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Physical Activity and Psychological Benefits: A Position Statement from the International Society of Sport Psychology

During the 20th Century, a substantial reduction has occurred in the frequency and intensity of physical activity in which human beings are engaged throughout their life span. This situation has had a significant impact on individuals and societies. With concern for this matter, the International Federation of Sport Medicine (FIMS) has issued a position statement (June 11, 1989) entitled "Physical Exercise—An Important Factor for Health." The statement clarifies the relationships between lack of physical exercise and cardiovascular morbidity and mortality. The statement also postulates the prevention of coronary artery disease and the reduction of all-cause mortality when exercise constitutes an integral part of occupational and leisure time activities.

It is appropriate to complete this statement by clarifying the psychological benefits of physical activity, and the International Society of Sport Psychology (ISSP) has prepared this position statement accordingly.

Studies have shown that the process of exercise brings about both short and long term psychological enhancement and mental well-being (Dishman, 1985, 1986; Morgan & Goldston, 1987). Physical activity has been found to have a positive causal effect on self-esteem changes in adults (Sonstroem, 1984). Aerobic activity can reduce anxiety, depression, tension and stress, and increase vigor and clear-mindedness (Bahrke & Morgan, 1978; Berger, 1984; Blumenthal et al., 1982; Dishman, 1985; Morgan, 1979; Raglin & Morgan, 1987; Wilson, Berger, & Bird, 1981).

From the clinical perspective, there is evidence that exercise can beneficially affect hypertension, osteoporosis, adult-onset diabetes, and some psychiatric disorders (Powell, 1988; Powell et al., 1986; Seefeldt, 1986).

It is estimated that as many as 25% of the population suffers from mild to moderate depression, anxiety, and other emotional disorders. Some cope with these disorders individually, without professional assistance. Physical activity in the natural environment can be a promising aid for such people (Brown, 1988), as physical inactivity may be associated with symptoms of depression (Farmer et al., 1988).

Studies on depressed patients have revealed that aerobic exercises are as effective as different forms of psychotherapy, and that the exercises have had an antidepressive effect on patients with mild to moderate forms

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of depression (Dunn & Dishman, in press; Martinsen, 1987, 1990; North et al., 1990). North et al., 1990, applying the meta-analysis technique, found that exercise activity is more beneficial than leisure activity for all varieties of depressive disorders.

Studies on the effectiveness of anaerobic exercise on depressed patients are quite limited. However, several studies show some improvement similar to that obtained following aerobic exercises (Dunn & Dishman, 1991; Doghe et al., 1987; Martinsen et al., 1989). Anaerobic exercise can lead to better results than aerobic exercise (Dunn & Dishman, 1991; North et al., 1990). None of such studies as these was undertaken with patients with severe depressive disorders, although clinical experience indicates a very limited value for exercise intervention (Martinsen, 1990).

People who swim have been observed to be significantly less tense, depressed, angry, confused, and anxious after swimming (Berger & Owen, 1983). Weight training with free weights is associated with enhanced self-concept in men (Tucker, 1982, 1984). Exercising has helped yoga participants to be less anxious, tense, depressed, angry, and confused (Berger & Owen, 1983, 1988; Morgan, 1979) while fencing can increase vigor. Moods such as tension, depression, anger, fatigue, and confusion have been shown to decrease following physical exercise while vigor increases (Morgan, 1980).

Chronic exercise can influence mood state positively and decrease anxiety in normal subjects (Brown, 1988). But on the other hand, excessive chronic exercise may lead to fatigue, anxiety, and depression (Dishman, 1988). It also appears that obsessive involvement in exercise often leads to problems with behavior at home and work, physical injury, and feelings of irritability when the obsessive exerciser is forced to stop exercising (Dishman, 1985).

Enhanced involvement in physical activity can be beneficial to the well-being of the elderly (Netz, Tenenbaum, & Sagiv, 1988), and positively affect grade scores of students in primary schools (Shepard et al., 1989).

Psychological benefits of physical activity and fitness in the occupational environment are well-documented in the literature. Based on extensive research results, Cox, Gotts, Boot, and Kerr (1988) have concluded that the industrial management believes that a healthy work force is also satisfied and productive, while fitness programs can be used as a non-job-based vehicle for promoting staff contact (across levels), aiding communication and developing the cohesiveness of the working team.

Individual psychological benefits of physical activity include: positive changes in self perceptions and well-being, improvement in self-confidence and awareness, positive changes in mood, relief of tension, relief of feelings such as depression and anxiety, influence on pre-menstrual tension, increased mental well-being, increased alertness and clear thinking, increased energy and ability to cope with daily activity, increased enjoyment of exercise and social contacts, and the development of positive coping strategies. Rosenfeld, Tenenbaum, Ruskin, and Halfon (1989) report that a physical fitness program can moderate feelings of emotional

and physical burnout, and increase feelings of self-efficiency at the working environment. Moderate to high intensity aerobic exercises reduce state anxiety, muscle tension, and blood pressure for 2–5 hours after the activity. For example, the meta-analysis reported by Petruzzello et al. (1991) supported the idea that aerobic forms of exercise are associated with reductions in anxiety. On the other hand, low intensity and short duration exercise has failed to reduce state anxiety (Dishman, 1988). Also, Crews and Landers (1987) conclude that aerobically fit subjects have a reduced psychosocial stress response, and this is more marked after involvement in exercise on a long-term basis compared to acute bouts of activity. A positive relationship has been found between level of physical activity and mental health (Stephens, 1988).

The ISSP encourages all people to participate in free-choice vigorous physical activity on a regular basis. It is recommended that they engage in more than one activity, challenging both aerobic and anaerobic capacities. Non-competitive activities are preferred. However, when competition is desirable, aggression and non-ethical conduct should be avoided. The physical activities chosen should be personally pleasing and satisfying (Berger & Owen, 1988), as enjoyment is related to exercise adherence (Berger, 1987; Wankel & Kreisel, 1985).

In order to benefit psychologically from physical activity, deVries (1981) has recommended low intensity exercise as reflected by 30% to 60% of the difference between resting and maximal heart rate values. Although 20 to 30 minutes of exercise may be sufficient for stress reduction (Berger, 1986; Berger & Owen, 1983), 60 minutes may result in even more psychological benefit (Mandell, 1979). It seems that a duration of 20 to 30 minutes at least 3 times per week of 60–90% of age estimated HRmax (ACSM) could result in desirable psychological benefits. However, other recreational activities, such as ball games, aquatics, and the like, can be psychologically advantageous as well.

In summary, considering the consensus statement of the American National Institute of Mental Health (Morgan & Goldston, 1987) and the research reviewed herein, the potential psychological benefits of being actively involved in regular vigorous physical activity programs are as follows:

- (1) exercise can be associated with reduced state anxiety;
- (2) exercise can be associated with a decreased level of mild to moderate depression;
- (3) long-term exercise is usually associated with reductions in neuroticism and anxiety;
- (4) exercise may be an adjunct to the professional treatment of severe depression;
- (5) exercise can result in the reduction of various stress indices; and
- (6) exercise can have beneficial emotional effects across all ages and both genders.

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