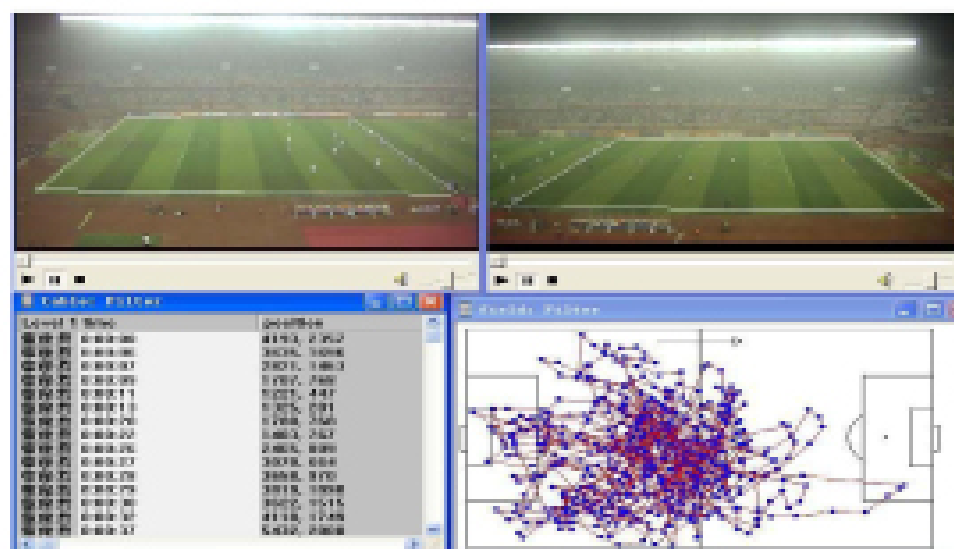
配套硬件：
高清摄像机+电脑+加密狗
大场地分析须多台摄像机衔接覆
盖拍摄

SIMI 中国地区总代理
北京汇安铭科技发展有限公司
香港HAM科技有限公司

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北京同方神火联合科技发展有限公司，前身为清华同方电子公司行业仪器部，依托清华大学强大的科研力量为后盾，自90年代开始不断革新技术，推出适应市场需求的高科技产品，将最先进的科研成果服务于社会。目前已发展成为专业从事心理测试（测评）仪器研发的高科技公司，其中以心理测试，心理训练，定向开发等为特长。

我公司与北京体育总局运动心理学重点实验室 联合研发TH-FX型心理跟踪分析仪

心理跟踪分析仪可以在检测人员与运动员谈话过程中，同步检测运动员心理及生理状态的实时变化过程，并由设备进行自动化的同步分析和筛选，它可以有效识别运动员在谈话过程中，某个时刻或者某个问题上出现敏感和紧张的现象，从而帮助检测人员更加快捷和准确的判断运动员心理状态的变化。



TH-FX 98,000.00元/台



TH-FXV 148,000.00元/台（无线传感器）

心理跟踪分析仪功能及优势如下：

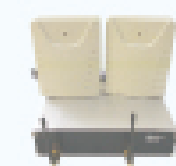
- 1 对运动员的兴奋剂进行初步筛查：传统兴奋剂检测流程的复杂性，时间周期长以及经济成本高，导致各种体育比赛中对运动员的兴奋剂检测工作往往陷入被动之中。心理跟踪分析技术能够对运动员进行快速检测，快速筛查出重点嫌疑对象。该设备的运用，大大节省时间成本和经济成本等。
- 2 为运动员的心理放松训练提供实时的生理数据展示：通过心理训练来调节运动员的心理状态，是确保竞赛发挥出更好水平的一个重要因素。心理跟踪分析仪能够实时显示运动员放松训练时的生理参数，便于对运动员的心理状态进行更有针对性的调节。
- 3 对被检测对象的心理变化过程进行全方位的跟踪，对运动员进行突发事件的心理干预，预防心理疾病。
- 4 通过与被检测对象的谈话，系统能在众多问题上自动筛选出被检测对象的关键和敏感信息，大幅提高检测效率。
- 5 操作简便，对人体无任何副作用。
- 6 没有时间上的局限，检测工作赛前及赛后都可以进行。
- 7 可以对运动员的谈话过程进行同步录音录像。



主机



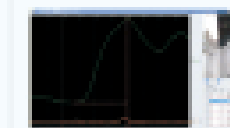
传感器



双路无线接收器



自动筛选结果



生理数据展示



帮助找出心理敏感点

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