Competencies (occupational standards, knowledge, and practice), and their Accomplishment (learning specification; essential knowledge and skills) in Sport and Exercise Psychology: An ISSP position stand

Gershon Tenenbaum, USA

Athanasios Papaianou, Greece

Deitmar Samulski, Brazil

Conceptual Framework

For several decades the ISSP-MC surveys and publishes the status and practices of sport and exercise psychologists world-wide (see Salmela, 1981, 1992; Lidor et al., 2001). In 1997 the ISSP-MC established a committee to oversee the development of the discipline, and the methods used to prepare and educate sport and exercise psychologists. With the accelerated growth of the sport and exercise psychology domains, the ISSP-MC and its members decided that to establish a more defined and universal set of standards for the domain, to be used by professional organizations in the field who wish to establish programs and/or educate individuals in this field.

Sport psychology is viewed here as a *special area* in both the psychology and sport and exercise domains. APA (www.apa.org/crsppp/specprinciples.html, 2002) defines a *specialty* as an "area of psychological practice, which requires advanced knowledge and skills acquired through an organized sequence of education and training. The advanced knowledge and skills specific to a specialty are obtained subsequent to the acquisition of core scientific and professional foundations in psychology." Our position is that advanced knowledge in sport psychology comes from both the psychological and sport and exercise domains.

Sport and exercise psychology has its *distinctiveness*. It differs from other existing specialties in its body of specialized scientific knowledge and professional applications. It draws on scientific and practical knowledge in the psychology and sport and exercise science domains, but it consists of unique applications, which integrate psychological knowledge, and substantive knowledge of the sport and exercise sciences.

As a distinct specialty, field-driven applications and theories are developed, which reflect on and enhance knowledge in both psychology and sport and exercise science domains.

As a distinct and special domain, sport and exercise psychology should be studied systematically in academic institutions with a well-defined and structured *curriculum*, *research program*, and *supervised experiences*, by identifiable faculty responsible for the education and training of students.

In a special session during the 2001 ISSP World Congress chaired by Prof. Tony Morris, the participants unanimously agreed that the competencies recognized by the ISSP should not be imposed on any individual or group worldwide, but rather be viewed as "recommendations" for individuals and/or institutions, which desire to develop, plan, or change the methods by which sport and exercise psychologists are educated. The list of competencies and the fields of studies, which pertain to develop them, were not meant to be conclusive and exhaustive. Both are based on many experiences in the field. These should be further discussed and developed within the domain. In the spirit of the ISSP membership, each individual, group, institution, or nation is free to use any one or set of the competencies listed here, and choose any course of education to meet its goals and/or views.

In developing this document, we first defined the term "competency." Then a conceptual schema was used to outline the courses of education, as well as practice and supervision experiences, that are aimed at meeting these competencies.

Competency: A definition

The term competency reflects a performance/skill expected to be demonstrated by a person who intends to become or is a sport and/or exercise psychologist in specific areas. In line with the Australian Psychological Society (APS; www.aps.psychsociety.com.au/about/membership-compet.htm, 2001), the term competency encompasses both the process and the outcome of meeting these standards. Since the process, outcome and standards differ from one country to another, and in many cases vary even within a country, or a smaller geographical area, the operational definition of these standards (i.e., via examination and performance criteria) are not outlined in this document. Instead, only the fields where a certain competency level is expected are detailed. It is, however, recognized that these standards for meeting the competencies are very difficult to define, implement, and measure. Such endeavors need extensive international and professional collaboration, and we leave this important mission for the future.

Conceptual scheme

The competencies of sport and exercise psychologists consist of areas, which represent the discipline and its professional applications. The competencies' conceptual scheme consists of the scientist-practitioner approach, which emphasizes knowledge-base standards, practice standards, and supervised experience standards (see Figure 1). Though these competencies originated from separate groups of standards, we recommend viewing them interactively, as complementing each other.

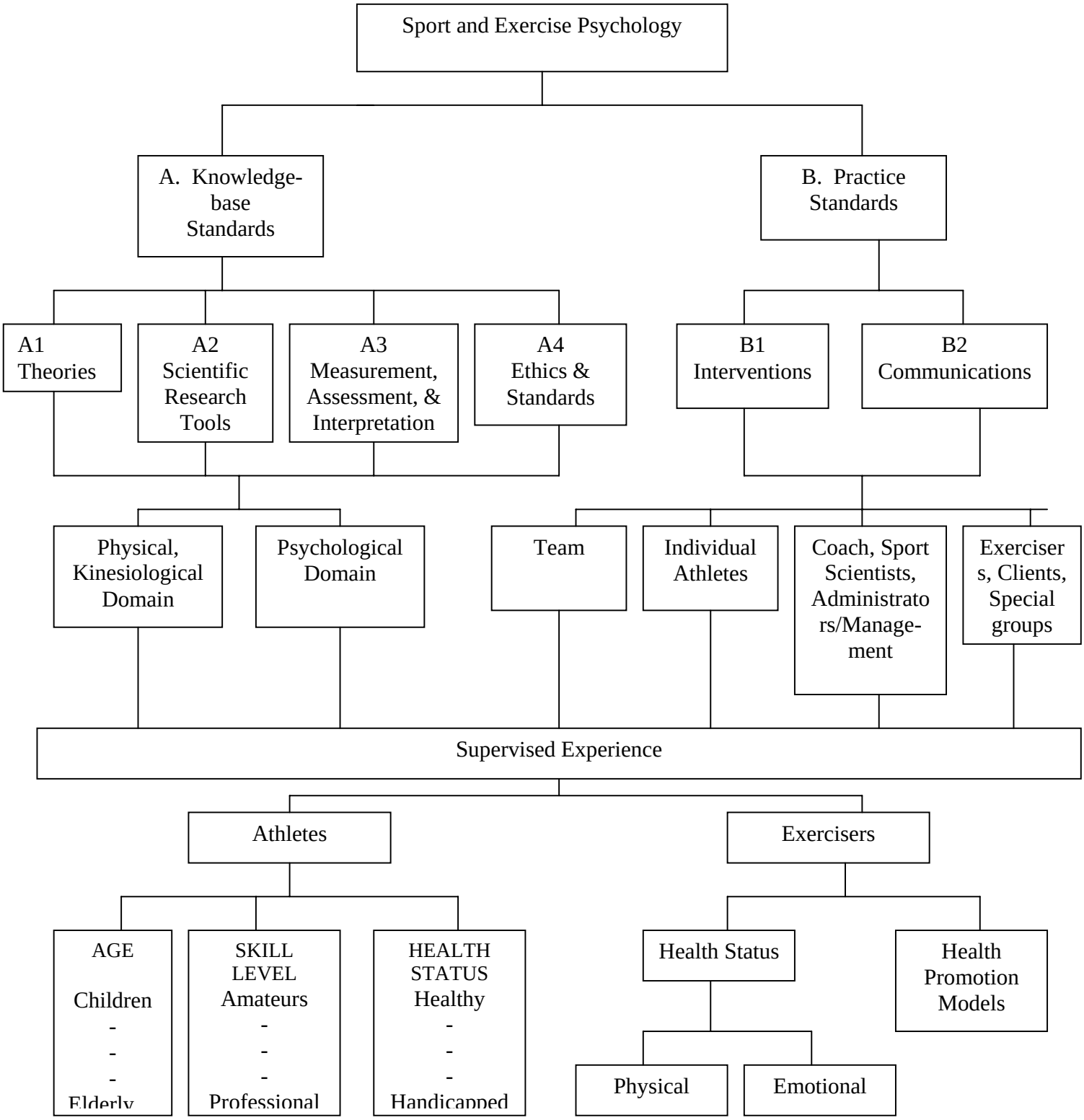

Figure 1. Conceptual scheme for defining competencies and courses in sport and exercise psychology

Competencies

A. *Knowledge-base*

Competencies in this group are concerned with learning and mastering main topics of the discipline, namely psychology (general and sports and exercise related) and sport and exercise (i.e., kinesiology and its related disciplines). The knowledge-base competencies require solid knowledge of investigations, main and specific theoretical issues and explanations, descriptions of behaviors, research methodologies, statistical procedures, measurement and assessment procedures and interpretations, and knowledge of ethical standards and procedures.

It is recognized that the theoretical knowledge in psychology and in exercise and sport accumulates distinctively. Knowledge-base competency requires the *integration* of psychological knowledge-base with sport and exercise knowledge-base into a comprehensive, unified and meaningful entity. Competencies in theoretical-research-evaluation and assessment-ethical standards require demonstration of knowledge about them, the method of their investigation, their meaning, use, and interpretation.

Competency A1 – Theories

Psychology: Knowledge of the philosophy-psychology foundation, along with the foundation theories of personality, arousal and stress, motivation, cognition, learning, development, biological and social aspects, and group processes. Within each of these main psychological theories, one should comprehend and understand the differences in views, main assumptions, and interpretations of human behaviors.

Sport and Exercise Psychology: Knowledge of the theories and implementation of the psychological theories in the sport and exercise domains. Research concepts and models

on personality in sport, cognitive processes, emotions, motivation, anxiety-performance linkage, group dynamics and leadership, effort perceptions, gender, equity, disabilities, and others should be comprehended.

Sport and Exercise Sciences: Basic knowledge is expected in the following domains: exercise physiology- general, and exercise/sport - specific, biomechanics, nutrition, anatomy, sport medicine, coaching sciences (periodization, strength and conditioning, etc.), motor learning, development, and control. Basic knowledge in related disciplines such as, sociology of sport, computer applications in sport, and management and administration in sport is also desired.

Competency A2 – Scientific/Research tools

Competency in scientific inquiry assumes knowledge in how scientific questions and hypotheses are formulated, what are the measures and scientific procedures that have to be undertaken in order to answer the research questions, the various methods appropriate to arrive at sound conclusions, whether data is word-based, number-based, or both. It also incorporates the skill of presenting research outcomes through written, electronic, and oral means.

Competency A3 – Measurement, assessment, and interpretation

A competency in measurement, assessment, and interpretation, whether provided in introspection, verbal, or observational form, requires knowledge in psychology, sport and exercise, and measurement and assessment theory. In addition to measurement techniques (i.e., use of questionnaires, in-depth interviews, observations, exercise

measures of perceived exertion and the like), this competency also incorporates identifying problems for which measures are required, the interpretation of the data collected, the use of triangulation of measures to increase the validity, awareness of measurement error (i.e., unreliability), possible measurement limitations, misinterpretations, and possibilities of alternative explanations to diagnostic reports. Measurement and assessment techniques, from both the psychological and sport and exercise domains, are of importance to knowledge comprehension. This competency is essential for both (a) research and scientific inquiry (competency A2), and (b) design an evaluation of ongoing program for clients (athletes, exercisers, etc.). This competency complements competency A1, where theoretical and scientific knowledge are required to formulate questions and hypotheses, which need to be examined by using systematic, reliable and sound methods.

Competency A4 – Ethics and Standards

Competency of ethics and professional standards pertain to both research participants and clients (individual or group) who seek psychological services. This competency is aimed at protecting the mental and physical health of clients who seek services in any form, or are engaged in research procedures. The competency of ethics and standards pertains to knowing and implementing national, professional, and international ethical standards, which are required from practitioners and scientists in the domains of psychology and sport and exercise sciences. Ethical standards are aimed at securing the special and unique rights of individuals and groups and their confidentiality. Ethics and standards developed in each country or geographical region should be studied

and practiced. International ethical standards should be studied and followed when collaborations and interactions among people or nations take place. Ethics in the provision of services via the internet (see ISSP position stand; ref.) should also be known and implemented.

B. Practice Standards

Competencies in this group are concerned with the skill of practicing sport and exercise psychology. The two main competencies in this group are: (a) knowing about and knowing how to implement interventions that were found to be effective for people in various situations and conditions, and (b) knowing about and knowing how to communicate effectively with individual athletes, teams, coaches, administrators, managers, sport scientists, and other professionals, as well as with recreational exercisers, special populations who exercise as a psychological therapeutic intervention, and other clients. These competencies are drawn on the knowledge base of the discipline, that is theoretical and experimentally-based, anecdotal, and a result of the vast experience of others. These competencies depend strongly on diagnosing correctly the needs and problems, establishing professional relationships, exploring the intervention required (if any), and finding alternative methods in case of unsuccessful outcomes. The skills of practice are closely related to competency A3, where measurement and assessment of the intervention are continuously evaluated, and to competency A4, which corresponds to ethics and confidentiality of information collected from athletes, exercisers, and/or other clients.

Competency B1 – Interventions

Competency in the provision of psychological services to clients assumes a strong knowledge base in the theory and practice of various interventions, and the implementation of treatment, service, or help to active clients in sport and/or exercise. This competency requires knowledge in gathering data via different communication channels (interviews, psychological tools, observations, unobtrusive techniques, and others) and set a reliable diagnosis on any encountered psychological state. It requires the use of this data for the designing, provision, and evaluation of the psychological intervention/treatment to be implemented with individuals, groups, organizations, or any other possible combination among them. One should distinguish among the clients involved, the context within which the intervention is provided, explore alternative interventions if needed, and report outcomes and progress ethically and confidentially to the appropriate client and/or agency and its representative. The competency of intervention provision necessitates an acceptable level of knowledge in the approaches reported in the major psychological scientific and practice literature. Though one may choose one or a few approaches, the acquaintance with other techniques is essential. The interventions related to sport are mainly (a) performance-enhancement, (b) personal development skills, (c) critical intervention, and (d) organizational interventions. The other psychological approaches such as Psychodynamic interventions, cognitive-behavioral therapy, behavior modification, family systems therapy, career counseling, system-organizational, social-learning, and many others are also applicable to sport and exercise. Competency in intervention assumes that the sport and exercise psychologist

knows to direct clients to a more appropriate treatment in cases where he/she lacks sufficient knowledge and/or experience to effectively treat the case.

Competency B2 – Communications

The competency of communication draws on the ability to effectively negotiate with the persons who have different roles in the sport and exercise establishment, i.e., athletes, coaches, managers, organizers, other professionals from similar and other fields (i.e., exercise psychologists, nutritionists, therapists, sport physicians, biomechanists, and others). Communication skills involve how the sport psychologist attends, listens, collects information from other sources, and how he/she delivers his/her message to clients (athlete, exerciser, coach, manager, other professionals). The skill of effective communication necessitates knowledge and sensitivity to others' needs, ethical principles, knowledge-base, and honesty. The practice of psychology recognizes the importance of effective communication. For its effectiveness one should recognize the rights and responsibilities of all the roles, which comprise the sport environment. Clarification, recognition, and respect for roles in the system, are essential for the development of effective communication, development of trust, and secure successful treatment and outcomes.

A. Knowledge-base Topics

A1. *Theories*

General Psychology

Philosophy-psychology foundation and history
Main approaches and theories (psychodynamic, behavioral, cognitive, social, social-cognitive)
Developmental Theories
Psychodynamic Theories
Learning Theories
Social Bases of Behavior
Biological basis of behavior
Theories of Counseling Technique
Psychopathology, Abnormal behavior, methods of therapy and Assessment
Personality
Health
Research methodology and statistics
Arousal, anxiety, emotions, and stress
Motivation
Biological
Need of achievement
Social-cognitive theories
Cognition (sensation, perception, memory, information processing, decision making, attention Processes)
Learning and intelligence
Human sexuality
Social psychology
Group dynamics and leadership
Applied psychology
Psychophysiology foundation of behavior
Culture
Ethics

Sport Psychology

Origin and history
Applications of main theories and approaches in sport
Arousal. Anxiety, and performance in sport
Personality in sport
Motivation theories and concepts in sport
Attribution and emotions
Social psychology in sport
    Group dynamics and leadership in sport

Social facilitation
Psychological and biological basis of aggressive, violent, and assertive behaviors (athletes and audience)
Youth sport issues
Coaching behaviors
Psychological aspects of the emotional, mental, and physical disadvantaged
Exercise psychology (adherence, fitness, affect, addiction, effort perception)
Gender issues (equity, identity, stereotype)
Multicultural Issues in Sport
Action theory is sport
Dynamic approach to skill acquisition
Cognitive sport psychology (visual attention, attention resources and capabilities, anticipation, memory, long-term- working memory, knowledge structure, decision-making and alteration, action execution
Expertise development
Deliberate practice
Multi-cultural issues in sport
Skill acquisition (motor development, expertise)
Psychophysiology in sport
Psychology of the injured athlete (rehabilitation processes)
Exercise and mental health
Psychology of healthy life-style, and quality of life
Moral development in sport and exercise
Career termination and transition
Research methods and statistics in sport psychology
Measurement, assessment, and evaluation in sport psychology
Performance enhancement theory

Theories (in the motor, physical, and kinesiology domains):

Exercise physiology (general)

Exercise physiology in sport and exercise

Motor learning and skill acquisition

Motor control and neuromuscular processes

Biomechanical basis of motor skills

Nutrition bases in sport and exercise

Anatomy

Sport medicine

Coaching methods (main principles of load-recovery principles and periodization)

Related Domains:

Sport sociology

Computer applications in sport

Principles of sport management and administration

A2. *Research Tools*:

Research Designs
- Quantitative approaches
- Qualitative approaches
- Mixed Designs

Methodological Principles
- Sampling
- Internal and External validity
- Reliability

Statistics
- Simple models
- Multivariate models
- Bayesian models
- Integrative models
- Correlational models
- Experimental models
- Use of statistical software

A3. *Measurement, assessment, and interpretation*:

Theoretical:
- Testing theory and ethics (Introspection, observations, interview, and others)
- Need assessment
- Psychological profiling
- Computer-based assessment
- Norm and Criterion-referenced based measurement
- Database development
- Use of sport psychology measurement tools
- Latent-trait models of measurement
- Administration, scoring, interpretation, reporting and providing feedback

Career/Vocational assessment
Measurement and assessment limitations

Practical (sport specific):
Development of assessment/evaluation procedures for competitive sport
Implementation of evaluation program through feedback
Implementation of scientific research data and findings into evaluation/assessment techniques.

A4. *Ethical Tools*:

Professional and ethical issues (confidentiality and record keeping)
Ethical standards: National and International standards
Ethics and confidentiality in computer-based service provision

B. Practice-base Techniques

B1. *Interventions*:

Psychodynamic Interventions
Cognitive-behavioral therapy
Behavior modification
Relaxation-based therapies
Family systems therapy
Career counseling
System-organizational approaches
Social-learning techniques
Others (Humanistic, Existential, etc.)

Performance-enhancement techniques:
Arousal-anxiety inoculation
Concentration - Attention Control
Relaxation – excitation (energizing)
Goal setting and Performance Profiling
Building confidence
Concentration enhancement
Visualization-Imagery
Performance routine and travel skills
Team cohesion, effectiveness, and leadership
Debriefing
Feedback provision and reinforcement
Enhancing Self-confidence
Attitude Development

Personal developmental skills techniques:
- Communication Skills and Processes
- Time management
- Conflict resolution
- Interpersonal Relationships
- Life skills
- Career planning
- Media skills

Critical Interventions:
- Eating disorders and Weight Management
- Grief, Depression, Loss and Suicide
- Injury management and Rehabilitation
- Substance Abuse
- Self-esteem and self-confidence
- Post-traumatic stress disorders (PTSD)
- Perfectionism and procrastination
- Career transition
- Injury risk and rehabilitation

Organizational Interventions:
- Team dynamics
- Leadership
- Communication Processes
- Role Boundaries and Responsibilities
- System analysis

B2. *Communications*:

Communication skills (verbal and non-verbal)
- Among athletes
- Among athletes-coach
- Among athletes-coach-organization
- Development of constructive leadership
- With media outlets
- With other professionals in psychology and sport and exercise science

Supervised Experience

Supervised experience is designed to provide the supervisee with *guidance, environment* and *opportunities* that facilitate the development of competencies, which enable the trainee to use his/her knowledge base in a professional and ethical manner.

Supervision Principles:

- Acquisition of knowledge about the competencies associated with the profession of sport and exercise psychology.
- A qualified supervisor or several supervisors, who together, cover the designated competencies of the profession.
- Determination of the length of time required for sufficient development of the competencies. Allowing flexibility once more or less time is needed.
- Criteria, which pertain to satisfactory completion of each competency should be defined.
- Use of evaluation criterion for monitoring and establishing of progress reports.
- Participating and presenting (if possible) in professional meetings and scientific conferences.
- Planning regular supervision meetings with supervisor(s).
- Keeping a formal (written, recorded, and/or electronic) record of practices (date, time, short summary, supervisor ID).
    - An account of supervisor meetings.
    - An account of activities designed to develop knowledge base and practical experiences.
    - A record of conferences, workshops, and meetings attended.
    - A record of readings, publications and presentations.
    - An evaluation of these activities.

- Keeping Individual reports prepared for clients, and/or summaries written for coaches, teams and/or organization.
- Outlining the principle problems/challenges encountered, and the methods offered and applied to resolve or enhance them.
- Preparation of detailed intervention programs and outlining how these were implemented.
- Record of how standards and clients' confidentiality were secured.