

Personality traits and stress coping styles in the Polish National Cadet Wrestling Team

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Maciej Tomczak^{1ABCDE}, Grzegorz Bręczewski^{1ABCD}, Marek Sokołowski^{2ABCD}, Alicja Kaiser^{3ABCD}, Urszula Czerniak^{4ABCD}

¹Department of Psychology, University School of Physical Education in Poznań, Poland

²Department of the Methodology of Physical Education, University School of Physical Education in Poznań, Poland

³Department of Tourism, Wielkopolska Higher School of Tourism and Management in Poznań, Poland

⁴Department of Anthropology and Biometry, University School of Physical Education in Poznań, Poland

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Abstract

Background & Study Aim: The aim of this work is to characterize personality traits and different stress coping styles in wrestlers from the Polish National Cadet Wrestling Team, as well as to define the relation between the wrestlers' personality factors and their styles of coping in stressful situations.

Material & Methods: The participants were 20 cadets from the Polish National Team (10 girls and 10 boys). This study used the NEO-FFI Personality Inventory by Costa and McCrae to determine wrestlers' personality traits. The coping styles presented below were assessed using the Coping Inventory of Stressful Situations (CISS) questionnaire by Endler and Parker.

Results: The sample was characterized by low neuroticism, high extraversion, low openness and high conscientiousness in comparison with the general population. When faced with difficult situations, wrestlers exhibited avoidance-oriented coping style. Female wrestlers with high neuroticism and low conscientiousness preferred emotion-oriented coping. On the other hand, less agreeable female wrestlers were characterized by task-oriented coping. Moreover, male wrestlers with higher conscientiousness showed a preference for task-oriented coping as opposed to wrestlers with lower conscientiousness. Both, the more agreeable and less conscientious male wrestlers were characterized by emotion-oriented coping.

Conclusions: Personality traits within the sample group are significantly different from those in the general population. Personality is a good predictor for coping styles in wrestlers. An accurate diagnosis of the type of personality in early stages of training may help identify wrestlers' tendency to develop less adaptive coping strategies, which is characteristic of more neurotic and less conscientious contestants.

Key words: personality • stress • coping styles • the national team • highly effective wrestlers

Author's address: Tomczak Maciej, Department of Psychology, University School of Physical Education, Królowej Jadwigi 27/39, 61-871 Poznań, Poland; e-mail: maciejtomczak5@gmail.com

Personality – according to trait theories human personality consists of various traits, which account for an individual's relatively coherent behaviour

The Five Factor Model (FFM) – a model of personality by Paul Costa and Robert McCrae assuming that human personality is composed of the five main traits: neuroticism, extraversion, openness to experience, agreeableness, conscientiousness

Stress – the relation between an individual and his/her environment's demands, which is perceived by the individual as burdensome, overwhelming or threatening his/her well-being; stress is an effect of the individual's interactions with his/her social environment

Coping with stress – cognitive and behavioural efforts aimed at controlling, reducing and tolerating external or internal demands established by an individual in a stressful situation

Stress coping style – a relatively permanent, individual-specific way of facing difficulties in stressful situations

Predictor variable – an independent variable in a regression model

Beta – standardized regression coefficient

INTRODUCTION

There are many data-driven research findings on the relation between human personality and an individual's effectiveness in functioning in various fields of life. Assuming that personality is a set of traits, researchers strive to describe, explain and predict human behaviour in many different areas, such as professional life, school, family life, free time, etc. The concept of personality that is most frequently used nowadays is "The Big Five" model. Its empirical verification allows to distinguish the five major aspects of personality, which are as follows: neuroticism, extraversion, openness to experience, agreeableness, conscientiousness [1-4]. It has been proven, for example, that the conscientiousness factor is significantly and positively related to effectiveness in the workplace, or to school achievements [5,6]. Extraversion, for instance, is a discriminating factor in predicting the level of effectiveness in the profession of managers and shop assistants [6]. Thus, it is common practice to search for a correspondence between certain dimensions of personality and one's sporting performance. Personality traits are vital in determining different measures of effectiveness of action taken in sport and in indicating different kinds of behaviour manifested in a difficult sporting situation [7-9].

Tense and stressful situations are part and parcel of competitive sports. The ability to handle stress in a difficult situation is often the factor determining contestants' sporting effectiveness. Stress management can be defined in many different ways. For example, Lazarus and Folkman's [10] coping theory sees it as the cognitive or behavioural transformation of a difficult situation by a person, a transaction between the person and his/her environment. The three basic coping strategies are: task-oriented coping, emotion-oriented coping and avoidance-oriented coping [10,11]. A considerable number of studies investigate strategies of coping, understood as certain actions and reactions taken by the contestant at a stressful moment, for example in a starting situation [12]. However, few studies focus on coping styles understood in terms of a general, permanent feature or predisposition of a person to deal with stress in a particular way. The advantage of the latter approach is that it concentrates on the general tendency to cope with stress not only in sport, but also in everyday life. Diagnosing a preference for a more general coping style in the period of subjects' younger age will significantly contribute to helping wrestlers who have the tendency for a non-adaptive and more individual coping strategy or style to develop. It is often emphasized that an adaptive coping style is distinctive for its concentration on a set task; – the subject who is faced with a stressor

(before a competition or a fight) tries to actively solve the problem or to cognitively transform the situation by, for example, making a systematic plan of action. Emotion-oriented coping is considered a less adaptive style, since the subject concentrates on his/her emotions, which, additionally, fosters agitation and anxiety and prevents effective sports performance.

One of the factors that generates stress in competitive sports is the inevitability of competition. Of the many sports disciplines, combat sports are among those which provide the most direct contact with an opponent, and thus, the ambition to compete. Surely, wrestling occupies a high position among combat sports. It is tempting to suggest that the effective performance in combat sports is conditioned by a contestant's ability to cope with stress [13-15], which is highly dependent on one's personal predispositions [16-19]. The main objective of this work is to characterize the personality and the coping style of wrestlers from the Polish National Cadet Wrestling Team, and to investigate the relation between wrestlers' personality factors and different ways of handling stress in a difficult situation.

MATERIAL AND METHODS

The research was carried out on a group of cadets from the Polish National Wrestling Team qualifying for the 1st Youth Olympic Games (YOG) held in Singapore from 14 to 26 August 2010. The study examined 20 contestants (10 girls and 10 boys). The average period of training was 5 years (5.5 years for the girls and 4.4 years for boys); the average period of the membership in the national team was 20 months (30 months for girls and 15 months for boys). The average age of the sample group was 16.5 years for boys ($M=16.50$; $SD=0.53$) and 15.6 years for girls ($M=15.60$; $SD=0.52$).

The measurement of particular dimensions of personality was enabled by using Costa and McCrae's NEO-FFI Personality Inventory, adopted into Polish studies by Zawadzki, Strelau, Szczepanik and Śliwińska [20]. The concept of personality by Costa and McCrae distinguishes five main domains based on The Five Factor Model of Personality (FFM) also known as "The Big Five", each domain consisting of six component parts.

According to "The Big Five" model, human personality is composed of the following:

1) Neuroticism: a dimension reflecting an individual's emotional stability vs. instability; it also expresses susceptibility to negative emotions [20];

2) Extraversion: a dimension characterizing the quality and quantity of an individual's social interactions, as well as the level of stimulation, energy and positive emotions [20];

3) Openness to experience: a dimension describing an individual's tendency to value his/her life experiences positively, to develop a tolerance for new ideas and indicating a potential for cognitive curiosity [20];

4) Agreeableness: a dimension reflecting an individual's positive vs. negative attitude towards other people, as well as his/her interpersonal inclination to altruism vs. antagonism in action, emotion and thought [20];

5) Conscientiousness: a dimension assessing an individual's levels of self-discipline, persistence in action and motivation when faced with a goal – in other words, this domain describes a person's attitude to work [20].

Stress coping styles were defined on the basis of the Coping Inventory of Stressful Situations (CISS) questionnaire developed by Endler and Parker, which was adopted into the Polish studies by Strelau, Jaworska, Wrześniewski and Szczepaniak [21]. The questionnaire has three 18-point scales, which refer to the following ways of coping with stress:

A) task-oriented coping (P): a strategy based on focusing on the problem to be solved through a cognitive transformation of a difficult situation or through the very attempts to change the situation; task-oriented individuals try to conquer difficulties by taking definite actions or making plans that will contribute to the solving of the problem [21];

B) emotion-oriented coping (A): a tendency to concentrate on oneself and on one's emotions (anger, sense of guilt, tension); an inclination to wishful thinking and fantasizing in stressful situations. By definition, this strategy is designed to release the tension in an individual, but it may, sometimes, increase stress and produce even more tension and depression [21];

C) avoidance-oriented coping (EI): a style characteristic of individuals who tend to avoid thinking about the stressor or experiencing stress in a difficult situation. The avoidance-oriented strategy is broken down into 1) distraction (E) or engaging oneself in other substitutive activities such as binge eating, watching television, reading books, sleeping; 2) social diversion (I), which is manifested by seeking social contacts to forget about the stressor [21].

Statistical analysis

The results obtained in the study were expressed on the standardized Sten scale, in which the population mean and the population standard deviation are 5.5 and 2.0, respectively. In order to compare male and female wrestlers with representatives of the general population of the same sex and in the same age range, Student's t-test for one sample was applied. The effect size was calculated using Cohen's formula, where: $d = \text{group mean} - \text{population mean} / \text{population standard deviation}$ (2.0), where $d=0.2$ – small effect size, $d=0.5$ – average effect size and $d=0.8$ – large effect size [22-24].

To compare the frequency of occurrence of particular coping styles with one another within each group of male and female wrestlers a two-way ANOVA was employed. The analysis with two levels of the between-group factor (sex - male, female) and with three levels of the within-subjects factor (three coping styles) was performed. Eta – squared (η^2) was calculated as a measure of effect size which determines the percent of explained variance for particular effects. Next, in order to make multiple comparisons, HSD Tukey's test was used [24].

To define the relation between personality traits and stress coping styles, this study used the correlation coefficient known as Pearson's r. In order to specify the best set of personality traits characterizing each individual coping style, the model of forward stepwise regression was applied [24].

RESULTS

The study showed that female wrestlers from the sample group scored significantly lower in neuroticism ($t=-2.667$; $df=9$; $p<0.05$; $d=-0.40$) and in openness to experience ($t=-2.437$; $df=9$; $p<0.05$; $d=-0.65$) in comparison with female non-wrestlers from the general population in the same age range (Tab. 1).

Moreover, female wrestlers were characterized by significantly higher levels of extraversion ($t=4.373$; $df=9$; $p<0.01$; $d=0.85$) and conscientiousness ($t=3.182$; $df=9$; $p<0.05$; $d=0.75$). Male wrestlers registered significantly higher in extraversion ($t=2.561$; $df=9$; $p<0.05$; $d=0.70$) and significantly lower in openness to experience ($t=-2.963$; $df=9$; $p<0.05$; $d=-0.55$) (Tab. 1). The differences indicating lower neuroticism ($t=-2.167$; $df=9$; $p=0.0584$; $d=-0.30$) and higher conscientiousness ($t=2.250$; $df=9$; $p=0.0510$; $d=0.75$) were very close to the border level of assumed statistical significance. The number of the researched group ($n=10$) is small (it

Tab.1. Comparison of personality traits and coping styles in male (n=10) and female (n=10) wrestlers with the general population in the same age range

Variables	Sex	\bar{x} g	SD	S.E. \bar{x} g	χ p	t(\bar{x} -GP)	df	p	d
NE	F	4.700	0.949	0.300	5.500	-2.667	9	0.0258	-0.40
	M	4.900	0.875	0.277	5.500	-2.167	9	0.0584	-0.30
EX	F	7.200	1.229	0.389	5.500	4.373	9	0.0018	0.85
	M	6.900	1.729	0.547	5.500	2.561	9	0.0306	0.70
OP	F	4.200	1.687	0.533	5.500	-2.437	9	0.0375	-0.65
	M	4.400	1.174	0.371	5.500	-2.963	9	0.0159	-0.55
AG	F	6.000	1.414	0.447	5.500	1.118	9	0.2925	0.25
	M	6.500	1.581	0.500	5.500	2.000	9	0.0765	0.50
CO	F	7.000	1.490	0.471	5.500	3.182	9	0.0111	0.75
	M	7.000	2.108	0.667	5.500	2.250	9	0.0510	0.75
P	F	5.500	0.850	0.269	5.500	0.000	9	1.0000	0.00
	M	4.700	1.059	0.335	5.500	-2.388	9	0.0407	-0.40
A	F	4.900	0.875	0.277	5.500	-2.167	9	0.0584	-0.30
	M	4.700	1.159	0.367	5.500	-2.181	9	0.0570	-0.40
EI	F	6.300	1.494	0.472	5.500	1.692	9	0.1247	0.40
	M	5.600	1.265	0.400	5.500	0.250	9	0.8082	0.05

NE – neuroticism EX – extraversion OP – openness AG – agreeableness CO – conscientiousness; P – task-oriented coping A – emotion-oriented coping EI – avoidance-oriented coping; F – female M – male; \bar{x} g – group mean \bar{x} p – population mean SD – group standard deviation; S.E. \bar{x} g – standard error of group mean; t (\bar{x} -GP) – value of Student’s t-test for one sample (comparison of the sample with the general population in the same age range); p – level of statistical significance; d – effect size calculated using Cohen’s formula [Group mean – Population mean (5.5) / population standard deviation (2.0), where: d=0.2 – small effect size d=0.5 – average effect size d=0.8 – large effect size]

was conditioned by high selectivity standards for the sake of the study) – nevertheless, the effects observed near the assumed border of statistical significance cannot be underestimated [24].

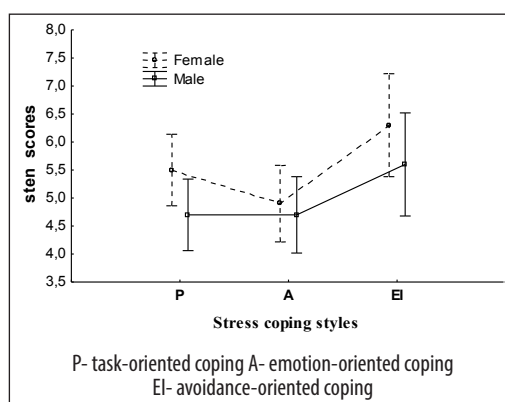


Fig. 1. Frequency of occurrence of stress coping styles in the population of male (n=10) and female (n=10) wrestlers.

As far as coping styles are concerned, female wrestlers displayed emotion-oriented coping less frequently than the females from the general population in the same age range (t=-2.167; df=9; p=0.0584; d=-0.30) (Tab.1). Male wrestlers were found to be using task-oriented styles less frequently than males from the general population (t=-2.388; df=9; p<0.05; d=-0.40); they also displayed less preference for the emotion-oriented coping style (t=-2.181; df=9; p=0.0570; d=-0.40) (Tab. 1).

The main effect of gender was not significant (F(1.18)=2.32; p=0.145; η^2 =0.11). Nor was the interaction effect of gender and coping factor (F(2.36)=0.56; p=0.571; η^2 =0.03), which indicates that the coping styles (functioning in this work as the “within-subjects” factor) were positioned closely enough against one another in the male and female group (Fig. 1). However, a main effect of the coping factor was significant, which suggests differences in the average frequencies of stress coping strategies (F(1.18)=7.82; p<0.01; η^2 =0.30). Tukey’s

Tab. 2. Correlation coefficients between dimensions of personality and stress coping styles in male (n=10) and female (n=10) wrestlers

Variables	Female			Male		
	P	A	EI	P	A	EI
NE	0.069	0.762	0.619	-0.395	0.077	0.060
	p=.850	p=.010	p=.056	p=.258	p=.833	p=.869
EX	-0.000	0.227	0.024	0.528	-0.349	-0.173
	p=1.00	p=.528	p=.950	p=.117	p=.323	p=.633
OP	-0.155	-0.060	-0.026	-0.339	0.016	-0.030
	p=.66	p=.869	p=.942	p=.337	p=.964	p=.935
AG	-0.647	0.359	-0.263	0.166	0.576	0.167
	p=.043	p=.308	p=.463	p=.647	p=.082	p=.645
CO	-0.526	-0.681	-0.549	0.796	-0.227	-0.083
	p=.118	p=.030	p=.101	p=.006	p=.528	p=.819

NE – neuroticism EX – extraversion OP – openness AG – agreeableness CO – conscientiousness
P – task-oriented coping A – emotion-oriented coping EI – avoidance-oriented coping

HSD Post-hoc test showed a significant increase in the frequency of occurrence of avoidance-oriented strategies in comparison with the less frequent emotion-oriented ($p<0.01$) and task-oriented ($p<0.05$) styles. Judging by the level of coping styles within the two sample groups, it may be concluded that the effect of the post-hoc analysis is present mainly among female wrestlers ($F(2,18)=5.50$; $p=0.013$; $\eta^2=0.38$). Tukey's test showed a significantly higher level of avoidance than the emotion-oriented coping ($p<0.05$).

What can be noted from the results (Tab. 2) is that in the female wrestling group there was a relatively strong, positive relation between neuroticism and emotion-oriented

coping strategies ($r=0.76$; $p<0.05$) and a negative relation between conscientiousness and emotional style ($r=-0.68$; $p<0.05$). A negative relation was observed between agreeableness and the task-oriented coping style ($r=-0.65$; $p<0.05$). Positive relation between neuroticism and avoidance-oriented coping, which was close to the border level of the assumed statistical significance ($r=0.62$; $p=0.056$). On the other hand, in the male group (Tab. 2) there was a positive and relatively strong relation between conscientiousness and task-oriented coping ($r=0.80$; $p<0.01$) that could be observed.

The only significant predictor for task-oriented coping in female wrestlers turned out to be agreeableness,

Tab. 3. The best set of predictors (personality traits) for the task-oriented coping style in female wrestlers (n=10) obtained on the basis of a forward stepwise multiple regression analysis

Step	Predictors	Beta (p-value)	St. Er. Beta	ΔR^2	R^2	Adj. R^2	F (p-value)
1	AG	-0.647(0.043)	0.269	0.419	0.419	0.346	5.765(0.043)

AG – agreeableness

Tab. 4. The best set of predictors (personality traits) for the emotion-oriented coping style in female wrestlers (n=10) obtained on the basis of a forward stepwise multiple regression analysis

Step	Predictors	Beta (p-value)	St. Er. Beta	ΔR^2	R^2	Adj. R^2	F (p-value)
1	NE	0.762(0.010)	0.229	0.581	0.581	0.523	11.108(0.010)

NE – neuroticism

Tab. 5. The best set of predictors (personality traits) for the task-oriented coping style in male wrestlers (n=10) obtained on the basis of a forward stepwise multiple regression analysis

Step	Predictors	Beta (p-value)	St. Er. Beta	ΔR^2	R^2	Adj. R^2	F (p-value)
1	CO	0.796(0.006)	0.214	0.633	0.633	0.588	3.838(0.006)

CO – conscientiousness

which accounts for ca. 42% of variance in the style ($R^2=0.42$; adjusted $R^2=0.35$; $p<0.05$) (Tab. 3). It was also noted that adding an additional predictor does not significantly increase the coefficient of determination.

The only significant predictor for the emotion-oriented coping style in females was neuroticism, which accounted for ca. 58% of variance in the style ($R^2=0.58$; adjusted $R^2=0.52$; $p<0.05$), as shown in Tab. 4. In the case of the avoidance-oriented style none of the predictors obtained the estimated level of statistical significance.

The only significant predictor for the task-oriented male wrestlers was conscientiousness, accounting for 63% of variance in the style ($R^2=0.63$; adjusted $R^2=0.59$; $p<0.01$), (Tab. 5).

Considering the emotion-oriented coping style in the male group, agreeableness, introduced in the first step, did not obtain the assumed statistical significance (Beta=0.58; $p=0.081$). However, when conscientiousness was introduced in the second step, the level of agreeableness exceeded in an estimated value ($p<0.05$). The full regression model also obtained the assumed statistical significance ($F(2,7)=5.51$; $p<0.05$). It comprised agreeableness and conscientiousness which together accounted for ca. 61% of variance in the style ($R^2=0.61$; adjusted $R^2=0.50$) (Tab. 6). Adding another predictor to the emotion-oriented style does not significantly increase the coefficient of determination. Furthermore, in the case of the avoidance-oriented style none of the predictors obtained the assumed statistical significance.

Tab. 6. The best set of predictors (personality traits) for the emotion-oriented coping style in male wrestlers (n=10) obtained on the basis of a forward stepwise multiple regression analysis

Step	Predictors	Beta (p-value)	St. Er. Beta	ΔR^2	R^2	Adj. R^2	F (p-value)
1	AG	0.576 (0.081)	0.289	0.331	0.331	0.251	3.967(0.081)
2	AG	0.830 (0.015)	0.261	0.280	0.611	0.500	5.506(0.036)
	CO	-0.587 (0.059)	0.261				

AG – agreeableness CO – conscientiousness

DISCUSSION

It has been proven in this study that highly effective wrestlers (girls and boys) scored low in neuroticism and openness, but had high scores on extraversion and conscientiousness. Litwiniuk and Daniluk et al. [16] arrived at comparable results in their investigation of wrestlers and ju-jitsu fighters, who exhibited mainly average and low levels of neuroticism and average and high levels of extraversion. Highlen and Bennett's [25] results partly overlap: in their comparative study of more successful and less successful Canadian wrestlers they concluded that success in wrestling is conditioned by greater self-confidence and smaller fear level (factors connected with lower neuroticism) as well as by more time spent training (a factor related to a high level of conscientiousness) in comparison with the less successful wrestlers. Similar results were obtained by Gould, Weiss and Weinberg [26], who showed that more successful wrestlers were more self-confident and had a greater belief that they could use their potential more fully in sport as opposed to less successful wrestlers. Also, Piedmont, Hill and Blanco [8] related directly to "The Big Five" framework in their investigation of the relations between personality and effectiveness in football in the population of female football players. Their research confirms the fact that effective performance in sport is dependent on a high level of conscientiousness and a low level of neuroticism.

Much as low neuroticism and high conscientiousness quite naturally contribute to effectiveness in wrestling, the question of a relatively low level of openness in the sample group of wrestlers needs further elaboration.

A high level of openness to experience, as has been said, is indicative of a greater tolerance for new ideas and of cognitive curiosity, which results in finding innovative solutions to problems. The low level of openness in the wrestlers may stem from the very strict and concrete strategies employed in the training process and the unwillingness to introduce new solutions in this kind of sports contest. It is tempting to suggest that high effectiveness in young wrestlers is a result of their using the familiar techniques which are ingrained in the wrestling contest; it may also be the case that young trainees prefer sticking to an already developed fighting strategy and following their coaches' suggestions rather than seeking their own, more creative solutions. At the other end of the scale, young wrestlers scored high in extraversion, which can be explained by the fact that extraversion is connected with greater activity and lesser sensitivity to external stimuli, – and with higher mobility, which seems to be particularly important for an effective performance in such dynamic and rapidly changing situations as in combat sports. Ilyasi and Salehian [27], for example, demonstrated that individual sports people registered higher in extraversion than team sport players.

The sample exhibited slightly less frequently the emotion-oriented coping style and less frequently (especially for boys) the task-oriented style in comparison with the general population. A within-group analysis showed that avoidance was the dominant coping style, whereas emotion-oriented coping was the least frequent (especially for girls). A relatively rare occurrence of the emotion-oriented coping style, as introduced by Endler and Parker [21], is due to a lesser concentration on one's emotional state (experiences, tension) before and during a competition. As a result, wrestlers are less likely to experience excessive excitation, which usually hinders effective actions. On the other hand, the predominance of the avoidance-oriented style (wrestlers try not to think about the beginning of their fight a couple of days before it is due to take place) might have some connection with a lower level of excitation before the fight, which prevents "a functional disaster"[7,28]. The wrestlers' avoiding thinking about the main stressor, which is the fight, is realized through many of the above-mentioned substitutive activities, for example reading a book, listening to music, talking with other contestants. An avoidance-based attitude may, however, cause wrestlers to avoid thinking about their fighting strategies just before the fight. Thus, avoidance-oriented coping is advisable a few days before the fight, but it is the task-oriented coping that is more adaptive before the very

fight. The task-oriented attitude helps contestants plan and adjust their fighting strategies according to who they are going to be fighting against. Gould, Ecklund and Jackson [29], for example, demonstrated that the intensively selected few out of the American Olympic wrestling team did not possess any particular or dominant style to cope with stress, but they would rather dynamically change the combination of strategies during their fight. For instance, positive thinking and prayer were used to control thoughts; task-oriented coping was materialized in focusing on goals; visualizations and controlling excitation were exercised within the emotional coping style; routine behaviours and control of the environment were connected with controlling one's behaviour. It is interesting to note that Kristiansen, Roberts and Abrahamsen [30] proved highly effective wrestlers to show both task-oriented and emotion-oriented strategies, which demonstrates a positive relation between achievement motivation and task-oriented coping strategies.

Examining the relationship between personality and individual styles of coping with stress this study has demonstrated a connection of neuroticism with the emotional style, as, indeed, less stable or vulnerable individuals are more likely to focus on their feelings and problems in a difficult situation, and experience high agitation – which lowers their effectiveness in sport. On the other hand, less agreeable female wrestlers turned out to be more concentrated on their tasks. The relation between low agreeableness and the task-oriented style seems partly justified, since very competitive people are more prone to transform a difficult situation and actively try to solve a problem. It was also shown that a low conscientiousness in some female wrestlers fostered the choice of the emotion-oriented style in a stressful situation, which, again, seems partly justified, as conscientious people with a motivation to act usually take active measures. This result, however, is equivocal, since no relation between conscientiousness and the task-oriented coping was found in the female wrestlers group. Conscientiousness and the task-oriented style were, nevertheless, closely connected with each other in the male group. Also, the male group displayed a negative relation between conscientiousness and the emotion-oriented style, which was measured on the basis of a full regression model.

The relations between conscientiousness and the individual stress coping style obtained in the analysis have practical implications. It is important to help young and less conscientious contestants in

organizing their activities in the pre-start period or before the actual fight. Focusing young wrestlers' attention on concrete goals and tasks, such as analysing the fighting strategy of their opponent or planning a pre-fight warm up, may (due to engrossing their cognitive capacity with other thoughts) stop them from developing the less adaptive, emotion-oriented stress coping style.

CONCLUSIONS

"The Big Five" model of personality makes a very clear distinction between highly effective wrestlers and people from the general population. According to "The Big Five", contestants exhibiting low levels of neuroticism

and openness as well as higher levels of conscientiousness and extraversion had a greater chance to be effective in a fight. The study has shown that personality can, actually, be a good predictor for an individual style of a wrestler's coping with stress. A successful diagnosis in the type of personality a wrestler has in an early period of training can help identify less adaptive tendencies to cope with stress. The less adaptive coping style defined in this study is the emotion-oriented coping, which might contribute to excessive emotional agitation in stressful situations. Especially prone to developing such a style of relieving stress are contestants exhibiting the relation between a higher level of neuroticism and a lower level of conscientiousness, as was observed in female wrestlers from the study.

REFERENCES

- Hall CS, Lindzey G, Campbell JB. Theories of personality. 4th ed. New York: John Wiley & Sons; 1998
- Pervin LA, John OP. Personality: theory and research. 8th ed. New York: John Wiley & Sons; 2001
- John OP, Naumann LP, Soto CJ. Paradigm Shift to the Integrative Big-Five Trait Taxonomy: History, Measurement, and Conceptual Issues. In: John OP, Robins RW, Pervin LA, editors. Handbook of personality: Theory and research. New York, NY: Guilford Press; 2008. p. 114-58
- Soto CJ, John OP, Gosling SD, Potter J. The developmental psychometrics of Big Five self-reports: Acquiescence, factor structure, coherence, and differentiation from ages 10 to 20. *J Pers Soc Psychol* 2008; 94: 718-37
- Digman JM, Takemoto-Chock NK. Factors in a natural language of personality: Reanalysis, comparison and interpretation of six major studies. *Multivar Behav Res* 1981; 16:149-70
- Barrick MR, Mount MK. The big five personality dimensions and job performance: A meta-analysis. *Pers Psychol* 1991; 44:1-26
- Jarvis M. Sport psychology. London, Routledge; 1999
- Piedmont RL, Hill D, Blanco S. Predicting athletic performance using the five factor model of personality. *Pers Indiv Differ* 1999; 27:769-77
- Weinberg RS, Gould D. Foundations of Sport and Exercise Psychology. Human Kinetics; 2007
- Lazarus RS, Folkman S. Stress, Appraisal, and Coping. New York: Springer; 1984
- Roth S, Cohen, LJ. Approach, avoidance, and coping with stress. *Am Psychol* 1986; 41(7): 813-19
- Allen MS, Greenlees I, Jones M. An investigation of the five-factor model of personality and coping behaviour in sport. *J Sport Sci* 2011; 29(8): 841-50
- Sterkowicz S, Blecharz J, Sterkowicz -Przybycień K. Stress in sport situations experienced by people who practice karate. *Arch Budo* 2012; 8(2):OA65-77
- Rogowska A, Kuśniercz C. Coping of Judo Competitors in the Context of Gender, Age, Years of Practice and Skill Level. *J Appl Sport Psychol* 2012; 24(4): 445-464
- Rutkowska K. Training needs of judo practitioners regarding sport psychology. *Journal of Combat Sports* 2012; 2(2): 97-101
- Litwiniuk A, Daniluk A, Cynarski W. Structure of personality of person training ju-jitsu and wrestling. *Arch Budo* 2009; 5:OA139-41
- Korobeynikov G, Mazmanian K, Korobeynikova L, Jagiello W. Psychophysiological states and motivation in elite judokas. *Arch Budo* 2010; 6(3):OA129-36
- Kolayis H, Sari I. Anxiety, self-esteem and competition ranking of judokas *Arch Budo* 2011; 7(1):OA11-15
- Boostani MH, Boostani MA, Rezaei AM. Sport Psychology in Professional Karate Athletes: give psychological guidelines in order to improve their act in the competitions. *Ann Biol Res* 2013; 4 (1): 48-52
- Zawadzki B, Strelau J, Szczepaniak P, Śliwińska M. Inwentarz osobowości NEO-FFI Costy i McCrea. Warszawa: Pracownia Testów Psychologicznych; 1998 [in Polish]
- Strelau J, Jaworowska A, Wrześniewski K, Szczepaniak P. Kwestionariusz Radzenia Sobie w Sytuacjach Stresowych. Warszawa: Pracownia Testów Psychologicznych; 2007 [in Polish]
- Cohen J. Statistical Power Analysis for Behavioral Sciences. Hillsdale, NJ: Lawrence Erlbaum Associates; 1998
- Cohen J. The earth is round ($P < 0,05$). *Am Psychol* 1994; 45:1304-12
- King BM, Minium EW. Statystyka dla psychologów i pedagogów. Warszawa: Wydawnictwo Naukowe PWN; 2009 [in Polish]
- Highlen PS, Bennett BB. Psychological characteristics of successful and non-successful elite wrestlers: An exploratory study. *J Sport Psychol* 1979; 1:123-37
- Gould D, Weiss M, Weinberg R. Psychological characteristics of successful and non-successful Big Ten wrestlers. *J Sport Psychol* 1981; 3:69-81
- Ilyasi G, Salehian MH. Comparison of Personality Traits Between Individual and Team Athletes. Middle East. *J Sci Res* 2011; 9 (4):527-30
- Kavoura A, Ryba TV, Kokkonen M. Psychological Research on Martial Artists. A Critical View from a Cultural Praxis Framework. *Scand Sport Stud For* 2012; 3: 1-23
- Gould D, Ecklund RC, Jackson SA. Coping strategies used by U.S. Olympic Wrestlers. *Res Q Exercise Sport* 1993; 64:83-93
- Kristiansen E, Roberts GC, Abrahamsen FE. Achievement involvement and stress coping in elite wrestling. *Scand J Med Sci Spor* 2008; 18 (4): 526-38

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