

A Comparison of Personality Characteristics of National and Premier League Handball Players¹

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Abstract:

The aim of the present study was to examine the personality characteristics of national and premier league handball players. 152 Iran premier league handball players (65 national athletes and 87 premier league athletes) filled out Neo personality questionnaire (NEO-FFI) (a shortened version of revised NEO Five-Factor Inventory). K-S was used to assess the normal distribution of data, ANOVA to determine general differences between the groups and Tukey post hoc test to compare and investigate the mean of differences between the groups. SPSS21 software was used to analyze data. The results showed a significant difference between the two groups in extraversion, agreeableness and conscientiousness ($P=0.05$). But there was no significant difference in neuroticism and openness between the groups.

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Introduction

Personality bears various concepts in daily conversation. However, it often refers to efficiency and social agreeableness. Sometimes, personality is defined based on observable, dominant and general traits and consequently people are called introvert, extrovert, aggressive or preservative. The definition and form of personality are different from the viewpoints of different theoreticians. However, personality generally points to compatible patterns of human behaviors (4). Personality characteristics have great effects on athletes especially on their participation in sports as well as the relationship between coaches and athletes. Study of personality is not only the most outstanding but the oldest issue in psychology (14).

Personality has a determining role in apparent behavior. Allport defines personality as the dynamic organization of individual's inner psychological-physiological principles which determine people's unique adjustment to the universe. Hilgard defines personality as a definite pattern of behaving and attitude which determines individual's adjustment to the environment (2). Eysenck and Cattell who adopted a trait approach believe that heredity is an important factor in personality; therefore, in their researches, they often study and compare identical and fraternal twins to estimate heredity from each personality trait. Other scientists such as Kretschmer and Sheldon believe that physical figure determines the individual's personality characteristics. However, other personality scientists note that physiological differences (internal glands, the reaction of auto nervous system, the coordination of different neurotransmitters) result in forming different personalities (4).

Many psychologists believe that the main structure of personality is manifested by five general traits. Based on this model, personality consists of five main dimensions: neuroticism (N), extraversion (E), agreeableness (A), conscientiousness (C) and openness (O). A majority of researches in different languages with different tools and samples has confirmed these five main factors and has shown that these five factors enjoy convergent and discriminant validity and stay almost stable during the individual's changes (2).

Burnik et al. (2005) in a research entitled "differences in personality traits of mountain climbers and non-athletes in Slovenia" reported a statistically significant difference in neuroticism, impulsivity, depression, irritability, reactive aggression and emotional lability between mountain climbers and non-athletes. But there was no statistically significant difference in sociability, control, repression, sincerity, extraversion and masculinity. In those cases with statistically significant differences, the mean scores of mountain climbers were constantly lower than non-athletes (5).

In addition, researchers compared the personality characteristics between non-athletes and high-level Brazilian athletes and concluded that there was a significant difference in eight out of the 12 variables (inhibition, irritability, aggressiveness, fatigability, physical complaints, health concern, frankness, and emotionality) between athletes and non-athletes (3). De Moor et al. (2006) in their study entitled "regular exercise, anxiety, depression and personality" concluded that athletes had a more extravert personality than non-athletes (6). Another research (2007) showed that those with positive personality tend to have high levels of motivation and exercise participation (10). Webbe et al. (2007) concluded that some personality traits of players were correlated with their style of play. Especially, higher extraversion was correlated with high heading frequency. Those players who

achieved higher scores in extraversion had more frequent soccer heading (23).

Also, Dobersek et al. in a research on the connection between personality type and sport concluded that team players were more neurotic and individual players were more stable (7). Another research showed that individual sport athletes scored significantly higher on conscientiousness and autonomy than team sport athletes. The team sport athletes scored significantly higher on agreeableness and sociotropy. No significant difference was found between the two groups on neuroticism, extraversion, and openness (16).

Ilyasi et al. (2011) in a research found out: a) individual players obtained higher scores in extraversion, openness and conscientiousness than team players; b) there were no significant differences in agreeableness and neuroticism between team and individual players (11).

Another research also showed a significant difference in extraversion, neuroticism, openness to experience, agreeableness and conscientiousness between athlete and non-athlete students. The findings showed that sport participation had a positive effect on personality characteristics and athletes had more positive factors than non-athletes (19). Behzadi et al. (2012) concluded that there was a significant difference in extraversion, conscientiousness and neuroticism between team and individual athletes (4). Other findings (2013) showed that there was a significant difference in neuroticism, extraversion, agreeableness and conscientiousness between athlete and non-athlete students while there was no significant difference in openness between the two groups. Athlete students obtained higher scores in extraversion, agreeableness and conscientiousness and lower score in neuroticism than non-athlete students (21). Sabina et al. concluded that fighting spirit, creativity, practical intelligence, the capacity of control and self-control, combativeness, aggressiveness, quick thinking etc. are psychic qualities necessary for karate fighters. Their

findings showed the investigation of personality aspects of athletes was useful evidence both for sports training and for improving performance (preparation) (18). Tok et al. in a research entitled "trait emotional intelligence, the Big Five personality traits and isometric maximal voluntary contraction level under stress in athletes" concluded that athletes with high levels of agreeableness and emotional intelligence could bear higher pressure with no reduction in their performance (22). Monasterio et al. (2014) studied personality characteristics of mountain climbers and concluded that there was a significant difference in personality between mountaineers and normal control population although there was not a tightly defined personality profile among mountaineers (15).

With regard to the contrary results of the above mentioned researches and a lack of research on the personality characteristics of Iran handball players, this study aims at comparing these characteristics in national and premier league handball players.

Methodology

The present study was sectional and application with regard to the aim. In addition, it was a field study considering data collection. The statistical population consisted of all male premier league handball players in 2013-2014 (N=250). To determine the sample, Morgan table was used and 152 subjects (65 national athletes and 87 premier league athletes) were selected as the sample. Also, the sample was selected by simple random sampling method.

Tools

NEO-FFI (a shortened version of revised NEO Five-Factor Inventory) with 60 items by Costa and McCrae (1992) was used to collect data. The factors under study included five personality characteristics of neuroticism, extraversion,

openness, agreeableness and conscientiousness. Each of these factors was measured by 12 items. All items of this inventory were responded on 5-point Likert Scale and each item had a point between 1 and 5. Based on the results of Costa and McCrae (1992) research, the higher the respondents' score, the more the intensity of that factor will be (1).

Validity and Reliability

The validity of NEO-FFI for neuroticism, extraversion, openness, agreeableness and conscientiousness was reported as 0.85, 0.78, 0.87, 0.90 and 0.83 respectively in Costa and McCrae (1992) research (1).

Different researches with different age and cultural groups revealed the validity of this inventory. Similar results were obtained for males and females, white and other races, the youth, middle-aged and elderly; therefore, this inventory enjoyed great factor validity for different sex, age and race groups. Test-retest and internal consistency of those scales for different age and cultural groups shows the NEO-FFI reliability (8).

This inventory was translated by Garousi Farshi into Persian and normalized on Iranian university students. In Iran, the reliability coefficients for N, E, O, A, C were 0.83, 0.75, 0.80, 0.79, 0.079 respectively (8).

Statistical Procedures

To analyze the data, the data obtained from NEO-FFI were coded and entered SPSS16 and then, main variables and factors were examined. To check the normality of data, Kolmogorov-Smirnov test was used. In the next phase, two-way analysis of variance was used to determine the general differences between the groups. In case of any differences between the groups, Tukey post hoc test was used to determine which groups were different.

Findings

Descriptive statistics of each personality factor of national and premier league handball players and other descriptive statistics to describe the sample of the study.

Mean age of the subjects was 25.23, standard deviation 4.88, mean sport history 11.1 and standard deviation 4.69.

In addition, 70.4% of subjects were single and 27% were married. 4.6% were under diploma, 15.1% had diploma, 23.7% had A.A., 48.7% had B.A. and 7.9% had MSc. and higher degrees.

Table 1: descriptive statistics of five personality factors at national and premier league levels

Factor	Statistic / Level	Sample	Mean	SD	Min. Scores	Max. Scores
Neuroticism	National	65	40.82	5.66	26	54
	Premier League	87	39.20	4.18	30	51
Extraversion	National	65	30.74	6.73	17	51
	Premier League	87	34.03	6.38	18	46
Openness	National	65	34.37	4.30	25	44
	Premier League	87	33.52	3.61	25	42
Agreeableness	National	65	30.47	5.61	16	43
	Premier League	87	33.55	4.66	22	42
conscientiousness	National	65	27.87	8.08	12	46
	Premier League	87	31.12	7.33	15	47

Data Distribution

One-Sample Kolmogorov-Smirnov non-parametric test was used to investigate the data distribution of each trait in each group. This test is used to investigate the normality of data distribution of one variable which is a prerequisite of variance analysis. The result of Kolmogorov-Smirnov test in SPSS software is an output in which the parameters under study are

presented at a significant level based on the number of data. If the significance level is lower than 0.05, the data distribution will not be normal.

Table 2: An investigation of data distribution of variables

Factor	Amount	Significance Level
Neuroticism	152	0.63
Extraversion	152	0.15
Openness	152	0.38
Agreeableness	152	0.54
conscientiousness	152	0.54

As it is observed in Table 2, the significance level was higher than 0.05% for all variables. In other words, Kolmogorov-Smirnov test showed that the data distribution of the variables was normal.

Table 3: analysis of variance for personality characteristics of national and premier league handball players

Statistic / Factor	Degree of Freedom	F	Sig.
Personality characteristics	1	8.37	0.004

According to Table 3 and as the significance level of test error for 0.95 level of significance is lower than 0.05, it can be concluded that there was a significant difference between national and premier league handball players in personality characteristics.

Table 4: analysis of variance of five factors of personality for national and premier league handball players

Statistic / Factor	Degree of Freedom	F	Sig.
Neuroticism	1	3.80	0.053
Extraversion	1	9.23	0.003
Openness	1	1.68	0.19
Agreeableness	1	12.93	0.000
conscientiousness	1	6.50	0.01

According to Table 4 and as the significance level of test error for 0.95 level of significance is lower than 0.05 in extraversion ($P=0.003$, $F=9.23$), agreeableness ($P=0.000$, $F=12.93$) and conscientiousness ($P=0.01$, $F=6.50$), it can be concluded that there was a significant difference between national and premier league handball players in extraversion, agreeableness and conscientiousness. As the significance level of test error for 0.95 level of significance is higher than 0.05 in neuroticism and openness, it can be concluded that there was no significant difference between national and premier league handball players.

The results of two-way analysis of variance showed a significant difference between national and premier league handball players in extraversion, agreeableness and conscientiousness, that is to say premier league handball players were more extravert, agreeable and conscientious than national players. But there was no significant difference in neuroticism and openness between the two groups.

Discussion and Conclusion

The present study firstly provided an insight into the results obtained concerning the mean difference of the personality traits in the two groups under study, and then presented the results regarding the analysis of variance while separately investigating each trait in the groups. The general finding of this study showed a significant difference in personality characteristics between national and premier league handball players which was in line with Monasterio et al. (2014) findings while it was contrary to Reiter et al. (2007) findings. Reiter et al. (2007) conducted a research entitled "personality preferences of college student-athletes" with 91 university students. The results showed no statistically significant differences between athlete and non-athlete students in

personality characteristics. This contradiction may be justified by level of education and the statistical population.

One of the findings of the present study was a significant difference between national and premier league handball players in extraversion which was in line with the findings of Webbe and Ochs (2007), Shokri et al. (2008), Ilyasi and Salehian (2011), Shariati and Bakhtiari (2011), Fatemeh Behzadi et al. (2012) and Said Rezai et al. (2013) while it was contrary to the findings of Goodwin and Gotlib (2004), McCrae and Terracciano et al. (2005) and Mahin Etemadi Nia (2010). It seems that this contradiction was due to the type of sport, statistical population and type of research.

Another finding of this study was a significant difference between national and premier league handball players in agreeableness which was in line with the findings of Goodwin and Gotlib (2004), McCrae and Terracciano et al. (2005), Shokri et al. (2008), Shariati and Bakhtiari (2011) and Said Rezai et al. (2013) while it was contrary to Ilyasi and Salehian (2011) findings. It seems that this contradiction was due to the type of sport, statistical population and type of research.

Another finding of this study was a significant difference between national and premier league handball players in conscientiousness which was in line with the findings of Kajtna et al. (2004), Shokri et al. (2008), Ilyasi and Salehian (2011), Mahin Etemadi Nia (2010), Shariati and Bakhtiari (2011), Fatemeh Behzadi et al. (2012) and Said Rezai et al. (2013) while it was contrary to Goodwin and Gotlib (2004) and McCrae and Terracciano et al. (2005) findings. This contradiction may be due to the educational condition of national and club team players as well as the statistical population.

Another finding of this study was a lack of a significant difference between national and premier league handball players in neuroticism which was in line with the findings of Mahin Etemadi Nia (2010) and Ilyasi and Salehian (2011) while it was contrary to the findings of Goodwin and Gotlib

(2004), McCrae and Terracciano et al. (2005), Burnik et al. (2005), Dobersek et al. (2008), Shokri et al. (2008), Shariati and Bakhtiari (2011), FatemehBehzadi et al. (2012) and Said Rezai et al. (2013). This contradiction may be due to the type of sport, gender, educational level, statistical population and type of research.

Another finding of this study was a lack of a significant difference between national and premier league handball players in openness which was in line with the findings of Mahin Etemadi Nia (2010) and Said Rezai et al. (2013) while it was contrary to the findings of Kajtna et al. (2004), Goodwin and Gotlib (2004), McCrae and Terracciano et al. (2005), Shokri et al. (2008), Ilyasi and Salehian (2011) and Shariati and Bakhtiari (2011). This contradiction may be due to the type of sport, gender, educational level and statistical population.

There was a significant difference between national and premier league handball players in extraversion, agreeableness and conscientiousness, that is to say the mean scores of extraversion, agreeableness and conscientiousness of premier league players were higher than national players. It seems that this finding can be verified with skill level. It seems that an increase in skill level in handball reduces extraversion, agreeableness and conscientiousness. One of the popular ideas about the effect of sport on human personality is that sport has many positive effects on athletes' spirit and personality; such effects may be temporary or permanent. The most important aspect of these effects may be personality growth. In addition to personality growth, sport effectively influences the social aspect of personality or social competence. Sport generally has many proper opportunities to deal with problems and barriers and to adopt appropriate strategies in order to eliminate them. However, more research should be conducted to confirm them.

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