

Psychological Characteristics of Professional Soccer Players and their Comparison with Amateur Players

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ABSTRACT

The purpose of this study was to test the association between personality traits and competitive anxiety among professional soccer players and amateur soccer players ($n=78$), whose ages ranged from 17 to 21 years. Personality traits were defined using the Eysenck Personality Questionnaire (translated and adapted version). Participants completed the Sport Competition Anxiety Test by Martens to assess their state of anxiety. The study revealed the dominance of sanguine and choleric temperament, corresponding to extraversion in the representatives of both groups. A one-way ANOVA demonstrated a statistically significant difference ($p \leq 0.03$) between the competitive anxieties of the two groups. The results of the stepwise linear regression analysis demonstrated a statistically significant relationship ($p \leq 0.0001$) between competitive anxiety and both psychoticism and neuroticism among professional soccer players. According to the results, psychoticism and neuroticism predict the formation of competitive anxiety in professional soccer players. In soccer, the level of competition causes personality differences by psychoticism and neuroticism, however, extraversion is the factor of pre-existing differences, which draw any players into a team sport. Coaches should spend more time on competitive games among youth players because it can help to adapt the autonomic nervous system and reduce excessive levels of anxiety.

Keywords: Soccer professional and amateur, Personality traits, Emotion regulation, Behaviour and temperament.

1. INTRODUCTION

Psychological characteristics, including personality traits and competitive anxiety, are relevant factors in sports performance (Moore et al., 2013; Franklin et al., 2015). Because anxiety as an emotional state and fundamental characteristic of personality is analyzed in many spheres of human activities: in the professional selection, pedagogic process, sport, and other fields where human adaptive possibilities should respond to the special requirements. Anxiety manifests with a triple cognitive, physiological, and behavioral response to stimuli that are perceived as dangerous or threatening. It is a feeling of agitation and restlessness in response to certain situations. In this case, anxiety can reveal itself in different forms: In one man, his activity increases, while another one, in contrast, becomes motionless; in addition, some person's behavior becomes inadequate and unmotivated. As most scientists propose, such diversity in reactions is related to the temperament peculiarities of each person (Sultanov and İsmailova, 2019).

It is generally known that the basis of temperament is the same as the basis for individual characteristics of conditioned reflex activity, namely, the properties of the nervous system. Combinations of the three main properties of the nervous system by Pavlov (strength, balance, and mobility) are recorded as types of the nervous system, or types of higher nervous activity (Haslam et al., 2017). This indicates that anxiety acts as a feature of temperament, in which high indicators of anxiety are always combined with relatively high rates of neuroticism and, apparently, are underlain by this innate indicator of typology of higher nervous activity.

In sports science, the personality of athletes is being actively studied due to increased psychophysiological loads on the athletes' body and their influence on sports results. For example, the problem of tolerance to different competitive situations and its relationship with personality traits and as well as the level of competitive anxiety among team sports players. According to some evidence, highly successful athletes have positive thoughts, better concentration and are more task-oriented, and also have lower levels of anxiety (Ahmad and Safdar, 2020). Previous studies in the context of competitive sports have shown a coincidence between personality traits and success (Allen and Laborde, 2014), a distinct personality profile of athletes compared to non-athletes (García-Naveira and Ruiz Barquín, 2013), and personality differences between different types of sports (Allen et al., 2013; Parma et al., 2017). According to Martens, numerous types of research have concluded that athletes with higher levels of competitive trait anxiety tend to perceive competitive situations as more threatening than athletes with lower levels of competitive trait anxiety. It seems that individuals with high trait anxiety have some sort of cognitive bias, which allows them to pick out more threat-related information (Martens et al., 1990). In addition, when anxiety is not managed or explained correctly, athletes lose control, and their performance levels decrease (Sangari et al., 2012). On the other hand, regular involvement in physical activity is associated with improved cognitive functions (Etnier and Chang, 2009; Marchetti et al., 2015). Furthermore, the physiological effects of regular physical activity are associated with "good" changes in brain anatomy (Chaddock et al., 2011; Voelcker-Rehage and Niemann, 2013).

Previous studies also noted that the descriptive methods with subject variables, which compare already-existing groups of athletes and non-athletes on personality, cannot distinguish whether certain kinds of people were drawn into sport (*the gravitational or selection hypothesis*) or whether participation in sport contributes to the differences between athletes and non-athletes (*the developmental hypothesis*) (Elman and McKelvie, 2003). However, sport may expose athletes to repeated emotional highs and lows, allowing their autonomic nervous system

to adapt, diminishing its lability, leading to a lowering in neuroticism. This implies that neuroticism may not differ much between athletes and non-athletes in the early stages of participation, but it may decline over time with athletes but remain constant with non-athletes. In addition, there is experimental evidence that exercise activity can lower trait anxiety (McKelvie et al., 2003). This fact is supported by another study, which determined that baseball and football members of teams were significantly higher on the Activity and lower on the Neuroticism-Anxiety scales than the general college population (O'Sullivan et al., 1998).

Therefore, the aim of this study: (i) to determine among professional soccer players' and amateur soccer players individual-typological features, (ii) to compare professional soccer players with amateur soccer players according to personality traits and competitive anxiety, and it was hypothesized that professionals would be different from amateurs by personality traits or competitive anxiety, and (iii) to examine the predictive factors of anxiety in both groups.

2. METHODOLOGY

2.1. Participants

The participants included soccer players and amateur sport students, who learned at an undergraduate level (bachelors) and studied from first to fourth courses. Age of all persons was 17–21 years. The studies were conducted on thirty-nine professional soccer players ($M = 18.27$, $SD = 0.95$) and thirty-nine students ($M = 18.41$, $SD = 1.10$) of Sports University, who trained in “Soccer” speciality and interpreted as amateurs. The group of professional soccer players had more training hours per week (9 vs 4.5) and a more intensive training process than the group of amateur players. Professional players participated in the national youth (under-21) soccer championship, and some players were members of the national youth soccer team. All soccer players and students were men with normal hearing and normal vision. Furthermore, they did not have any psychiatric or neurological disorders or cardiovascular disease history.

2.2. Measures

2.2.1. Temperament Type and Personality Traits

Temperament types such as choleric, melancholic, phlegmatic, and sanguine were defined using the Eysenck's Personality Questionnaire (EPQ) (101-items). The testing technique was also designed to reveal the following factors, characterizing the structure of personality: psychoticism, extraversion, and neuroticism. The Questionnaire was translated to Azerbaijani language and adapted in the Department of Psychology at the State University.

2.2.2. Competitive Anxiety

To assess the state of competitive anxiety participants completed the Sport Competition Anxiety Test (SCAT). The SCAT by Martens (Martens et al., 1990) is a 15-item inventory that measures trait anxiety in sport performers. Respondents were required to indicate their agreement with each item by selecting their preferred answer from three categories: 'rarely', 'sometimes', and 'often'. The scores on this test range from 10 to 30. Evidence of the test's convergent validity comes from studies that show that it is correlated with various general anxiety inventories (Lavalley et al., 2012).

2.3. Procedures

To assess the type of temperament, personality traits, and competitive anxiety participants completed the EPQ and the SCAT on the sheets themselves before or after training sessions and gave them to the researcher. Both tests were approbation in previous studies (Sultanov and İsmailova, 2019; Sultanov, 2020). In the early, players completed the EPQ and afterward – the SCAT. All tests were held for nearly four months: from January to May. All tests were collected before the COVID-19 lockdowns in Azerbaijan.

2.4. Ethics Approval

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. The researcher obtained a permit from club management to participate in the study of soccer players. University students received course credits for their participation in the study. In addition, each participant provided verbal consent for testing. The researches were approved by the Scientific Council of the Institute of Physiology on March 12, 2019 (Protocol No. 2).

2.5. Statistical Analysis

The Shapiro-Wilk test was used to verify the normality of the data among participants. Yates's chi-squared test was used to compare types of temperament: sanguine and choleric (extraversion) vs. phlegmatic and melancholic (introversion) between two groups. One-way ANOVA and Tukey HSD was used to compare the level of competitive anxiety between the groups. Spearman's rho was used to control for intercorrelations between predictors. A stepwise linear regression model was used to analyse personality traits as predictors of competitive anxiety. The level of significance was set at $p < 0.05$. Statistical analysis of the collected data was performed using SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp. (USA) and "Statistics Kingdom".

3. RESULTS

Competitive anxiety by the SCAT demonstrated lower data among soccer players compared to groups of students (Table 1). Hence, the one-way ANOVA demonstrated a statistically significant difference between the competitive anxieties of the two groups ($F=5.04$; $p \leq 0.03$). Tukey-Kramer post-hoc test also demonstrated equal data (Table 2). The research revealed dominance of the sanguine and choleric types of temperament, corresponding to extraversion in the representatives of both groups. The intercorrelation between personality traits as predictors of competitive anxiety was within the range of $r < 0.5$ by Spearman's rho (Tables 3 & 4).

Table 1. Descriptive statistics and Cronbach's alpha for personality traits among soccer players.

<i>Parameters</i>	<i>Professional players</i>			<i>Amateur players</i>		
	<i>Mean</i>	<i>SD</i>	<i>α</i>	<i>Mean</i>	<i>SD</i>	<i>α</i>
Psychoticism	5.13	3.27	0.34	5.23	3.55	0.34
Extraversion	15.36	3.30	0.46	15.56	3.53	0.49
Neuroticism	12.26	4.99	0.86	12.36	4.66	0.73
SCAT	15.54	3.05	0.43	17.23	3.59	0.44

Table 2. Tukey HSD/Tukey-Kramer post-hoc test statistics.

<i>Pair</i>	<i>Difference</i>	<i>SE</i>	<i>Q</i>	<i>Lower CI</i>	<i>Upper CI</i>	<i>Critical Mean</i>	<i>p-value</i>
x1-x2	1.6923	0.5332	3.174	0.1905	3.1941	1.5018	0.02772

Table 3. Intercorrelation between predictors using Spearman's rho among professional soccer players (*Note: $r < 0.5$*).

<i>Parameters</i>	<i>Parameters</i>	
	<i>1</i>	<i>2</i>
1. Psychoticism		
2. Extraversion	-0.08	
3. Neuroticism	0.47	-0.13

Table 4. Intercorrelation between predictors using Spearman's rho among amateur soccer players (*Note: $r \leq 0.3$*).

<i>Parameters</i>	<i>Parameters</i>	
	<i>1</i>	<i>2</i>
1. Psychoticism		
2. Extraversion	-0.05	
3. Neuroticism	0.30	0.10

Additionally, the mean, standard deviation, and Cronbach alpha values were calculated for each subscale in both groups (Table 1). The internal consistency among some personality traits demonstrated a relatively low level of reliability. It is assumed that one of the causes of this low score might be connected to two different languages (Azerbaijani and Russian), which were used in the study. Of course, some scales require further improvement. For instance, five of the 15-items in the SCAT questionnaire are “buffer” questions (Iwuagwu et al., 2021). According to some evidence, it was established that low alpha might be the result of conceptual heterogeneity rather than low reliability (Tavakol and Dennick, 2011).

The study revealed a joint association between competitive anxiety and both psychoticism, neuroticism. Thus, results revealed two predictors of personality traits in the group of professional soccer players. In particular, there was a statistically significant association between neuroticism and the SCAT scores ($p \leq 0.0001$). Psychoticism also demonstrated a statistically significant association ($p \leq 0.0001$) with competitive anxiety (Table 5). On the other hand, regression analyses in the group of amateur soccer players' neuroticism as a predictor of competitive anxiety was not observed. In addition, regression analyses demonstrated a statistically significant relationship between psychoticism and competitive anxiety, however, this result was on the border ($p = 0.0485$) and strongly different from the group of professional soccer players. Moreover, regression analysis did not reveal any statistically significant relationships between extraversion and competitive anxiety in both groups.

Table 5. Stepwise linear regression analysis of personality traits and competitive anxiety among professional soccer players.

<i>Parameters</i>	<i>F</i> _(2,38)	<i>R</i> ² _{adj.}	<i>t</i>	<i>b</i>	<i>P</i>
Neuroticism	20.49	0.34	2.52	0.40	0.0001
Psychoticism	13.40	0.40	2.10	0.33	0.0001

4. DISCUSSION

First of all, it should be noted that the categories of team and individual sports are conceptually different based on interdependency, with team sports conceptually requiring a higher degree of collaboration and social interaction (Wold et al., 2013). On the one hand, it was established that in soccer if several players accomplish close function on the pitch in that case revealed characteristic the conjunction of the personality traits. However, in other team sports, such as

American football, in which players function differently pretty widely, the rate of personality traits has not been pointed by a specific “type” that is inherent in participants or change of personality, which occurs during an activity of this sport (Cratty, 1983). Systematic sports activity and a high level of competitive practice might likely be the cause for restructuring the emotional regulation of behaviour and social interaction during professional sports activities in soccer players. Thus, the correlation between psychoticism and neuroticism might indicate this relationship (Table 3). On the other hand, this is reinforced by the fact that this connection (the high correlation between psychoticism and neuroticism) was not revealed in the study among amateur athletes (Table 4).

The low scores for competitive anxiety in professional soccer players over time compared to amateur soccer players is consistent with evidence that regular exercise reduces anxiety (Ledwidge, 1980; McKelvie et al., 2003; Eagleton et al., 2007). In addition, some studies have demonstrated that high levels of competitive anxiety are associated with poor performance (Scanlan et al., 2005; Smith and Smoll, 1991). It is likely that experienced players keep clear of psychological problems caused by negative and conflicting intentions or behavior, and have less anxiety compared to non-athletes or less experienced athletes. Practice and experience enable athletes to identify the sources of and methods that reduce competitive anxiety (Mottaghi et al., 2013). However, it may also be due to environmental factors, which could affect and interplay with the temperamental traits of elite soccer players. This is because, the role of team players, and changes in their position in the game, might provide frequent personal interactions between team members. These contacts may provide proper emotional support (Eysenck et al., 1982; Doug et al., 2006). Personality traits of soccer players such as psychoticism and neuroticism are determined by both genetics and environmental factors (Laceulle et al., 2013; Van Kampen, 2009). However, practical equality in our study between professional soccer players and amateurs by extraversion parameter (Table 1) agrees with Eysenck’s theory (Eysenck, 1967) that extraversion is based on cortical arousal and team sports provide arousal, which seeks the extraverts (Colley et al., 1985). In this case, there are no differences in whether extraverts are professional players or amateurs.

In addition, our results were similar to those of team sports in another study (Eagleton et al., 2007), however, had differences compared to groups of amateur soccer players and non-athletes, and it is likely that in their one’s typology, amateur soccer players might differ from both professional athletes and non-athletes and hold the intermediate link.

5. CONCLUSIONS

The current study provided that competitive anxiety differs in soccer players who have professional sports activities, in contrast to amateur players. These differences were expressed by a lower level of competitive anxiety and available in professional players the predictors of competitive anxiety among personality traits. Psychoticism and neuroticism predict the formation of competitive anxiety in professional soccer players. Coaches should spend more time on competitive games and various tournaments especially among youth soccer players because it can help to adapt the autonomic nervous system and reduce anxiety during competition. In contrast, extraversion seems strongly based on genetics and does not change during sports participation. Thus, among soccer players, the level of competition causes personality differences by psychoticism and neuroticism, however, extraversion is the factor of pre-existing differences which draw players into a team sport. Future research is needed to replicate and extend the present findings because this sample was relatively small and consisted of youth players.

6. ACKNOWLEDGEMENTS

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