

Psychological Profile of Athletes in Contact and Non-Contact Sports

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Abstract: The aim of the present study was to compare clinical patterns and clinical symptoms of personality between athletes in contact and non-contact sports. The variables were assessed with Millon Clinical Multiaxial Inventory-III manual and Eysenck personality questionnaires. Subjects consisted of 200 male (18-30 years) who selected from 4 groups of colleges teams (box, karate, swimming, gymnastic) in the West- Azerbaijan in Iran. Mannova test was used for statistical analysis. Results demonstrated that contact sport players had high scores in the histrionic, narcissistic, antisocial, negativism and sadistic scales, but in schizoid scale acquired low scores in comparison of non-contact sport players and there were not significant differences among groups in personality factors. According to the results of this study results it can be concluded that, the groups are distinguished significantly in the majority of variables, indicating that contact athletes present differentiated psychological characteristics in comprise non- contact athletes.

Key words: Clinical Pattern of Personality • Clinical Symptoms of Personality • Contact Sports • Non-Contact Sports

INTRODUCTION

Personality is the totality of the faculties, bent, qualities and temperament which characterize a person. Personality traits are the relatively constant patterns of thoughts, feelings and behaviors that reflect the tendency to respond in certain ways under certain circumstances [1].

Personality is typically measured using a self-report questionnaire on which respondents indicate their feelings or behaviors, yielding measurements of traits such as neuroticism, anxiety, extraversion, dominance, assertiveness, sensitivity, conscientiousness and agreeableness. Personality either predicts or is related to many things, including performance motivation [2], leadership [3] and job performance [4]. Researchers have studied personality in various areas ranging from the workplace to athletics.

Personality traits appear to have consequences for individuals across a range of life domains because they provide information about how different persons and

groups of individuals characteristically self-regulate or how people control their thoughts, feelings and behaviours [5].

A link between personality and health has been noted for thousands of years. Hippocrates argued that an imbalance of the four temperaments would affect both personality and physical health. Consistent with Hippocrates' ideas, recent evidence suggests that personality predicts health because may affect health-related behavior, such as smoking, diet and exercise. For example, Hampson *et al.* [6] find that both the initial level and the growth in hostility (a facet of Neuroticism) throughout elementary school predict cigarette, alcohol and marijuana use in high school and sociability (a trait related to Extraversion) predicts drinking but not smoking. The mechanisms are relatively unexplored but some empirical evidence suggests that personality affects health-related behavior, psychological responses and social relationships [7].

According to DSM-IV-TR Personality disorder and clinical pattern of personality, enduring patterns of

perceiving, relating to, thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts and are inflexible and maladaptive and cause significant functional impairment or subjective distress [8].

During the past 20 years, a good deal of information about the personality characteristics of individuals who engage in athletic and sporting activities has been reported. Moreover, there are many evidences about the existence of relations between psychopathological pattern and some sport activations [9]. To understand the personality patterns of athletes, researchers have asked whether they differ in personality from non-athletes and whether athletes vary among different sports [10]. However, athletes in contact sports are likely to differ in a number of ways from those in non-contact sports, particularly in height and weight. If personality is related to body build, physical differences may account for personality differences between athletes in various sports. In fact, while he recognized that some of the relationship may be based on stereotypes, Sheldon found that more muscular types (mesomorphs) are more outgoing than less muscular types (ectomorphs) [8].

It may be presumed that individuals choosing to engage in those combat sports which are aimed at mental and physical self-improvement would very seldom exhibit more aggressive behavior than non-contact athletes such as golfers or tennis players and have also been found to be higher in narcissism and histrionic scale [11]. Furthermore, athlete in contact sport usually have an high scores in neuroticism and somatic tensions and more likely exhibit high risk behavior such as drug abuse, alcohol dependence, high frequency of sexual indiscretions and so on [12]. Therefore, reviewing characteristics expected of various combat sport athletes may be helpful. The purpose of the present study was to provide further evidence of whether psychological profiles vary among athletes that participate in contact and non-contact sports or not.

MATERIALS AND METHODS

Participants and Procedure: Participants were 200 university athletes (18-30 years) that participate in contact (boxing; n=50, karate; n=50) and non-contact (gymnastic; n=50, swimming; n=50) sports. Participants filled out a consent form, provided demographic information (age, weight, height, year of study), then completed 2

Personality Inventory. In cases where athletes were participating, permission from the coaches and athletes had to be obtained along with their agreement to cooperate in the project.

Materials: Participants completed 2 questionnaires: Clinical Multiaxial Inventory-III manual (MCMI-III) and Eysenck personality questionnaire (EPQ-R-S).

The third edition of the Millon Clinical Multiaxial Inventory (MCMI-III) is designed to aid in the assessment of both DSM-IV Axis II personality disorders and Axis I clinical syndromes [13]. The 175 questions directly reflect the DSM's diagnostic criteria. The MCMI-III consists of 24 clinical scales: 3 severe personality disorders and 11 clinical patterns of personality scales and 10 clinical syndrome scales. Clinical patterns of personality include 1, Schizoid; 2A, Avoidant; 2B, Depressive; 3, Dependent; 4, Histrionic; 5, Narcissistic; 6A, Antisocial; 6B, Sadistic; 7, Compulsive; 8A, Negativistic; and 8B, Masochistic subscales.

The MCMI-III manual has been revised and the most recent edition includes a more expanded MCMI-III in psychological assessments and clinical situations moreover the validity and reliability of the Questionnaire were encouraging for health assessment for general population [14].

The primary traits or factors of personality were examined by Eysenck Personality Inventory [15], which measures extraversion (12 items), neuroticism (12 items), psychoticism (12 items) and faking (lie scale) (12 items) by answering yes or no to each question. Eysenck and Eysenck report that internal consistency and test-retest reliability coefficients for extraversion and neuroticism range from .75 to .95. They also cite evidence of concurrent and factorial validity. The lie scale is designed to measure "faking good," and is elevated when people are instructed to give a "good impression". Scores above 4 or 5 are considered to cast doubt on responses to the other scales [15]. That is, a person's scores on extraversion and on neuroticism might be contaminated by response bias and should be interpreted with caution. Usually, lie scores are used when people's scores are interpreted individually, but not in research where they are combined with scores of others.

Statistical Analysis: Before statistical comparison, all data sets were tested for normal distribution by a Kolmogorov-Smirnov test. Moreover Wilks' lambda and

Mannova test was used for statistical analysis. All statistical analyses were performed using the SPSS statistical software package (SPSS version 16.0 for Windows, SPSS Inc. Chicago, IL, USA). The significance levels of this study was set at $p < 0.05$.

RESULTS

Statistics for descriptive comparisons are in Table 1. There were no significant differences between groups at the beginning of the research for age, body weight and height.

According to The results of Wilks Lambda Test, there are significant differences in some scales of questionnaires between 2 groups in this study. The results of Wilks Lambda Test are presented in Table 2.

The results of multivariate analysis between groups in clinical patterns of personality subscales were statistically compared and are shown in Table 3. According to the analysis shown in Table 3, the multivariate analysis (MANOVA) demonstrated the existence of a statistically significant difference in 6 out of the 11 variables when comparing contact sports with non-contact sports ($p < 0.05$). Participants on the contact group scored higher on narcissistic, histrionic, antisocial, negativism and sadistic scales than participants on the non-contact group. Conversely, members of the non-contact group were significantly higher in schizoid scale than members of the contact group ($p < 0.05$).

According to the results of Table 4, there were no statistically significant differences among groups in Eyesenck personality inventory scales.

Table 1: Descriptive characteristics of the contact and non-contact groups

Variable	Contact (n=100)	Non-contact (n=100)	P- value
Age (years)	22.64 \pm 1.87	23.65 \pm 1.34	0.195
Weight (kg)	77.30 \pm 6.94	72.40 \pm 6.67	0.125
Height (cm)	181.30 \pm 1.05	179.60 \pm 2.1	0.368
N	100	100	

Values are mean \pm standard deviation

Table 2: Descriptive characteristics of the contact and non-contact groups

Test	Parameter values	F	Degrees of freedom	Error degree	P
\Wilks Lambda	0.003	36.16	81	509	0.000

*($P < 0.05$).

Table 3: Multivariate analysis between groups in clinical patterns of personality scales

Clinical patterns..	Sum of Square	Df	F	P
Schizoid	4083.21	1	5.96	0.016*
Avoidant	5874.76	1	0.04	0.841
Depressive	723.61	1	0.80	0.410
Histrionic	96.04	1	9.35	0.003*
Dependent	190.44	1	0.50	0.739
Narcissism	29036.16	1	5.38	0.022*
Antisocial	4290.25	1	10.41	0.002*
Sadistic	1398.76	1	7.46	0.008*
OCPD	7005.69	1	0.11	0.621
Negativism	5730.49	1	6.43	0.013*
Masochism	5874.76	1	0.93	0.073

*($P < 0.05$).

Table 4: Multivariate analysis between groups in personality factors

Personality factors	Sum of Square	df	F	P
Neuroticism	804.00	1	3.51	0.064
Extraversion	874.43	1	3.04	0.073
Psychoticism	723.45	1	2.43	0.086

*($P < 0.05$).

DISCUSSION

The historic notion that sport develops positive characteristics in athletes has been the impetus for many studies in sport psychology. Sport participation has been associated with positive personality attributes such as extroversion and low levels of neuroticism, tension, fatigue and confusion [16]. Unfortunately, sport participation is not immune to relationships with socially undesirable behaviors and characteristics. Athletes have been found to show higher egocentricity, lower levels of moral reasoning and greater acceptance of aggressive behavior than non-participants and so on [17].

The psychology of the sports should continue to deal with the numerous and complex questions of the relations between the personality and the sports activity [18], so it have benefits would then become useful for the individual player in career and life planning, self-management (such as stress/time management) and improved interpersonal skills. There may also be further applications for sports team building and sports management training [19].

Therefore, the present study investigated the clinical patterns of personality and personality factors (psychological profile) between athletes participating contact and non-contact sports. The most important findings of this study is that psychological profile subscales, as measured by MCMI-III, significantly was different between groups which athletes in contact sports were more histrionic, narcissistic, antisocial, negativism and sadistic than non-contact athletes and in schizoid scale have a lower scores. But there were no significant differences in EPQ-R-S scales between athletes in contact and non-contact group.

Although some previous studies have been shown that, there were not significant differences between athletes among various sports, but most of them report there are different psychological characteristics among athletes participating differing sport fields [20]. However, there is less agreement on how personality varies from sport to sport [21]. In consistent with our study Lemieux and colleagues (2002) reported that In general, if personality is related to body build, physical differences may account for personality differences between athletes in various sports [12]. In fact bigger participants scored higher on hostile aggression and reported more fighting than smaller participants and in natural situation there were not significant differences between them [22]. Furthermore, Steaub and Davis [23] were not found significant team's differences in personality between the

small private college, the Ivy League University and the small state-supported college. In addition, as predicted and as found by Newcombe and Boyle [22], neuroticism did not vary between contact and no contact athletes. Consequently, these results of our study are consistent with Stuart *et al.* [24] that reported that contact athletes' scores on extraversion are elevated. In addition Stevens *et al.* [25] revealed that judo players in comparison to other athletes have more unstable mood states changes, low coping strategies and self-set goals, high somatic tensions, aggressive behaviors, neuroticism and psychotism scores.

One possible reason for this discrepancy between this and the present findings may be explained by differences in length of exercise and different athletes skills in their sport fields which seems longer training may be due to improve and fix some personality traits and its dependent behaviors in athletes [26]. Moreover, the differences in the participant's age and gender, samples size, the type of sport, instruments, educational levels and culture may be the other possible reasons for this discrepancy [27].

The results of kirker *et al.* [28] consistent with findings of this study that indicated players, who are contact sport athletes, are more aggressive than no contact athletes such as golfers or tennis players . In another studies it has been found that college baseball in comparison to non-contact sports such as tennis scored higher for aggressiveness and reported more criminal behavior (including hitting a significant other) [29]. As University football players have also been found to be higher than other athletes in narcissism, conservative self-sufficient and more self-assured [23], which involve anger and aggressive behavior [30]. Similar to these studies, Wlas *et al.* [31] reported that Aggression control was significantly lower and self-aggression significantly higher in boxers compared with non contact groups, furthermore externalized aggression significantly lower in ju-jitsu than in karate athletes and emotional self-aggression also significantly lower than in boxers or karate athletes. Contact athletes score high on assertive, self confident, ambitious scales and they seek to influence others to help achieve goals ambitious, energetic and poised [32]. Furthermore, their scores are lower than the others on several scales, such as Self-acceptance, Social Conformity, Achievement via Conformance and Work Orientation [3,16].

Backmand *et al.* [33] reported that contact athletes were characterized by being more extroverted and presented lower indication of the ego orientation [33].

Non contact athletes also demonstrated to have lower anxiety levels [34]. Radl *et al.* [35] indicated that basketball players presented higher leadership ability than swimmers and they found that runners presented lower stress, depression and anger levels similar to those contact sports. In addition they were less neurotic and were more extroverted than contact athletes [36]. Similarly, Versari [37] reported that Participants from contact team scored significantly higher than participants from the golf team on neuroticism and they are more egocentric or egoistic.

In addition, contact sports, by their characteristic elements, require a higher level of activism, considering the imminence of unpredictable factors, which induce a higher level of sensorial excitability. Considering the fact that the incidence of injuries is higher than for those characterized by lack of contact with the opponent, a lower level of self confidence and a higher level of skepticism - appear to be justified. Also in this respect, it is noted that in contact sports and in those with mediated contact, are involved also other predisposing factors for a lower level of agreeability [38].

According to selection hypothesis aggressive persons seek a training style that is more consistent with their needs hence they participate in contact sports and also training should actually increase aggressive behavior [39] because it aggression is supposed to be learned through the imitation of violent and antisocial behaviors [40]. It should be noted that Nosanchuk & MacNeil [41] found that aggression actually increased with greater length of training in a non-traditional school as did Trulson [42] said the modern tae kwon do group showed an increased tendency towards delinquency and an increase in aggressiveness after 6month. This is likely to be due to the overemphasis of the self-defense, competitive and violent aspects of the training and a de-emphasis of the ethical framework [43].

In addition, Other reasons such as A very low socio economical status of the families from which these athletes are recruited, low educational level of their parents [44], low residential and material status influence them to adopt very early, the utilitarian orientation and to start to fight to satisfy the elementary existential needs [18].

Therefore, according to this results it can be concluded, that, the groups are differenced significantly in the clinical patterns of personality scales, indicating that contact athletes present differentiated psychological characteristics in comprise non contact athletes.

REFERENCES

1. Roberts, B.W., 2009. Back to the Future: Personality and Assessment and Personality Development. *J. Research in Personality*, 43(2): 137-145.
2. Judge, T.A., E.A. Bono, E. Joyce and C.J. Thoresen, 2002. Are Measures of Self-Esteem, Neuroticism, Locus of Control and Generalized Self-Efficacy Indicators of a Common Core Construct? *J. Personality and Social Psychol.*, 83(3): 693-710.
3. Hogan, R. and R.B. Kaiser, 2005. What we know about leadership. *Review of General Psychol.*, 9(2): 169-180.
4. Thoresen, C.J., C.J. Bradley, P.D. Bliese and J.D. Thoresen, 2004. The big five personality traits and individual job performance growth trajectories in maintenance and transitional job stages. *J. Applied Psychol.*, 89(5): 835-853.
5. Hoyle, R.H., 2006. Personality and Self-Regulation: Trait and information-processing perspectives. *J. Personality*, 74(6): 1507-26.
6. Hampson, S.E., L.R. Goldberg, T.M. Vogt and J.P. Dubanoski, 2007. Mechanisms by Which Childhood Personality Traits Influence Adult Health Status: Educational Attainment and Healthy Behaviors. *Health Psychol.*, 26(1): 121-125.
7. Kern, M.L. and H.S. Friedman, 2010. Why Do Some People Thrive While Other Succumb to Disease and Stagnation? Personality, Social Relations and Resilience." in *New Frontiers in Resilient Aging: Life-Strengths and Well-Being in Late Life*. pp: 162-184.
8. Barlow, D.H. and V.M. Durand, 2002. *Abnormal Psychology, An Integrative Approach*. Canada: Wadsworth Group.
9. Berger, B.G. and R. Motl, 2001. Physical Activity and Quality of Life. In R. N. Singer, H. A. Hausenblas & C. M. Janelle (Eds.), *Handbook of Sport Psychology* (pp. 636-671). New York: John Wiley & Sons.
10. Feist, J. and G. Feist, 2002. *Theories of personality* (5th ed.). Boston: McGraw-Hill.
11. Fisher, A.C., J.S. Horsfall and H.H. Morris, 2003. Sport personality assessment: A methodological re-examination. *International J. Sport Psychol.*, 8(2): 92-102.
12. Lemieux, P., S.J. McKelvie and S. Stout, 2002. Off-field aggression in contact athletes, no contact athletes and non-athletes. *Athletic Insight*, 4(3). Online journal at: <http://www.athleticinsight.com/Vol4Iss3/43IssueHome.htm> Appeared December, 2002.

13. Millon, T., 2006. Millon Clinical Multiaxial Inventory-III manual (3rd ed.) Minneapolis, MN: NCS Pearson.
14. Millon, T. and R. Davis, 1996. An Evolutionary Theory of Personality Disorders. In Clarkin, J. F. Lenzenweger, M. Major Theories of Personality Disorder. New York: Guilford Press.
15. Eysenck, S.B.G. and H.J. Eysenck, 1975. Manual of the Eysenck Personality Questionnaire, Hodder and Stoughton, London.
16. Nancy, S.A., D.A.C. Donnay and R.C. Thompson, 2006. Personality Profiles of North American Professional Football Players. Industrial and Organizational Psychology, Dallas, 7: 1-15.
17. Flett, G.L. and P.L. Hewitt, 2005. The perils of perfectionism in sports and exercise. Current Directions in Psychological Sci., 14: 14-18.
18. Baćanac, L.J., 2001. The psychological profile of Yugoslav boxers. Physical Education and Sport, 1(8): 13-24.
19. Froggatt, A. and N. Bibby, 2007. An application of a psychometric personality type inventory to improve team development and performance. Personality and Individual Differences, 26(1): 129-140.
20. McKelvie, S.J., P. Lemieux and D. Stout, 2003. Extraversion and Neuroticism in Contact Athletes, No Contact Athletes and Non-athletes: A Research Note. The Online J. Sport Psychol., 5(3): 19-27.
21. Wann, D.L., C.L. Fahl, J.B. Erdmann and J.D. Littleton, 1999. Relationship between identification with the role of sport fan and trait aggression. Perceptual and Motor Skills, 88: 1296-1298.
22. Newcombe, P.A. and G.L. Boyle, 1995. High school students' sports personalities: Variations across participation level, gender, type of sport and success. International J. Sport Psychol., 26: 277-294.
23. Steaub, W.F. and S.W. Davis, 2009. Personality traits of college football players who participated at different levels of competition. The American College of Sports Medicine & Exercise, 3(1): 20-27.
24. Stuart, J.M. and F.E., 2003. Narcissism in Football Players: Stereotype or Reality? The Online J. Sport Psychol., 5: 1.
25. Stevens, M.J., A.M. Lane and P.C. Terry, 2006. Mood profiling during Olympic qualifying judo competition: a case study testing transactional relationships. J. Sports Science and Med., pp: 143-151.
26. Ivanoviæ, M., 2009. Dimension of karate man personality as predictors of life satisfaction. Philosophy, Sociology, Psychology and History, 8(1): 115-124.
27. Nettle, D., 2006. Psychological profiles of professional actors. Personality and Individual Differences, 40: 375-383.
28. Kirker, B., G. Tenenbaum and J. Mattson, 2000. An investigation of the dynamics of aggression: Direct observations in ice hockey and basketball. Research Quarterly for Exercise and Sport, 71: 373-386.
29. Bushman, B.J. and C.A. Anderson, 2001. Is it time to pull the plug on the hostile versus instrumental aggression dichotomy? Psychological Bulletin, 108: 273-279.
30. Ruiz, J.M., T.W. Smith and F. Rhodewalt, 2001. Distinguishing narcissism and hostility: Similarities and differences in interpersonal complex and five-factor correlates. J. Personality Assess., 76: 537-555.
31. Wlaz, A.O., M. Szuszkiewicz and E.O. Wlas, 2007. Self-aggression in athletes practicing combat sports. Physical Education and Sport, 51: 67-71.
32. Slutzky, C.B. and S.D. Simpkins, 2009. The link between children's sport participation and self-esteem: Exploring the mediating role of sport self-concept. Psychology of Sport and Exercise, 10: 381-389.
33. Backmand, H., J. Kaprio, U. Kujala and S. Sarna, 2001. Personality and mood of former elite athletes -A descriptive study. Int. J. Sports Med., 22: 215-21.
34. Bara Filho, M.G., L.C. Scipião Ribeiro and F.G. García, 2005. Comparison of personality characteristics between high-level Brazilian athletes and non-athletes. Rev. Bras. Med. Esporte, 11(2): 114-118.
35. Radl, R., A. Leithner, M. Zacherl, U. Lackner, J. Egger and R. Windhager, 2004. The influence of personality traits on the subjective outcome of operative hallux valgus correction. Int Orthop, 28: 303-6.
36. De Man, A.F. and G. Blais, 2004. Relationship between preference for a type of sport and two aspects of personality: social alienation and self-esteem; Perceptual and Motor Skills, 54(1): 11-14.
37. Versari, C.B., 2008. Athletes and personality type. Self help Magazine. Retrieved on May 23, 2008 from: <http://www.selfhelpmagazine.com/articles/sports/pers.html>.

38. Anghel, A., I. Bănică and S. Ionescu, 2009. Personality Features of Elite Athletes Considering the Criterion of the Sport Practiced. *Sport Science Rev.*, pp: 5-6.
39. Reynes, E. and J. Loran, 2002. Effect of traditional judo training on aggressiveness among young boys. *J. Perceptual Motor Skills*, 94: 21-25.
40. Bandura, A., D. Ross and S. Ross, 1961. Transmission of aggression through imitation of aggressive models. *J. Abnormal and Social Psychol.*, 63: 575-582.
41. Nosanchuk, T.A. and M.L.C. MacNeil, 1989. Examination of the effects of traditional and modern arts training on aggressiveness. *Aggressive Behaviour*, 15: 153-159.
42. Trulson, M.E., 1986. Martial arts training: A novel 'cure' for juvenile delinquency. *Human Relations*, 39: 1131-1140.
43. Golby, J. and M. Sheard, 2004. Mental toughness and hardiness at different levels of rugby league. *Personality and Individual Differences*, 37(5): 933-942.
44. Thoresen, C.J., J.C. Bradley, P.D. Bliese and J.D. Thoresen, 2004. The big five personality traits and individual job performance growth trajectories in maintenance and transitional job stages. *J. Applied Psychol.*, 89(5): 835-853.