



A Study on Mental Health Profile of Athletes and Technical Staff of Iranian Women's National Swimming Team

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Abstract: Various factors influence on mental health which among them are exercise and physical activity; regarding the close relationship that exists between these two categories. The aim of this study was to investigate the mental health of female athletes and technical staff of the national swimming team. The research method used in this study was descriptive-survey method. The study population included all swimmers and technical staff of the national team that 68 people were selected out of them using purposive sampling method. The measurement instrument of Mental Health was Minnesota Multiphasic Personality Inventory-2-Restructured Form which has been validated in Iran. After completing the questionnaires and extracting the data, mental health profile was traced using standard T Mc Gall scores and standard cut-off points of quartile deviation. Then, data figures were shown through percentage and frequency distribution tables. The research results showed that athletes and technical staff of the national swimming team in clinical scales including cerebation disorder, persecutory and harassment delusions, and strange experiences as well as in specific problem scales including fears limiting a behavior have a mean higher than the exercisenorm of a society and need individual and group counseling. It should be noted that no problem was observed in other scales and about 70 percent of the samples showed no disorder in mentioned scales.

Keywords: Mental health, Female swimmers and Iran's national team.

1. INTRODUCTION

Science of psychology has dedicated various disciplines and branches to itself that can be divided in two fundamental and applied groups. The applied psychology is used in order to improve living standards. Sport Psychology is one of the applied disciplines in the science of psychology that attempts to close athlete's situation to the desired level using the principles of psychology^[7]. In sport psychology, it is tried to create a better performance for the athletes using principles and texts of psychology. Nowadays, sport psychologists are trying to close to athletes' excitement level to an optimal level using psychological theories concerned with motivation and emotion domains. Additionally, sport psychologists are trying to identify the effects of exercise on personality traits, and even in some cases, exercise is used as a process for mental health rehabilitation and treatment of mental disorders^[16]. There is a close relationship between Sport and mental health, mental health is influenced by several factors, regular exercise activities not only reduces anxiety and depression, but also increases self-esteem^[1]. On the other hand, nowadays, physical activity and sport has found a main position in human being's social life and not only culturally and leisurely but also economically socially, and politically has a critical, substantial and notable role; because on the one hand, many jobs are created in parallel to physical activity and sport and its related factors and on the other hand, sport is considered a job, especially professionally. Moreover, inhibitory effects of sport in relation to corruptions and social offenses and its driving effects in creating a solidarity, unity, effort and socialization spirit as well as culture making, is regarded as a valuable issue. Also, since the sport has had an increasing growth in recent decades and has become a phenomenon with global importance, especially in the past twenty to thirty years, Analysts go forward insomuch consider sport as intersection of all humanity and evolved from of entrepreneurship competition or even like Pierre De Coubertin, the father of Olympics, who knows sport" as a brightest flame which burns in the human heart"^[5].

Therefore, sport contributes greatly to establishment of security as well as psychological and social peace for individuals and communities and provide health and healthy living. The effect of sensory

motor skills and physical activity on mental actions and mental evolution is such that many psychologists and education experts believe that such activities must primarily be a part of ordered educational programs. Scholars' familiarity with different programs and methods concerned with sensory and motor activities, not only causes their mental acts, but also creates mental freshness and vitality, strengthen the confidence and therefore provides their mental health ^[6].

In psycho-social factors domain of exercise, a great attention must be paid on the necessity of exercise phenomenon and it should be tried to make spirit of heroism dominant on all dimensions. In other words, professional sport on the one hand must be able to meet the needs of a society and on the other hand, it has to complete dimensions of heroism. In this regard, identifying the mental health of athletes in swimming is considered as unfolded paths that can determine sports policy and provides basic information for sport programmers. Development of heroism databases is known as one of the priorities of the Ministry of Sport and Youth that this priority is in Cultural Development Program and can be fruitful using capabilities of national team athletes and coaching staff.

Studies conducted in this field show that sport, in addition to being a valuable tool for physical health, has a close relationship with mental health and particularly prevention of mental disorders. According to Hughes, athletes often feel less anxiety and depression compared to sedentary people. In a review study which was carried out on a large number of studies investigating the effects of exercise on anxiety and personality traits, it was found that exercise has a balance making impact on treatment of acute and chronic depressions and the highest stress reduction was concerned with people who needed clinical treatment (North, 1990; vehicles and Stevens, 1994). Other studies indicate similar effects of exercise on mental states in specific circumstances. For example, Madeleine (1996) studied effect of eliminating exercise on ten volunteers. They trained 6 to 7 days per week and averagely 45 minutes per day. They rested for three days after a day of exercise and resumed exercise in fifth day. Reducing and eliminating exercise sessions was associated with side effects such as disorder increase in self-assessment, anxiety, stress, depression, confusion and reducing individuals' power. These effects were opposite when exercise resumed ^[11].

Very extensive researches have been conducted in Europe and America on athletes' mental health, psychological and exercise skills, goal setting in sport, motivation and exercise, effect of exercise on reducing anxiety and depression, stress, aggression and increase of attention and focus, self-confidence, mental imagery and interactive skills, personality and exercise. For example, Morgan (2002) has reported role of emotions in physical activities; Kobasa (2003) about stress reduction and increase in physical activity, Crews & Landers (2003) on less psychological response and psychological pressures caused by exercise; Jones (2004) about impact of psychological skills in physical activities; Wax (2006) on reduction of depression and aggression caused by sport, Landers et al (2006) on reduction of anxiety as a result of continuous and intense physical activity and Segal (2008) on the effect of cognitive and cognitive skills on enhancing athletic performance and the role of exercise in increasing the focus on athletes ^[12]. In a study carried out by Kamkari and Shokrzadeh (2007) comparing personality traits and hardiness of professional and amateur basketball players, it was found that professional athletes enjoy higher extroversion compared to amateur athletes. With an increase in the personality trait of amiability, hardiness trait also increases in professional and amateur athletes ^[14]. In another study by Wiener (2007), entitled study of athletes and non-athletes' personality traits, it is indicated that athletes enjoy higher internal locus of control and the lower amount of pride, embarrassment and shame compared to non-athletes ^[19].

Williams, in a research project that studied personality traits of successful professional and pioneer female athletes, came to the conclusion that women who participated in the America Olympic team in 1964 in individual sports were more mastery-oriented, aggressive, adventurous, sensitive, independent, self-sufficient and more introverted compared to women who participated in team sports. Female athletes in general were impose, dominant, self-sufficient, conservative, progressivist and intelligent and were moderate or low emotionally ^[18].

The results of a research showed that psychological traits and particularly mental health are major factors determining professional athletes' sport attitudes and behaviors (Pydmont, Hill & Blanco, 1999, David & Meg, 1994, Nikkokam & Boil, 1995). For example, it is assumed that introverts feel extra arousal sooner than extraverts and are more anxious and thus have poorer performance. However, all research results are not consistent or researches have shown that being impulsive (a combination of

Eysenck's extraversion and neuroticism) can be considered as one of the most important personality variables. In this way, those who are more impulsive become excited late in the day, but those who are less impulsive become excited in early hours of the day. This issue has particular consequences for performance. For example, an athlete whose impulsiveness is high, needs a greater relaxation and stress reduction in the evening matches compared to matches which are held in the morning. This represents the relationship between personality traits, emotional intelligence and cognitive intelligence^[8]. Hence, in Sport Psychology, it is tried to create a better performance for the athletes by using psychology texts. Nowadays, sport psychologists are trying to close athletes' stimulation level to an optimal level using psychological theories. Besides that, sport psychologists are trying to identify effects of exercise on personality traits and mental health, and even in some cases, exercise is used as a process to improve treatment of mental disorders and improvement of mental health^[17].

So, since cognitive and personality traits are very important and effective factors in determining sport performance of professional athletes in different situations, importance of this factor and its infrastructure is such that massive amounts of researches have been carried out about it. In this regard, Jones (b. 1995, a 1995, 1991) argues that cognitive and personality traits can have both positive and negative effects on athletic performance. In addition, psychological traits beside the extension of capabilities of science of psychology in enhancing athletes' performance and their mental health, they can provide a practical path for sport psychologists' action in sport disciplines. Also, with regard to the fact that coaches are often concerned about the status of their athletes before and during the race, by identifying psychological factors affecting athletic performance, they try to provide conditions for athletes in order to achieve peak sport performance^[4].

In the research carried out by Moradinejad (2003), which was about effects of physical activity on adolescents' mental health, it was found that exercise increases people's mental health^[15]. In a study by Ascoli and Crimea (2001), the relationship between physical activity and self-concept in athletes and non-athletes was investigated among 470 people and it was determined that athletes who participated in endurance activities, had less depression, anxiety and antisocial behaviors compared to other athletes (13). In the research conducted by Dai and Carol (2004) which individual and team performance has been predicted through emotional intelligence and mental skills and abilities, it has been raised that emotional intelligence, mental skills and Mental Health can enhance athletes' performance^[19]. In a study by Sadeghi (2007) which was carried out on 80 students, including 40 athletes and 40 non-athletes, their physical fitness and maximum aerobic power was investigated via step test. The results showed that the difference between correlation of female athlete and non-athlete students' mental health and physical fitness was not significant^[10].

Finally, it is stated that several studies have been conducted in the field of exercise and mental health, but little research has been carried out regarding professional sport and it has been argued in some of these researches that mental health in professional athletes, unlike other studies, is lower than non-athletes. Therefore, it cannot yet be accurately determined whether exercise increases mental health or decreases mental health in professional athletes. Therefore, theoretical vacuum on the mental health of female athletes and technical staff of swimming team led to conduction of the present study and the aim of this study was to investigate mental health profile of female athletes and technical staff of national swimming team that in this direction, factors such as profile of clinical scales, profile of special problem scales and profile of pathology of personality in female athletes in the national team and technical staff were studied.

2. METHODOLOGY

Since subject of the research has focused on investigating mental health profile of female athletes of the national swimming team and technical staff and none of the variables were manipulated and only the relationship between the variables was investigated, research method is survey which fits within the descriptive methods.

The study population included all national team swimmers and technical staff that 68 people were selected out of them using purposive sampling method. Considering that access to all population was possible, statistical population fits within finite populations.

The measurement tool for evaluation of mental health was Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF) structured by HoteWee and McCain Lee (2008) that its reliability has been validated in Iran by Kamkari & Shokrzadeh (2011). With regard to the structure of

instrument, it can be stated that Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF) contains 50 Stowe scales with 8 validity scales, 12 clinical scales, 25 special problem scales and 5 personality pathology scales. Validity scales include contradiction of variable responses, contradiction of correct responses, uncommon responses, and uncommon psychopathological responses, validity of complications, uncommon piety and compatibility validity. Regarding Clinical Scales, three first grade or higher level clinical scales are considered as alexithymia/internalization, cerebation disorder and behavior/externalization disorder. Then, 9 main clinical scales are declared as low morale, somatization, low positive emotions, pessimism, anti-social behavior, harassment and persecutory delusions, negative disruptive emotions, strange experiences and hypomanicsomatotonia. Then, with regard to the profile of specific problems, 25 scales are stated including adolescent conduct problems, substance abuse, aggression, somatization, family problems, interpersonal passive-orientation, social avoidance, shyness, lack of connectionism, literary/aesthetic interests, mechanical /physical interests, illness, gastrointestinal complaints, headache complaints, neuropsychology complaints, cognitive complaints, death/suicide delusions, helplessness/desperation, self-doubt, inefficiency, mental stress/anxiety, anxiety, anger capacity, behavior limiting phobias, multiple phobias. Finally, considering the pathology personality, 5 scales namely aggression, psychosis, unresponsiveness, neurosis/negative emotions, introversion/low positive emotions. It should be noted that the mentioned tool has external, face, content validity (validity scales, clinical scales, internalization scales, physical-cognitive, externalization scales, interpersonal and interests), construct validity (using confirmatory factor analysis) and concurrent validity (correlation with Million Inventory - 3).

Reliability coefficients in above scales are higher than 0.85. So, a wide range of profiles have been offered for 8 validity scales, three first grade clinical scales, 9 original clinical scales, 25 special problem scales and 5 personality pathology scales that based on 338 two-option questions, raw scores have become standard scores with zero-one keying and lack of nervousness, mild nervousness and severe nervousness are observed. After completing the questionnaires and extracting the data, mental health profile was traced using standard T Mc Gall scores and standard cut-off points of quartile deviation. Then, data figures were shown through percentage and frequency distribution tables.

3. FINDINGS

Findings obtained from statistical analysis of survey data in conjunction with clinical scales, special problems and personality pathology in female athletes and technical staff of national swimming team has been provided in Tables 1, 2 and 3 completely.

Table1. Study of clinical scales of female athletes and technical staff of the national swimming team

clinical scales	Severe disorder		Mild disorder		absence of disorder	
	frequency	percentage	frequency	percentage	frequency	percentage
alexithymia	22	32/4	10	alexithymia	22	32/4
cerebation disorder	26	38/2	6	cerebation disorder	26	38/2
Behavioral disorder	31	45/6	4	Behavioral disorder	31	45/6
low morale	22	32/4	8	low morale	22	32/4
somatization	23	33/8	6	somatization	23	33/8
low positive emotions	35	51/5	6	Low positive emotions	35	51/5
pessimism	28	41/2	9	pessimism	28	41/2
anti-social behavior	23	33/8	5	anti-social behavior	23	33/8
harassment and persecutory delusions	32	47/1	6	harassment and persecutory delusions	32	47/1
negative disruptive emotions	29	42/6	8	negative disruptive emotions	29	42/6
strange experiences	24	35/3	7	strange experiences	24	35/3

As seen in Table1, 51.5 percent of female athletes and technical staff of swimming team have low positive emotions, 51.5 percent with hypomanic somatonia and 47.1 percent have severe harassment and persecutory delusions.

Table2. Study of specific problems of women's national swimming team athletes and coaching staff

specific problem scales	Severe disorder		Mild disorder		absence of disorder	
	frequency	percentage	frequency	percentage	frequency	percentage
illness	29	42/6	5	illness	29	42/6
gastrointestinal complaints	34	49	8	gastrointestinal complaints	34	49
headache complaints	24	35/3	10	headache complaints	24	35/3
neuropsychology complaints	20	29/4	6	neuropsychology complaints	20	29/4
cognitive complaints	29	42/6	6	cognitive complaints	29	42/6
death / suicide delusions	34	49	8	death / suicide delusions	34	49
helplessness / desperation	11	16/2	10	helplessness / desperation	11	16/2
self-doubt	16	23/5	9	self-doubt	16	23/5
inefficiency	38	55/9	5	inefficiency	38	55/9
mental stress / anxiety	38	55/9	5	mental stress / anxiety	38	55/9
anxiety	34	49	8	anxiety	34	49
anger capacity	34	50	6	anger capacity	34	50
behavior limiting phobias	29	42/6	10	behavior limiting phobias	29	42/6
multiple specific phobias	40	58/8	2	multiple specific phobias	40	58/8
adolescent conduct problems	32	47/1	9	adolescent conduct problems	32	47/1
substance abuse	26	38/2	3	substance abuse	26	38/2
aggression	36	52/9	3	aggression	36	52/9
somatization	33	48/5	6	somatization	33	48/5
family problems	40	58/8	2	family problems	40	58/8
interpersonal passive-orientation	32	47/1	8	interpersonal passive-orientation	32	47/1
social avoidance	26	38/2	6	social avoidance	26	38/2
shyness	15	22/1	11	shyness	15	22/1

Based on the results obtained from the study (Table 2),among female athletes and technical staff of national swimming team, 58.8 percent have specific multiple phobias, 58.8 percent have family problems, 55.9 percent have inefficiency, 55.9 percent have mental pressure - anxiety and 58.8 percent of them have severe mechanical / physical interests.

Table3. Study of personality pathology of women's national swimming team athletes and coaching staff

personality pathology scales	Severe disorder	Mild disorder	absence of disorder	personality pathology scales	Severe disorder	Mild disorder
	frequency	percentage	frequency		frequency	frequency
aggression	28	41/2	4	aggression	28	41/2
psychosis	19	27/9	10	psychosis	19	27/9
unresponsiveness	34	50	5	unresponsiveness	34	50
neurosis	28	41/2	6	neurosis	28	41/2
introversion	36	52/9	4	introversion	36	52/9

As shown in Table3, 50 percent of swimming team female athletes and technical staff have unresponsiveness and 52.9 percent of them has extreme introversion and in other subscales there is not much disorder.

4. DISCUSSION AND CONCLUSION

Experts in the field of sport psychology believe that exercise and physical activity can improve and promote athletes' different personality aspects (20). Many studies have been conducted in this field and has demonstrated positive effect of physical activity on some personality and emotional traits. For example, in a research by Aslankhani and Shahidi (1999), psychological traits of athletes was significantly better than non-athletes' ^[2]. Among other studies, studies by Brown et al (1995), Page et al (1995), Finkenber and Mood (1996) can be pointed out that have confirmed this issue. In contrast, many researchers came to different conclusions like study by Fisher et al. (1996) and Foster (1997). Their results showed that participation in physical activity and sport in itself has no impact on psychological traits ^[9, 20].

Another important factor in athletic success is athlete's personality profile. Sport Psychologists, have allocated considerable studies to the issue of athletes' personality profile ^[3]. Personality Profile is an important issue; because, athletes even when they have similar skills, have a different function and it is unclear which personality trait leads to athletes' success. Some athletes, despite bearing extreme pressure, have acceptable performances, while some athletes, even professional athletes, have not desirable performances in certain psychological circumstances and environmental changes. This indicates the effect of different psychological and personality aspects of an athlete on his performance ^[3]. The study of feelings, emotions and mental health in sport Psychology is important for two main reasons from theoretical and applied perspective. First, it seems that it directly or indirectly affects athletic performance (Hanin, 1999; Lane and Terry, 2000). Second, through which it provides basic information related to its association with athlete - environment (Lazarus, 1999) such as importance of sporting event, capability of overcoming reactive emotions and desires ^[17].

Findings of this research showed that athletes of national swimming team and coaching staff in the clinical scales have a "low positive emotions," "hypomanic somatonia" and "harassment and persecutory delusions" and in specific problems scales have "certain multiple phobias", "family problems", "inefficiency" and "psychological pressure - anxiety" and in personality pathology scales, are "irresponsible". Therefore, it is recommended to take advantages of individual and group counseling classes in order to reduce and eliminate mentioned scales. It should be noted that no severe disorder or problems is observed in other scales and about 70% of the samples in mentioned scales show absence of disorder that indicates that swimmers and coaching team of national team enjoy a relatively favorable personality profile.

By comparing results of this study and literature of researches inside and outside the country, results of this study are consistent with Kamkari and Shokrzadeh's (1386) which compares personality traits and hardiness of professional and amateur basketball players which states that professional athletes enjoy higher extraversion ^[14]. It is also in line with R Wiener's (2007), entitled a study on personality traits of athletes and non-athletes which indicates that athletes have higher internal locus of control and the degree of pride, embarrassment and shame is lower than non-athletes ^[19]. It is also aligned with a study which Williams (2005) carried out on professional female athletes and protagonists' personality traits and generally concluded that female athletes are procrustean, predominant, self-sufficient, cautious, progressivist and intelligent and are moderate or low in terms of emotional feelings. The results of the present study are consistent with the results of the study by Navvabinjad (1378) on recognition of the effects of exercise on mental health and personality traits of elite chess players as well as the research by Moradinejad (1382) in relation to the effects of physical activity on adolescents' mental health. The results of mentioned studies showed that sport activities contribute to the promotion of subjects' mental health ^[15].

The results of the study by Skouly & Carimeh (2001) about the relationship between physical activity and self-imagination of athletes and non-athletes demonstrated that athletes, who participated in endurance activities, have less depression, anxiety and antisocial behavior compared to non-athletes

[13]. The research conducted by Day & Carroll (2004) about prediction of individual and team performance through emotional intelligence and mental skills and abilities argues that emotional intelligence, mental skills and mental health can lead to athletes' better performance (22). It is coordinated and consistent with the research carried out by Sadeghi (1386), about the effectiveness of aerobic exercise on athletes and non-athletes; thus, in all the researches it is indicated that doing exercise can lead to mental health promotion^[10]. Therefore, it is concluded that information obtained from the study of psychological profile is very essential in order to better understanding of athletes' promoting programs in concerned with behavior, decision making and performance as well as advancing athletes' psychological improvement^[21].

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