

PSYCHOLOGY

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Personality profile of women practising contact sports using the example of karate kyokushin competitors and handball players

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Abstract

Background and objective. Differences in the psyche of sportsmen and sportswomen are ambiguous. However they can be seen in contact sports. This study has been an attempt at evaluating the personality profile of women practising contact sports.

Material and methods. The study involved the best Polish female *karate kyokushin* competitors (n=30) and female handball players (n=30) aged 20-29. The method incorporated the use of the NEO-FFI questionnaire. The statistical analysis was made with Statistica 13.1 software.

Results. The female *karate kyokushin* competitors and female handball players differ from each other (raw score) on the scales of extraversion, openness to experience and conscientiousness. In sten scores, on the other hand, the significant difference between the groups studied was only at the scale of openness to experience.

Conclusions. The personality profile of the female contact sports competitors incorporates average neuroticism, extroversion, openness to experience and compliance as well as high conscientiousness. The differences in the personality scales are a result of the specific nature of the sports discipline, individual or team sports, practised. The personality indicator which differentiates men from women is neuroticism.

Introduction

For years the studies of human personality have provided information on the dependence of human traits of behaviour on the preferred sports disciplines. The five-factor personality traits (NEO-FFI) differentiate the scales defining the key components of human personality. Thanks to it today we know the profile characteristic for the sportspeople as the persons aiming at self-improvement and competition [Allen *et al.* 2011; Allen *et al.* 2013; Allen, Laborde 2014; Anghel *et al.* 2009; Backmand *et al.* 2003; Bara Filho *et al.* 2005; Blecharz 2006; Bleidorn *et al.* 2010; Boostani *et al.* 2013; Busato *et al.* 2000; Ekinci, Hosany 2006; Frew, Shaw 1999; Fuller 2011; Hill *et al.* 2010; Hogan, Blake 1999; Ilyasi, Salehian 2011; Kajtna *et al.* 2004; Litwiniuk *et al.* 2009; McKelvie *et al.* 2003; Mirzaei *et al.* 2013; Piedmont *et al.* 1999; Piepiora 2015; Piepiora, Piepiora 2015; Piepiora, Witkowski 2018; Piepiora *et al.* 2015, 2016b, c; 2017a, b, c, d, e; 2018a, b; 2019a, b, c, d; Shipley *et al.* 2007; Shrivastaval *et al.* 2010; Terracciano *et al.* 2013; Tok

2011; Tolea *et al.* 2012; Witkowski *et al.* 2017; Zdebski, Blecharz 2004]. Besides sports studies confirm essential differences in the physical potential of women and men. The differences in social behaviour and cognitive skills are low. However the differences in the variables related to convictions and most of the aspects of cognitive functioning and motivation are non-significant and so one must expect greater individual than intergender differences [Fredricks, Eccles 2005; Hyde 2005].

With the above in mind, the question about the personality of the women taking up competition in contact sports seems interesting. It seems reasonable to consider the gender identity of women practising contact sports. The studies performed so far suggest that under the conditions which require resistance, initiative and independence, women with psychological androgenic and male traits (low neuroticism) should do better than those with a high level of femininity [Abrahamsen *et al.* 2008; Burke 1986; Helmreich *et al.* 1981; McCarthy *et al.* 2008; McElroy, Kirkendal 1980; Stockel *et al.* 2010]. Such dependence should be especially clear

in reference to contact sports disciplines. With that in mind the aim of this study has been an attempt at evaluating the personality profile of the women practising contact sports.

Material and methods

For the purpose of the study the sportswomen (N=60) were selected from an individual and team contact sports. Karate *kyokushin* was selected as an individual contact sport. It is the toughest variation of karate with a knock-down system [Piepiora 2015; Piepiora *et al.* 2016a]. For that sample, purposefully the best Polish female *kumite karate kyokushin* competitors (n=30) aged 20-29 were taken, including the winner of World, European and Poland's Championships. Handball was chosen as a team contact sport as, unlike in football and basketball, in women's handball there are many fouls during the games [Wagner *et al.* 2014]. The sample was made up by the female players of PGNiG Women's Handball Super League (n=30) representing 4 clubs, including 8 female players of the Polish Representation aged 20-29. The criterion of including the female players in the study was many-year sports experience, competitor's licence, impeccable credentials statement by the coach; documented sports achievements at various competition levels (national, continental, global). The exclusion criterion involved ethical reservations or unsparty lifestyle, no recommendation of the coach.

As an empirical criterion of verifying the working hypothesis we have assumed the personality model based on the “big five” NEO-FFI scales: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness, often represented with the acronyms NEOAC, OCEAN or CANOE. Each of the five scales includes 12 items. The raw score for each scale ranges from 0 to 48. The higher the numerical value at the scale, the higher the intensity of a given trait (a higher number of diagnostic responses stands for a greater intensity of the traits of a given person) [Costa Jr., McCrae 2007; McCrae, Costa Jr. 2003; Wiggins 1996].

The statistical analysis was made with Statistica 13.1 software using post-hoc tests to compare the

results of both sports disciplines and to identify the significant differences. Significant samples were those at $p < 0.05$. The project was accepted by the Senate Commission for the Ethics of Scientific Research of the University School of Physical Education in Wrocław under no 20/2019.

Results

The results of the statistical analysis of raw scores at respective female competitors personality scales are given in Table 1. The grouping data has been assumed as a sports discipline. Correlation is marked in red.

Female karate *kyokushin* competitors showed significantly higher extraversion ($p > 0.043$); openness to experience ($p > 0.000$) and conscientiousness ($p > 0.044$) than the female handball players. Raw scores are given in Fig. 1.

Table 2 provides the values expressed in sten scores (measure in psychology).

Interpreting the sten scores, significant differences occurred in the scale of openness to experience ($p > 0.000$); the female *karate kyokushin* competitors scored higher than the female handball players. The sten scores are given in Fig. 2.

The authors of the questionnaire NEO FFI specified a sten score range for the personality traits intensity between 1 and 3 as low, 4 and 6 as average and between 7 and 10 as high. With it, the female competitors personality profile has been determined:

- *karate kyokushin* (individual contact sport); average neuroticism, openness to experience and agreeableness, high extraversion and conscientiousness;
- handball (team contact sport); average neuroticism, extraversion, openness to experience and agreeableness, high conscientiousness.

The averaged scores for all the female competitors studied (*karate kyokushin* and handball, N=60) developed the following profile of the contact sports competitors: average neuroticism, openness to experience and agreeableness, high extraversion and conscientiousness.

Table 1. Groups breakdown; raw scores.

	Mean	Mean	t	df	p	Standard deviation	Standard deviation	quotient F	p
	Karate kyokushin	Handball				Karate kyokushin	Handball	Variance	Variance
Neuroticism	17.9	21.36667	-1.84315	58	0.070419	7.321909	7.246799	1.020837	0.956098
Extraversion	33.9	31.13333	2.06468	58	0.043434	4.901442	5.462937	1.242237	0.562937
Openness to experience	29.5	24.13333	3.50214	58	0.000895	6.279414	5.569209	1.271309	0.522147
Agreeableness	31.63333	30.3	0.84595	58	0.401058	5.665889	6.513381	1.32153	0.457462
Conscientiousness	37.23333	34.23333	2.05577	58	0.044315	5.40551	5.887938	1.18646	0.648292

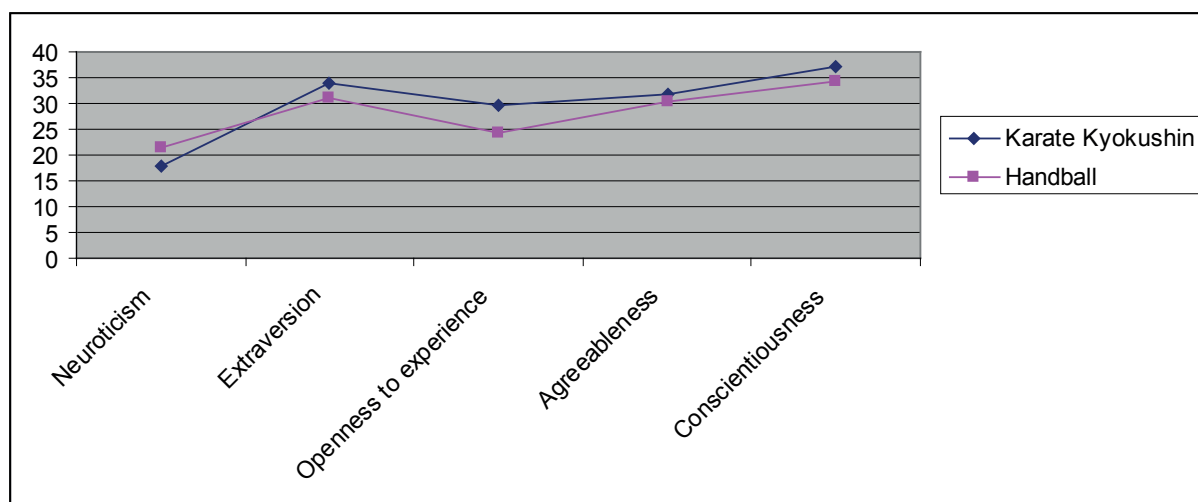


Fig. 1. Personality curves for he groups studied; raw scores.

Table 2. Breakdown of the groups studied; sten scores

	Mean	Mean	t	df	p	Standard deviation	Standard deviation	quotient F	p
	Karate kyokushin	Handball				Karate kyokushin	Handball		
Neuroticism sten score	3.66667	4.13333	-1,0946	58	0.278218	1.708666	1.591645	1.15245	0.704974
Extraversion sten score	7.3	6,46667	1,95691	58	0.055177	1.512021	1.775957	1.379588	0.391351
Openness to experience sten score	5.73333	3,76667	4,21688	58	0.000088	1.964045	1.633345	1.445928	0.326282
Agreeableness sten score	6.33333	5,76667	0.93431	58	0.354019	2.122675	2.555364	1.449235	0.323311
Conscientiousness sten score	8.13333	7,3	1.89769	58	0.062718	1.547709	1.841102	1.415067	0.355232

Discussion

The results have shown that the personality profile of karate kyokushin competitors did not differ from the handball players profile considerably, which is due to the specific nature of both disciplines of contacts sports. In karate kyokushin (an individual contact discipline) the competitions allow for hits on the body trunk, limbs and kicks on the trunk, limbs and the head. Te scores are awarded to competitors for causing a temporary or complete incapacity of the competitor for a further fight. It is a contact sport in which the power of the punch thrown is as important as the technique. In handball, on the other hand (team contact discipline) pushing and jerking the opponent is acceptable to develop a convenient position. An excessive contact during the game or fouls are subject to the sanction of excluding the player for 2 minutes. Any contact with the opponent which is not described in the game regulations is allowed. Thus we can assume that slight differences in respective scales of personality of the competitors must have been due to a specific nature of the sports discipline practised.

The existing studies of the sports psychology present the personality profile of the men practising contact sports as low neuroticism, high extraversion and conscientiousness, average openness to experience and agreeableness. The personality profile of the contact sports female competitors, on the other hand, demonstrates an average neuroticism, openness to experience and agreeableness as well as high extraversion and conscientiousness [Soto *et al.* 2008; Unestahl 2013]. It was found that the women show a greater fear before the sports competition than men. However there are no intergender differences in the dependence between neuroticism and motivation [Anshel, Kaissidis 1997; Anshel, Sutarso 2007; Twenge 1997]. There are differences in the engagement of women in contact sport which, to much extent, are a consequence of the stereotypization of the gender-related roles [Buman *et al.* 2008; Nien, Duda 2008]. Stereotypization affects the behaviours of parents and thus the convictions of young sportspeople of both sexes [Burnet, Sabiston 2009; Tenenbaum, Connolly 2008]. The differences between genders concern e.g. the kinds of the most

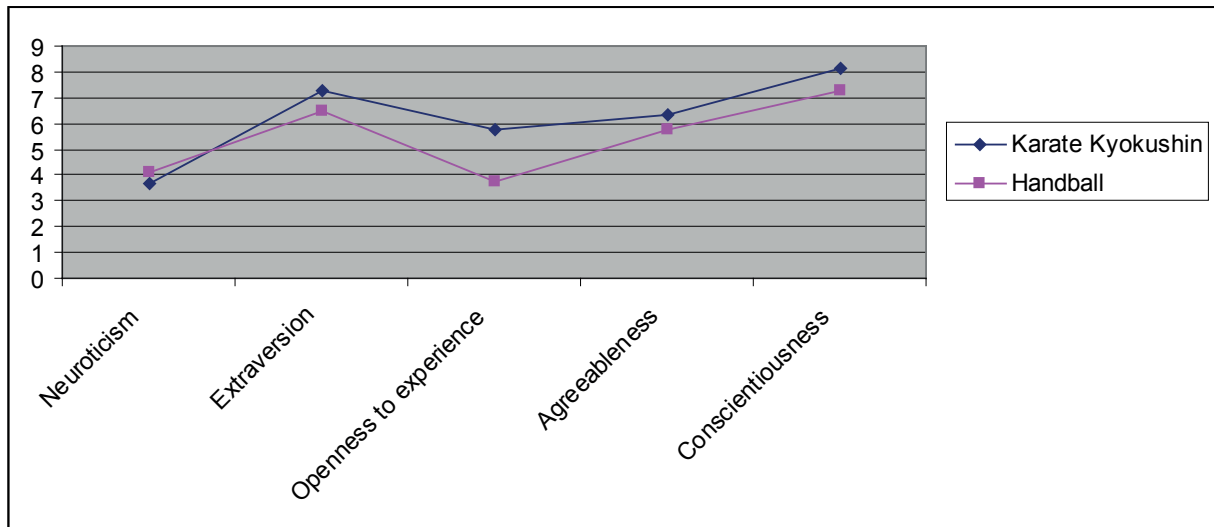


Fig. 2. Personality curve for the groups studied; sten scores.

frequently practised sports disciplines, neuroticism but the dependences between the variables of motivations and convictions are similar for the competitors of both sexes [Chalabae *et al.* 2009; Slater, Tiggerman 2010]. The social stereotype of the contact sport highlights its location in the male culture. In the popular opinion contact sport is more for men than for women [Lewko, Ewing 1980; Matteo 1986; Salminen 1990; Taylor, Hall 1982]. The stereotype of contact sport assumes that most competitions the women have not practised are male sports. Thus any attempts made by women to practise them face social resistance. The female competitors who have decided to practise male sports disciplines can be exposed to more or less subtle forms of social ostracism. After some time when a male discipline being practised by women becomes reality the stereotype changes. A given sports discipline is no longer perceived by the society as definitely male as it used to be. Parallel to that process the level of social ostracism and disapproval for the women practising a given discipline lowers. The female participation acquires the status of normality and so today contact sports practised by women do not shock the public opinion.

Conclusions

1. The personality profile of the female competitors of contact sports involves an average neuroticism, openness to experience and agreeableness as well as high extraversion and conscientiousness.
2. Practising various contact sports disciplines differentiates the female competitors in terms of their personality. Female *karate kyokushin* competitors (individual contact sport) and female handball players (team contact sport) differed from each other on the scales of extraversion, openness to experience and conscientiousness. The differences in the personality

scales are due to a specific nature of the sports discipline practised, individual or team.

3. The personality trait which differentiates men from women in contact sports is neuroticism.

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Profil osobowości kobiet trenujących sporty kontaktowe na przykładzie zawodniczek karate kyokushin i piłkarek ręcznych

Słowa kluczowe: psychologia sportu, osobowość, psychologiczny profil, sporty kontaktowe

Streszczenie:

Tło i cel. Różnice w psychice sportowców i sportsmenek są niejednoznaczne. Ale mogą być widoczne w sportach kon-

taktowych. Założeniem niniejszego badania była próba oceny profilu osobowości kobiet trenujących sporty kontaktowe.

Materiał i metody. Do badania dobrano najlepsze polskie sportsmenki z karate kyokushin (n=30) oraz piłki ręcznej (n=30) w wieku 20-29 lat. Jako metodę wykorzystano kwestionariusz NEO-FFI. Analizę statystyczną wykonano za pomocą programu Statistica 13.1.

Wyniki. Zawodniczki karate kyokushin i piłkarki ręczne różnią się między sobą (wynik surowy) w skalach ekstrawersji, otwartości na doświadczenia i sumienności. Natomiast w skali stenowej różnica statystycznie istotna między badanymi grupami wystąpiła tylko w skali otwartości na doświadczenia.

Wnioski. Profil osobowości zawodniczek sportów kontaktowych to przeciętna neurotyczność, ekstrawersja, otwartość na doświadczenia i ugodowość oraz wysoka sumienność. Różnice w skalach osobowości są wynikiem specyfiki trenowanej dyscypliny sportowej, indywidualnej bądź zespołowej. Wskaźnikiem osobowości, który determinuje mężczyzn od kobiet w sportach kontaktowych jest neurotyczność.