






Personality of male and female practicing competitive football

Authors' Contribution:

-  **A** Study Design
-  **B** Data Collection
-  **C** Statistical Analysis
-  **D** Manuscript Preparation
-  **E** Funds Collection

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Abstract

Background & Study Aim:

Previous studies on personality in sport have shown that there is a profile that characterizes athletes. But in terms of the relationship between personality and gender, the results are not clear. The aim of the study was the knowledge about the personality of male and female practicing competitive football.

Material & Methods:

The study was chosen deliberately: the first male team and the first female team of the 1 Sports Club "Ślęza" Wrocław (n = 60), thirty male players and thirty female players were selected for the study. The NEO-FFI Personality Inventory was used as the method.

Results:

A statistically significant difference was noted only in the neuroticism scale.

Conclusions:

The personality of people practicing football was typical for active sports people (low neuroticism, high extraversion and conscientiousness, and average openness to experience and agreeableness) but female football players were more neurotic (less emotionally stable) in relation to male football players. The view was taken that sports activity and gender shape the personality of athletes.

Keywords:

gender • internal motivation • NEO-FFI • sport psychology

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Authors have declared that no competing interest exists

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Athlete – *noun* 1. someone who has the abilities necessary for participating in physical exercise, especially in competitive games and races 2. a competitor in track or field events [73].

Player – *noun* someone taking part in a sport or game [73].

Physical activity – *noun* exercise and general movement that a person carries out as part of their day [73].

Sports psychology – *noun* the scientific study of the mental state of sportspeople, looking at issues such as motivation, concentration, stress and self-confidence [73].

EFPA – “extreme form of physical activity are extreme sports, often classified according to the environment in which they are performed (water, land, air), extreme form of physical recreation as well as gainful activity or voluntary service, and all varieties of physical activity that meet at least one classification criterion of the feature associated either with extreme risk of injury or death, or extreme body burden with high level of effort, or extreme coordination difficulty” [66, p. 19].

INTRODUCTION

From a mental point of view, personality performs a basic function when undertaking physical activity. The key is experiencing stimulation and improving skills. This allows you to experience strong needs for great sensations and the feeling that your skills are increasing. Such factors are very important in sporting activities. Factors affecting internal motivation and psychological needs such as competence and autonomy have a great impact on the satisfaction of playing sports. Thanks to this, you can feel the impact on the feeling of joy and quality of life [1-4].

Previous studies on personality in sport have shown that there is a profile that characterizes athletes. Low neuroticism, high extraversion and conscientiousness as well as average openness to experience and agreeableness are characteristic of athletes of each discipline [5-14]. And in terms of the relationship between personality and gender, the results are inconclusive. On the one hand, it has been shown that women as fair and sensitive sex have less emotional stability (higher neuroticism) in relation to men, while maintaining the personality profile characteristic of athletes: sports activity and gender shape the personality of athletes [15-20]. On the other hand, it has been proved that there are no differences in personality between sportsmen and sportswomen: only sport shapes the personality of athletes [21-25]. Is the border between these reports dependent on the specifics of the sport discipline being trained? Is it gender, regardless of the type of sport, that significantly differentiates the personality of athletes?

To support one of the parties, it was considered necessary to study the football environment. Football is one of the most popular sports in the world. Its rules of the game are quite common and relatively simple. However, there are a number of elements that affect the player's, formation's or team's game effects. That is why motor, technical, tactical and mental preparation is very important among competitors. Football, despite its popularity in society, is still considered a typical male sport. The participation of women in sports competition in football compared to men is still in the world on a micro scale.

The aim of the study was the knowledge about the personality of male and female practicing competitive football. Studying the relationship between

personality and gender in a football environment will help answer previously asked questions.

MATERIAL AND METHODS

Test persons

The first male team and the first female team of the 1Sports Club “Ślęza” Wrocław were selected for the study (n = 60). The female sample included thirty players aged 16-26. However, thirty players aged 16-31 constituted a male sample. Everyday footballers play in the III Polish Football League. In addition, female players up to the age of 16-17 take part in competitions with the highest sports level for this age category, i.e. in the U-17 Polish Central Football League of Juniors (nationwide league). The study was conducted in January 2020 in Wrocław (Poland).

Research method

In this study, the Personality Inventory NEO-FFI by Costa and McCrae (2007) was used to determine personality traits in a five-factor approach called the “Big Five” [26].

The NEO-FFI Personality Inventory is one of the basic methods used in psychology to assess human personality traits and, according to many researchers, is also the best method. His formula is based on self-description. It consists of a series of items which, when aggregated, represent the overall result of a given rule. This makes it possible to measure the severity of a given personality trait. The standard questionnaire consists of a set of statements. The task of the respondent is to answer them in accordance with the procedure specified in the questionnaire. The objectified assessment of the responses allows the researcher to obtain quantitative results. The characteristic features of the results obtained are their reliability, normalization as well as the accuracy of the answers. The questionnaire also contains instructions that are designed to determine the purpose of the study and indicate the correct way to answer and assess your own behaviour. The basis of the described research method is a manual containing a description of the measuring scale, answer key, standard tables, principles of interpretation of results and the theoretical basis of the measuring scale. The NEO-FFI Personality Inventory consists of 60 statements in total: 12 for each of the scales:

- Neuroticism (anxiety, angry hostility, depression, impulsiveness, vulnerability, self-consciousness);
- Extroversion (gregariousness, warmth, assertiveness, activity, excitement-seeking, positive emotions);
- Openness to experience (fantasy, aesthetics, feelings, actions, ideas, values);
- Agreeableness (trust, straightforwardness, altruism, compliance, modesty, tendermindedness);
- Conscientiousness (competence, order, dutifulness, achievement striving, self-discipline, deliberation) [26].

The respondents had to respond to the following scale: 1 - "I strongly disagree", 2 - "I disagree", 3 - "I have no opinion", 4 - "I agree", 5 - "I strongly agree". The responses marked by the subjects were calculated as follows. For each selected answer a given number of points was awarded, which was added according to the answer key (from 0 to 4 points). The total number of points that can be scored by the respondent is on a scale of 0 to 48 points. The higher the number of points obtained on a given scale, the higher the level of severity of a specific personality trait.

Statistical analysis

Statistical analyses were carried out using the SPSS Statistic 24 program. First, the frequency of quantitative variables and the normal distribution test were described. The threshold of $\alpha = 0.05$ was considered key. Statistical probability results at the level of $0.05 < p < 0.1$ were interpreted as significant at the stage of the statistical trend. To check if the quantitative variables have a normal distribution, the Kolmogorov-Smirnov test was performed. Student's t-test was used to compare the groups studied. The relationship between

the Big Five factors and gender was checked. Correlation of r Persona was carried out.

The estimation of the results is based on the following indicators: frequency (N, n); mean (M); minimum; maximum; standard deviation (\pm); variance; kurtosis; skewness; degrees of freedom (*df*); significance level, probability (*p*).

RESULTS

The results for the NEO-FFI Personality Inventory variables they have a normal distribution. The highest intensity of a trait among the total number of surveyed footballers was found for conscientiousness, the lowest – neuroticism (Table 1).

The similarity of average results between groups of footballers concerns Openness to experience, agreeableness and conscientiousness (Table 2).

There is an average negative relationship between gender and neuroticism $r = -0.33$; $p > 0.01$. This means that gender affects differences in the intensity of neuroticism (Table 3).

There is no statistically significant relationship between sex and other personality traits (Table 4).

The male players ($M = 18.47 \pm 9.06$) differ statistically significantly from the female players ($M = 23.90 \pm 6.69$) in neuroticism, $t(53, 37) = 2.643$; $p < 0.1$. The size of the Cohen *d* effect is $= 0.06$. There are differences in the level of neuroticism among respondents based on sex (Figure 1).

The male players ($M = 29.30 \pm 7.15$) do not differ statistically significantly from the female players ($M = 32.50 \pm 6.458$), $t(58) = -1.819$; $p < 0.70$. The size of the Cohen *d* effect is $= 0.063$ (Figure 2).

Table 1. Normal distribution for quantitative variables football players ($n = 60$).

Statistical indicator	NEO-FFI Personality Inventory variable				
	N	E	O	A	C
Average	21.18	30.90	26.82	27.33	31.65
Standard deviation	8.35	6.94	6.34	6.21	7.38
Test statistics	0.060	0.077	0.070	0.106	0.075
Asymptotic significance (two-sided)	0.200	0.200	0.200	0.092	0.200

Table 2. Basic descriptive statistics for quantitative variables.

Gender	Statistical indicator	Age	NEO-FFI Personality Inventory variable				
			N	E	O	A	C
Women (n = 30)	Average	20.47	23.90	29.30	27.37	27.33	32.23
	Standard deviation	2.92	6.68	7.15	5.84	7.02	6.14
	Minimum	16	13	4	17	9	19,00
	Maximum	28	37	40	38	39	46,00
	Variance	8.53	44.71	51.18	34.10	49.40	37.77
	Kurtosis	0.118	-0.582	4.284	-1.071	0.536	0.078
	Skewness	0.570	0.428	-1.505	-0.001	-0.690	0.002
Men (n = 30)	Average	21.73	18.47	32.50	26.27	27.33	31.06
	Standard deviation	3.79	9.05	6.45	6.87	5.39	8.52
	Minimum	16	4	18	16	17	16,00
	Maximum	31	36	44	46	36	48,00
	Variance	14.40	82.05	41.70	47.23	29.12	72.61
	Kurtosis	0.789	-1.087	-0.610	0.973	-0.828	-0.256
	Skewness	0.987	0.144	-0.288	0.692	-0.418	0.171
Altogether (n = 60)	Average	21.10	21.18	30.90	26.82	27.33	31.65
	Standard deviation	3.41	8.35	6.94	6.34	6.21	7.38
	Minimum	16	4	4	16	9	16,00
	Maximum	31	37	44	46	39	48,00
	Variance	11.68	69.81	48.26	40.28	38.59	54.60
	Kurtosis	1.028	-0.620	2.531	0.076	0.280	-0.026
	Skewness	0.952	-0.074	-0.959	0.374	-0.604	0.048

Table 3. Relationship between gender and personality indicators surveyed footballers (n = 60).

Statistical indicator	NEO-FFI Personality Inventory variable				
	N	E	O	A	C
Pearson correlation	-0.328*	0.232	-0.087	0.000	-0.080
Severity (two-sided)	0.011	0.074	0.507	1.000	0.545

Table 4. Differences between the intensity of personality traits in football players.

NEO-FFI Personality Inventory variable	T equality test			
	Cohen's d	T	Df	Materiality (two-sided)
N	0.068	2.643	53.370	0.011
E	0.063	-1.819	58	0.074
O	0.695	0.668	58	0.507
A	0	0.000	58	1.000
C	1.14	0.608	58	0.545

The male competitors ($M = 26.27 \pm 6.87$) do not differ statistically significantly from the female competitors ($M = 27.37 \pm 5.84$) in terms of openness to experience, $t(58) = 0.668$; $p < 0.50$. The size of the Cohen d effect is $= 0.695$ (Figure 3).

The male players ($M = 27.33 \pm 5.397$) do not differ statistically significantly from the female players ($M = 27.33 \pm 7.029$) in terms of agreeableness, $t(58) = 0.000$; $p < 1.0$. The size of the Cohen d effect is $= 0.6$. Figure 4 visually the lack

of differences between the groups, but the standard deviation takes different values, which means that women are more diverse in terms of this personality trait.

The male competitors ($M = 31.06 \pm 8.52$) do not differ statistically significantly from the female competitors ($M = 32.23 \pm 14$) in conscientiousness, $t(58) = 0.608$; $p < 0.54$. The size of the Cohen d effect is $= 1.14$ (Figure 5).

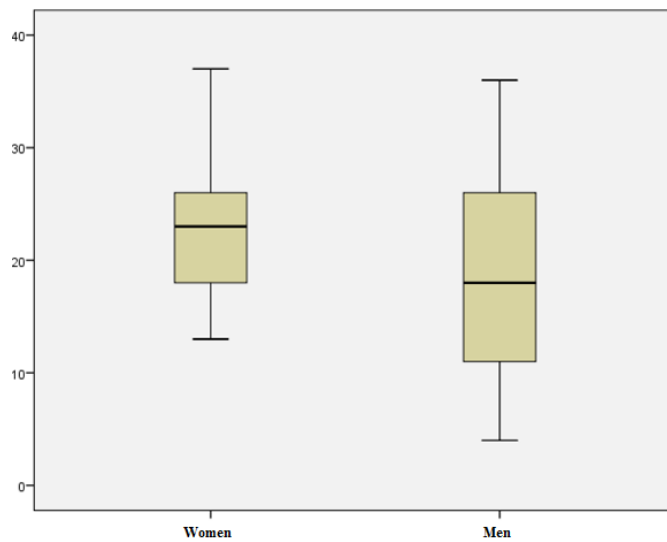


Figure 1. Differences in the severity of neuroticism between female footballers ($n = 30$) and male footballers ($n = 30$).

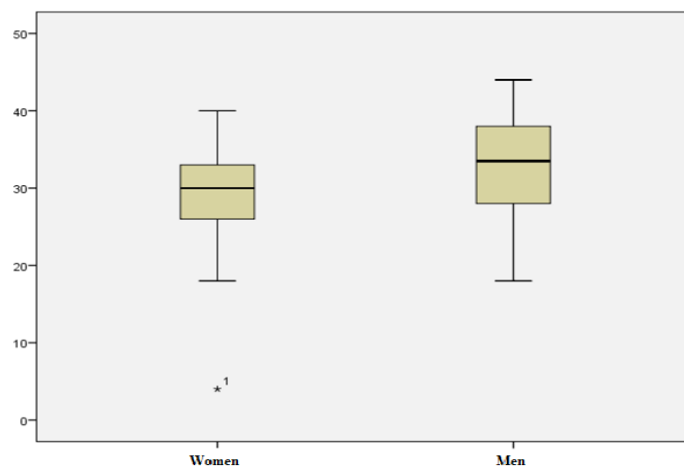


Figure 2. Differences in the severity of extroversion between female footballers ($n = 30$) and male footballers ($n = 30$).

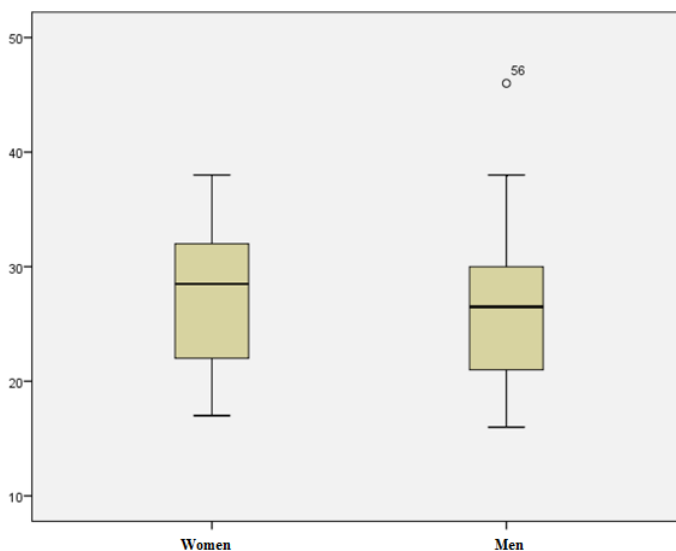


Figure 3. Differences in the severity of openness to experience between female footballers (n = 30) and male footballers (n = 30).

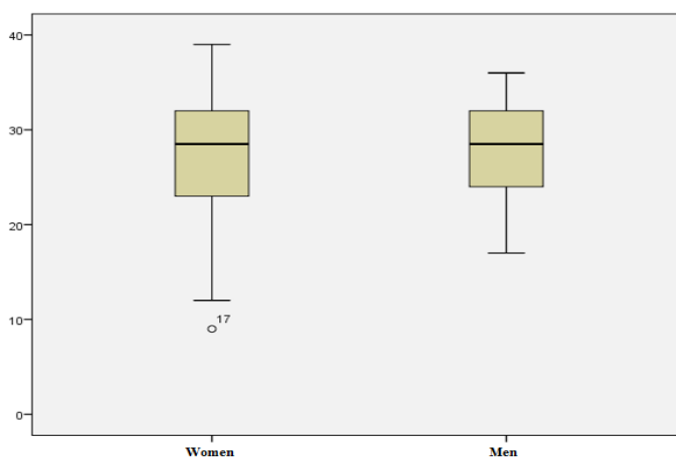


Figure 4. Differences in the severity of openness to agreeableness between female footballers (n = 30) and male footballers (n = 30).

DISCUSSION

Gender in various studies is usually treated as a dichotomous variable: woman vs. man. It is based on human anatomy, ignoring the complexity of this sphere of the psyche, which clearly connects with gender. A lot of data on human cognitive functioning and the course of the process of sexual differentiation suggest that psychological gender may play an extremely important role. Its most important aspects include: sex / gender identity – the individual’s internal conviction of belonging to a given sex, regardless of its anatomy; and sex / gender role

– a set of personality traits which, according to the canons in force in a given culture, are considered typical for women, e.g. emotionality, sensitivity to the needs of others, or characteristic for men, e.g. the need for domination, a focus on success [27].

In the study, only one statistically significant difference in the dimension of neuroticism was noted. Other personality traits were at a similar level. It was confirmed that female football players had less emotional stability (higher neuroticism) in relation to male football players

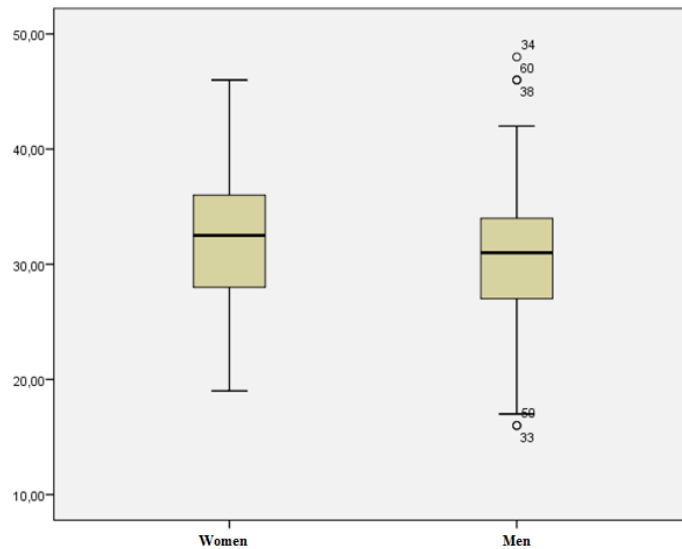


Figure 5. Differences in the severity of conscientiousness between female footballers (n = 30) and male footballers (n = 30).

and showed a personality profile characteristic of athletes in each discipline: low neuroticism, high extraversion and conscientiousness, as well as average openness to experience and agreeableness [28-32].

In the interpretation of the obtained data on gender differences in terms of personality traits, it can be seen that they focus around the main core of gender stereotypes, which are the expressive orientation of women and instrumental orientation of men. This result is consistent with other meta-analyses, especially regarding empathy [33-36]. They indicate a significant advantage of women in empathy and this is related to sensitivity to others [37]. In general: the only feature that reveals more significant gender differences is neuroticism. Women are more prone to anxiety and depression, and are also more emotionally sensitive, i.e. the same stimuli cause a stronger reaction than men. In terms of extraversion, gender differences are different for different aspects of this trait – men are more assertive and seeking sensations, while women are warmer, more sociable and reveal more positive emotions. However, all these gender differences are small, although they exceed the level of random fluctuations. The differences in terms of other features are even smaller. Women are slightly more open (especially to feelings), agreeable and conscientious [38].

Contrary to what the theory of social roles predicts, these slight gender differences do not

disappear in societies with greater equality for women. On the contrary, the greatest differences are found in Europe and North America. Contrary to evolutionary explanations, however, these differences change strongly culturally. For example, differences in neuroticism are the weakest in Zimbabwe (0.02), South Africa (0.08) and Japan (0.09), while the strongest are in Croatia (0.75), France (0.71) and Italy (0.70). The reasons for this variation remain unknown [39].

Analysing the course of the process of human sexual differentiation, it can be seen that in addition to the inherited genotype, the external environment has a great impact on the development of the individual. Initially, fetal life, later, after birth, social life. In the prenatal period, the level of sex hormones from both the mother and the fetus is of great importance. Later, after birth, the upbringing adopted in a particular cultural circle has a huge impact on the child. The child learns that certain behaviours are characteristic for boys / men, others for girls / women [40, 41].

In this place we emphasize the importance of optimal physical activity in shaping human personality. At school by physical education [42, 43] and also in defence formations [44-47]. In free time by tourism, recreation and sport for all [48, 49]. In sport (more or less professional) by competition [50-55]. In the treatment of injuries by physiotherapy [56-59]. In maintaining health through

health-relation training (now more often called: adapted physical activity – APA) [60-64] from simple methods and forms [65] to extremal form of physical activity [28, 3, 66-68], but under the guidance of competent specialist [68, 69]. The often recommended martial arts (combat sports) should be adapted very carefully as attractive forms of APA for the elderly and various groups of increased risk of falling [69-72].

CONCLUSIONS

The personality of people practicing football was typical for sports people: low neuroticism, high extraversion and conscientiousness, and average openness to experience and agreeableness. Female football players were more neurotic (less emotionally stable) than male football players. The view was taken that sports activity and gender shape the personality of athletes.

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