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Original research article

FACTORIAL STRUCTURE OF THE RELATIONSHIP BETWEEN AGGRESSIVENESS AND PERSONALITY DIMENSIONS IN JUNIOR KARATEKAS

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Abstract. *The goal of this study was to identify the factorial structure and the relations between aggressiveness and basic personality dimensions, as well as the metric characteristics (reliability) of the applied scales and subscales. The study was conducted on a sample (N = 287) consisting of both genders, aged between 14-16 years. The following measuring instruments were used: the Buss-Perry Aggression Questionnaire (AQ), Eysenck Personality Questionnaire (EPQ), and the Big Five Plus Two Inventory (BF+2). The applied scales and subscales point to a high reliability type of internal consistency (α > .70), which confirms the appropriate psychometric characteristics, as well as the validity of the instruments on the athletic population. A Principal Component Analysis (PCA) was performed, and with Varimax rotation, three dimensions with latent values of more than one were extracted, which explain 60,41% of total variance. The results have shown that in the structure of the first component, factors of the second order (Psychoticism and Social desirability from the EPQ, Aggressiveness and Negative Valence from BF+2) significantly contribute to aggressive reactions. The second isolated component is saturated by personality constructs from the EPQ and BF+2 models, which can be interpreted as intrusiveness and domination. The composition of the third component – uncontrollable physical aggression – is maximally burdened by negative correlations of the dimensions Psychoticism and Social desirability from the EPQ, Conscientiousness (in a negative direction) and Negative Valence from BF+2, as well as Physical aggression from the AQ, Aggressiveness from BF+2, and Rage from AQ. In this study, theoretical and practical implications required for the operationalization of these findings are discussed.*

Key words: *karatekas, AQ, EPQ-R, BF+2*

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INTRODUCTION

The relation between aggressiveness and personality dimensions among athletes is the subject of research for many authors, especially in the last two decades of the 21st century. However, the majority of studies to this day have been limited to the school population, while a relatively small number of studies dealt with correlations between the aggressiveness and personality traits of athletes, especially karatekas.

According to the research conducted by Chores, (2015), and Ebstrup, Aadahl, Eplov, Pisinger & Jørgensen, (2013), athletes exhibit two latent dimensions of aggression: neurotic and aggressive hostility. The mentioned division of the factor of aggression can be compared to the division of affective-impulsive/reactive aggressiveness and predatory/instrumental aggression of karatekas (Chalabaev, Sarrazin, Fontayne & Boiché, 2013). Affective-impulsive or reactive aggressiveness is characterized by a tendency to do something bad to someone else, while predatory or instrumental aggressiveness is roused primarily by nonviolent actions, for example acquiring capitals or funds, social status. In their works Biabri & Yousef (2015), Bushman, & Barttholow (2010), Ivanović, Ivanović, & Milosavljević (2014), Ivanović & Ivanović (2012) have concluded that the affective-impulsive/reactive aggressiveness is distinguished through reactions in provoking circumstances, which is related to the Neuroticism subscale of the Big Five personality Inventory, or the Five-Factor model, while predatory or instrumental aggressiveness is correlated to Agreeableness, regardless of provocations from the surroundings.

Besides the fact that the mentioned division of the latent variable aggressiveness is widely present in psychological literature, the Buss-Perry Aggression Questionnaire (AQ) is most widely used, and it encompasses four domains: Physical aggression, Verbal aggression, Anger, and Hostility (Buss, & Perry, 1992). Buss and Perry interpret aggressiveness as an established tendency towards hostility, recognition of anger and the initiation of physical and verbal conflicts. Manifested or motor components of aggressiveness (physical and verbal aggression) represent the space of impatience, i.e. the instrumental aspect of aggressiveness. The hidden space of aggressiveness is represented by Anger and Hostility, so that Anger undermines the affective, and Hostility undermines its cognitive aspect.

In studies that examined the relations between the Buss-Perry Questionnaire and the Big Five (+2) personality model among athletes, it was revealed that the space of hidden aggressiveness can be explained with the Neuroticism dimension, the space of manifested aggressiveness with Affiliation and Domination, while the subscale Verbal Aggression is linearly correlated to personal traits of dominance, and the cognitive component Hostility with a submissive personal trait (Noemi, Agota & Krisztina, 2013). In their works, Kaiseler, Polman, & Nicholls (2012) obtained relevant negative correlations with all the items of aggressiveness, while the Neuroticism dimension was in a significant mutual dependence with the emotional component of Anger and Hostility (Gyomber, Learnt., & Kovacs, 2013). Having in mind the significance of aggressiveness, Gyomber, Learnt., & Kovacs (2013) point out the fact that the tendency of intensive feelings of the affective components of Anger among athletes is maximally mutually related to the personality trait Neuroticism, as well as the fact that the behavioral aspects of aggressiveness manifest a maximal correlation with Agreeableness.

The relations with personality dimensions on the subscales of the Big Five, as well as the motor components of Physical and Verbal aggression, show statistically significant interactions with the dimension of Agreeableness, where Physical aggression manifests a

negative correlation with Conscientiousness. On the other hand, the subscales of Anger and Hostility do not exhibit a mutual dependence on Agreeableness, but do so with the dimension Emotional Stability. Besides, according to the research of Light (2013), the Extraversion subscale among athletes manifests a negative linear correlation with the cognitive component Hostility, and the personality trait Openness to experience exhibits negative correlations with the affective component of Anger and the cognitive component Hostility. The results of the correlations in this research with the BF+2 inventory, which were obtained by Ivanovic (2009), have confirmed the hypothesis that all of the subscales of the AQ manifest significant correlations with latent aggressiveness of karatekas, especially the factor of second order – Anger. All of the subscales of the AQ except Verbal aggression show an identical model of correlation with the subscales of the BF+2 personality models. The subscale Verbal aggression achieves low mutual dependence with the dimension Openness to experience and Positive valence. In their study, Kramer, Bhave, & Johnson (2014) point out that all the components of manifested and latent aggression are correlated with the Aggression factor, while all the domains, apart from Verbal aggression, are correlated with the dimensions Psychoticism and Negative emotion.

Up to this point, findings in research turn the attention to the fact that manifested components of aggressiveness show weak linear correlations with the personality dimension Agreeableness from the Five-factor model, while the latent components show a minor correlation to the subscale Neuroticism. But it is unwise not to take into consideration several studies that point out that a specific group of personality factors in combat sports, for example Assertiveness, Impulsiveness, and Competitiveness, influence the manifestation of aggressive reactions (Ajzen, 2012; Allen, Greenlees, & Jones, 2014).

Regardless of the fact that previous studies turned their attention to the factorial structure of the relation between the latent variable of aggression and basic personality dimensions, it is a fact that there is a lack of integrative research of these phenomena in the population of karatekas in our country. Thus, the lack of research to this day regarding the correlation of aggressiveness and personality traits in the population of a specific sample of subjects (karatekas) points to the importance of directing attention to that issue,

The *goal* in this research, based on the Buss-Perry Aggression Questionnaire, Eysenck Personality Questionnaire, and the Big Five Plus Two Inventory, was to examine the factorial composition and the relations of manifested and latent domains of aggressiveness and basic personality dimensions among junior karatekas, and to evaluate the metric characteristic (reliability) of the applied scales and subscales.

Based on previous relevant studies, and the goal set in this research, two hypotheses were formulated, and, according to those hypotheses, we are expected to observe: a) a significant linear correlation of the modality of variable aggressiveness and personality dimensions that were examined in adolescent karatekas, and b) linear correlations between the emotional components of aggressive behavior and the aspect of Neuroticism from the EPQ and BF+2.

Research topics in this paper contain questions of theoretical and practical importance. Confirmation of the statistically significant correlations of aggressiveness and basic personality dimensions can serve as a guideline to coaches when selecting younger karatekas and can help to improve their work with them. On the other hand, the theoretical significance of this research is manifested in the attempt to explain the variance of aggression and to better define the basic personality traits of adolescent karatekas.

METHOD

Sample

In total, 287 junior karatekas, middle adolescents (AM = 15,43 years; SD = 1,09) took part in this research. In the sample, 156 subjects were male (54,35%) and 131 subjects were female (45,65%). The sample encompassed karatekas from the regions of Kolubara and Macva in the Republic of Serbia, with their respective teams: „Shodan“ (Valjevo), KK „014 Valjevo“ (Valjevo), KK „Kizame“ (Valjevo), KK „Mionica“ (Mionica), KK „Sveti Sava“ (Mionica), KK „Železničar” (Lajkovac), KK „Kaminari“ (Osečina), KK „Ljig“ (Ljig), KK „Ipon“ (Koceljeva) and KK „Krupanj“ (Krupanj). All of the subjects had at least two years of organized karate training, with practices held at least three times a week. This research was carried out during March 2015.

Before conducting this research, the subjects received instruction on the goal of the research. They were asked to participate, and it was explained to them that they could terminate their participation at any time, that participation was anonymous and voluntary. The research was carried out by the authors of this paper, and it was achieved with the permission from the management of the karate clubs in question. The questionnaire method was performed in groups, during regular practice sessions. The size of the groups varied from 20 to 30 subjects. After handing out the questionnaires, the subjects signed a consent form regarding their participation in the study. Their task was to circle the appropriate number on the evaluation scales. The mean time needed to fill in the questionnaire was about 45 minutes. After applying the measuring instruments, through a preliminary examination of the summation scores of all the variables, five univariant ($z > +/-3.32$) and five multivariant outliers were eliminated – extreme results of the measurements [χ^2 (10) > 30,18, $p < .001$], using the methods of Tabachnick and Fidel (2007).

Instruments

The Buss-Perry Aggression Questionnaire (AQ) consists of 29 items on a five-degree Likert scale. The questionnaire encompasses four manifested and latent components of aggressiveness. The subscales of Physical aggression (9 claims) and Verbal aggression (5 claims) belong to the space of manifested, i.e. motor dimensions of aggressiveness, and the subscale Anger (7 items) which implies the affective component, with Hostility (8 claims) with its cognitive component, belong to the space of latent aggressiveness.

The Eysenck Personality Questionnaire (EPQ) encompasses 103 items, with a binary answering format (Yes/No). It contains three scales which operationalize the basic dimensions of the Eysenck PEN personality model: Psychoticism (38 claims), Extraversion/Introversion (21 claims) and Neuroticism – Emotional Stability (23 claims).

The EPQ questionnaire also encompasses the scale of social desirability, i.e. the control L-scale of lies (21 claims) which evaluated the tendency of the subject toward dissimulation.

Big Five plus two – the scale of aggressiveness (BF + 2: Smederevac, Mitrović, & Čolović, 2010), is a standardized description of personality that emerged from the psycholexic study in Serbian-speaking areas, which is based on the methodology of Waller (1999). The questionnaire contains 184 items on the Likert-type five-degree scale, which measures seven basic personality traits of the highest hierarchical levels. Each scale contains two or three subscales: Neuroticism (35 claims), Extraversion (24 claims), Aggressiveness (30 claims), Conscientiousness (28 claims), Openness to experience (20 claims), Positive valence (22 claims), and Negative valence (25 claims).

Data analysis

The latent structure of the scale was estimated with the method of factorial analysis (principal component analysis), with an orthogonal Varimax rotation, with the Guttman-Keyser criteria. Statistical significance was defined at the $p < 0,05$ and $p < 0,01$ level. The reliability of each of the scales and subscales of the questionnaire was confirmed using the calculated Cronbach alpha coefficients of internal consistency (*Cronbach α).* Statistical data analysis was conducted in the computer program SPSS, version 17.0 (*Statistical Package for the Social Science, version 17 for Windows)*.

RESULTS

Testing the reliability of the internal consistency of the dimensions of the Buss-Perry Aggression Questionnaire, the Eysenck personality questionnaire, and the Big Five plus two in Table 1, shows satisfying consistency, because the calculated Crombach alpha coefficients, which present the average correlation of the subscales that measure the same trait, have a value within the satisfactory range (> .70). The lowest value (α) is exhibited by the dimension Psychoticism, while the highest value is exhibited by the dimension Neuroticism. The reliability measurements of the applied questionnaires show that the composite measuring instruments are insensitive on the mistakes of measurement, i.e. they have valid metric characteristics, and that the same measuring indicators would be obtained with repetitive measurements.

Table 1 Reliability and inter-correlations of the scores of the subscales in AQ and scales BF+2 and EPQ

		α	Physical aggression	Verbal aggression	Hostility	Anger
BF+2	Neuroticism	.94	.21 **	.26**	.67**	.39**
	Extraversion	.90	-.15 **	-.03	-.18**	-.08
	Conscientiousness	.87	-.26 **	-.08	-.15**	-.30**
	Aggressiveness	.87	.50 **	.59**	.30**	.71**
	Openness to experience	.84	.04	.11*	-.14*	-.06
EPQ	Positive valence	.88	.17 **	.28**	-.07	.04
	Negative valence	.83	.39 **	.37**	.42**	.39**
	Psychoticism	.66	.38 **	.31**	.19**	.28**
	Extraversion	.85	.01	.12*	-.18**	.03
	Neuroticism	.91	.13 *	.30**	.57**	.52**
	Social desirability	.80	.27 **	-.19**	-.13*	-.27**
	α		.69	.58	.80	.77

Statistical significance of the correlations shown: *p<.05; **p<.01

In order to define the mutual dependence between the variables of the questionnaires AQ, BF+2 and EPQ, in table 1, Pearson's correlation coefficients (*Pearson r*) were

calculated, which present the covariance expressed in the units of standard deviation between two variables.

By looking into the data matrix, it is observed that the Aggressiveness, Neuroticism and Negative valence subscales from the inventory of the Big Five plus two personality model, as well as the dimensions Psychoticism, Neuroticism, and Social desirability (L-scale) from the Eysenck personality questionnaire, significantly correlate with all subscales of the Buss-Perry Aggression questionnaire. At the same time, the latent variable Neuroticism from both questionnaires shows higher positive linear correlations to the group of latent forms of the factors of aggressiveness. The obtained dispersion of data of this magnitude around the regression line points to the fact that a rise (fall) in the value Neuroticism is followed by a rise (fall) of value of variables on the Aggressiveness subscale.

Aggressiveness from the scale of the BF+2 underlies important correlations with the affective component – Anger, as well as with the motor component – Verbal aggression.

The personality dimension (Psychoticism), as expected, achieves higher linear correlations with the subscale Physical aggression than with other subscales of the Buss-Perry Questionnaire of aggressiveness. In addition, other personality dimensions exhibit a significant mutual relation with the domain of the subscales of AQ. A somewhat higher statistically significant negative correlation was registered between the factors Extraversion from both personality dimension questionnaires with the cognitive component Hostility, and the personality trait Conscientiousness from the inventory BF+2 also shows a somewhat higher and negative correlation with the emotional component (Anger) and the motor component (Physical aggression). This correlativity signalizes that as the value of Extraversion rises, the value of Hostility decreases, i.e. the higher the value of Conscientiousness, the lower the values of Anger and Physical aggression.

The Positive valence dimension realizes lower and positive linear correlations primarily with the manifested domain Verbal aggression, which shows that, with a 99% certainty, it can be concluded that the subjects who achieved higher scores on the Positive valence subscale also achieved higher scores on the Aggressiveness subscale, and vice versa, the subjects who achieved lower scores on the Positive valence subscale, also achieve lower scores on the Aggressiveness subscale.

Finally, significant low correlations between the dimension Openness to experience and the Aggressiveness subscale can be observed, at which the linear correlation with the subscale Verbal aggression is positive, while the mutual dependence with Hostility is negative.

Considering the fact the correlation analysis serves as a form of direction towards identifying the number and characteristics of the factors of aggressiveness and basic personality traits, the *Principal Component Analysis* (PCA) was used, where the variables on the applied scales and subscales were subjugated to the orthogonal *Varimax* rotation. In defining the optimal latent structure, the variables that did not exhibit a significant saturation (with the criteria > .40) were excluded. Based on the Guttman-Kaiser criteria for factor reduction, three main interpretative components were isolated, with a characteristic root of more than 1. They exhibited a satisfying reliability, because they explained 29,73%, 19,52%, and 11,16% of variance on three hierarchical levels, respectively. From a theoretical aspect, a relatively high amount of the total variance of 60,41% points to the fact that the applied measuring instruments are valid in further analysis.

Table 2 The saturation structure of isolated components

Applied Scales	Components with standardized factorial saturations		
	1	2	3
AQ Hostility	.81		
AQ Anger	.78		
EPQ Neuroticism	.75	-.41	
AQ Verbal aggression	.71		
BF + 2 Neuroticism	.68	-.61	
BF + 2 Aggressiveness	.62	.38	.49
BF + 2 Positive valence		.80	
BF + 2 Extraversion		.75	
EPQ Extraversion		.73	
VP + 2 Openness to experience		.70	
EPQ Social desirability (L)			-.81
EPQ Psychoticism			.77
BF + 2 Conscientiousness		.41	-.74
BF + 2 Negative valence	.43		.70
AQ Physical aggression	.32		.61

The factorial saturation of certain aspects of latent dimensions is shown in Table 2 ($p < .0,1$).

Personality dimensions comprise the three-factor structure of the first extracted component are Neuroticism from the Buss-Perry Questionnaire and basic dimension from the Eysenck personality model, as well as Aggressiveness and Negative valence from the BF+2 self evaluation scale. The prevailing content of the structure of this second-order factor represents a theoretical latent space of aggressiveness with a dominating affective component. The second isolated component in the three-factor structure, with a characteristic value over one, contains correlations with personality dimension variables only. The composition of the third isolated component dominantly consists of the subscales Psychoticism and Social desirability – L-scale (statistically negative direction of correlation) from the Buss-Perry Questionnaire, Conscientiousness (a statistically negative direction of correlation) and Negative valence from the BF+2 personality inventory scale, as well as Physical aggression from the subscale of the Buss-Perry Questionnaire. The second-class factorial standardized saturations of this component, in the space of measurements of the latent three-dimensional structure, consist of Aggressiveness from the scale of the BF+2 inventory and Anger on the subscale of AQ. This factor is characterized by uncontrolled aggression which is characterized by negative self-evaluation.

DISCUSSION AND CONCLUSIONS

The results obtained in this transverse research have made it clear that in the domain of aggressiveness of adolescent karatekas, its different forms can be evaluated. They are realized by differentiated models of mutual dependence with the basic latent personality dimensions, where it is obvious that besides the second-order factors which are standardly correlated with the aspects of aggression, for example Psychoticism from the Eysenck personality model, Aggressiveness and Negative valence from the BF+2 self-evaluation

scale, there is a relevant proportion in shaping the characteristic aggressive reactions and other latent personality traits.

The quantitative Principal Component Analysis (PCA) of the results reveals that the extracted personality traits that include all of the subscales of the Buss-Perry Questionnaire, i.e. that represent the factor of aggressiveness, primarily define the subscales from the latent sphere of aggressiveness. This hidden area enables a linear correlation to the latent variable Neuroticism from the measuring instruments EPQ and BF+2, which is similar to the findings in the research obtained by Beedie, Devonport, and Stanley, then by Ivanovic, Samardzic, and Ivanovic, then Rubio, Rabelo, and Goncalves, by Rathschlag and Memmert, but also by Wann and Waddill, and Wann, Belva, Armstrong, Weaver and Ladd (Ivanović, 2009; Ivanovic, Samardzic, & Ivanovic, 2012b; Rathschlag, & Memmert, 2013; Strahura & Lough, 2012; Wann, & Waddill, 2014). The results in our research point to the assumption that an increase in anxiety, with its high scores on the Neuroticism/Emotional stability scales, results in different aggressive psycho-physiological responses of the body to outer or inner stimuli. Although the contribution of other latent personality dimensions in the composition of this latent form of aggressiveness cannot be taken into consideration, it is significant to point out that the scales that normally add up to aggressiveness, for example Psychoticism from the Eysenck personality model and Aggressiveness from the BF+2 inventory, achieve lower factorial burdens in the context of this form of behavior. The latent composition of affective-impulsive aggressiveness, which is determined in this way, signalizes the predomination of the emotional type of response of the body to the excitation from the stimuli from the external environment, which, with psychic regulatory processes, affects the aggressive behavior of the karate population in adolescence. On the other hand, the relations of the appearing aspects of factors of aggressiveness and basic personality dimensions are not ambiguous. So, in the context of this space, a tendency toward manifesting generalized aggressiveness, i.e. physical and verbal aggression, can be observed.

In the findings of the Principal Component Analysis, it is visible that the second latent dimension significantly encompasses only the scales from the domains of personality dimensions, while it is insignificantly described only by the Verbal aggression subscale from the domain of the Buss-Perry Questionnaire of aggression. In this interpretable component, the largest possible variance size of the latent personality dimensions is unquestionably obtained, whose entity is indirectly correlated with the dominating characteristics of personal aggressiveness and verbal aggression, which is in accordance to the results in research conducted up to this point (Allen, & Laborde, 2014; Burdzicka-Wolowik, 2012; Ivanović et al., 2010; Ivanović et al., 2014; Ivanović et al., 2012; Katarzyna & Radziszewska, 2014; Unrug & Malesza, 2012).

The third extracted component interprets the entity of physical aggression and its composition signalizes that in expressing this modality of aggression, the nonexistence of usual morality plays a fundamental role, which is the key element in eliminating decent living conditions of possible victims. It is interesting that in the context of this main component, the emotional component (Anger) from the Buss-Perry Questionnaire of aggression achieves a second-class positive factorial burden, i.e. this aspect of physical aggressiveness is able to correlate with aggression which is manifested into uncontrollable impulsive reaction.

If the obtained findings are analyzed within the dominant models of the applied personality dimension questionnaires, it should be kept in mind that the non-congruence between the psychological and psycholexic concept is not key in understanding the constructs of aggressiveness. Besides that fact the factorial composition of domains of the questionnaires

that determine the second order factors – aggressiveness – which includes its affective-impulsive and instrumental component, which is observed in the research (Ramirez, 2015; Unrug et al., 2012), the possibility of their realization should be analyzed in the frame of all latent basic personality dimensions. The function of the Neuroticism (Emotional stability) dimension is significant for the hidden and predominantly affective dimension of aggressive reaction. However, it can also show the mechanism for its manifestation. Extraversion/ introversion has a predominant function in the final determination whether it is possible, and with what frequency, for aggressive stimuli to exhibit themselves, while subscales like Positive and Negative valence serve their purpose in the development of the degree of self-respect through aggressive communication with the external environment. Moreover, latent personality dimensions (Psychoticism from the Eysenck personality model and Aggressiveness from the BF+2 scale) which show maximal mutual dependence from the factor of aggressiveness, show a significant but not dominant functions in the creation and development of aggressive manifestations. This quantitative finding is the consequence of a multidimensional factorial structure of the phenomenon of aggressiveness among junior karatekas, especially because certain manifestations of this construct can be profoundly emotional, and these are difficult to recognize as an aggressive model.

By summarizing the obtained results in this research, the assumptions regarding the existence of statistically significant linear correlations of the modality of the latent variable aggressiveness and personality dimension are confirmed, as well as the emotional components of aggressive behavior and aspects of Neuroticism from the EPQ and BF+2 inventories.

The results obtained in our country in the adolescent population can now be compared to the findings obtained in other European countries, because a standardized methodology was used.

This cross-sectional study has some relevant limitations: the collection of data in a very short time span, the demographic limitations of the analyzed sample, an appropriate instead of a representative sample, a selected sample in which only subjects aged between 14-16 years participated, and the use of measuring instruments designed for foreign countries. In addition, the self-evaluation method represents a limitation because it is characterized by a lack of subjectivity of the participants, as well as difficulties in observing one's own behavior. This type of structure decreased the ability for generalization of the results to a great extent, and for these reasons, our results should be considered with care.

In order to obtain a more complete and more precise view of the factorial structure of the relations of aggressiveness and basic personality traits, upcoming longitudinal research should include larger samples, more heterogeneous in terms of age, and the measuring instruments should be adapted to our culture. Besides the method of self-evaluation, which surely represents an important way of data collection, it would be good to use other techniques as well, for example structured interviews, i.e. quantitative analysis should also be followed by qualitative analysis as well. Also, future research should be more randomized, and conducted with an identical or similar methodology, which would likely enable more complex statistical analysis of the examined phenomena, and also the evaluation of personality models.

By recapitulating the basic facts from a theoretical aspect, it can be concluded that despite relevant methodological limits of this research, the obtained indicative results in this study present valid indicators which provide new information regarding the relations between manifested and latent constructs of aggressiveness and basic personality dimensions in the population of Serbian junior karatekas. The obtained data have both theoretical and

practical implications. The theoretical (scientific) contribution of the results is manifested in enlightening the structures of the relations of aggressiveness and basic personality dimensions of junior karatekas, while the practical implications of this research present the use of measuring instruments in the adolescent karate population.

REFERENCES

Ajzen, I. (2012). The theory of planned behavior. In: P. A. M. Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 438–459). London, England: Sage.

Allen, M. S., Greenlees, I., & Jones, M. V. (2014). Personality, counterfactual thinking, and negative emotional reactivity. *Psychology of Sport and Exercise, 15*, 147–154.

Allen, M. S., & Laborde, S. L. (2014). The Role of Personality in Sport and Physical Activity. *Current Directions in Psychological Science, 23*(6) 460–465.

Biabri, S. M., & Yousef, B. (2015). Female Athletes' sport commitments in Men's and Women's Sports. *International Journal of Sport Studies, 5*(1), 62 –68.

Burdzicka-Wołowik J. (2012). Personality in stereotypically masculine sports. *Zeszyty Metodyczno Naukowe AWF Katowice, 33*, 127–137.

Buss, A. H., & Perry, M. P. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology, 63*, 452–459.

Bushman, B. J., & Barttholow, B. D. (2010). Aggression. In R. F. Baumeister & E. J. Finkel (Eds.), *Advances social psychology: The state of the science* (pp. 303-340). Oxford: Oxford University Press.

Chalabaev, A., Sarrazin, P., Fontayne, P., & Boiché J. (2013). The influence of sex stereotypes and gender roles on participation and performance in sport and exercise: Review and future directions. *Psychology of Sport & Exercise, 14*(2), 136–144.

Chores, N. (2015). The Relationship between Personality Traits and Participation in Competitive Gymnastics. *International Research Journal of York University, 2*(2), 138 – 171.

Ebstrup, J. F., Aadahl, M., Eplov, L. F., Pisinger, C., & Jørgensen, T. (2013). Cross-sectional associations between the five factor personality traits and leisure-time sitting-time: The effect of general self-efficacy. *Journal of Physical Activity & Health, 10*, 572–580.

Gyomber, N., Learnt, A., & Kovacs, K. (2013). Differences Between Personality Characteristics and Sport Performance By Age and Gender. *Acta Facultatis Educationis Physicae Universitatis Comenianae, 1*(3/2), 5 –15.

Ivanović, M. (2009). Dimenzije ličnosti karatista kao prediktori zadovoljstva životom. (Dimensions of the personalities of karate players (male and female juniors) as predictors of life satisfaction). *Facta universitatis, Series philosophy, sociology, psychology and history, 8*(1), 115–124.

Ivanović, M., & Ivanović, U. (2010). Relacije dimenzija ličnosti karatista seniora i faktora optimalne organizacione kulture. (Relations between karate seniors players personality dimensions and optimal organizational culture factors). In S. Stojiljković (Ed.), *Međunarodna naučna konferencija. „Fizička aktivnost za svakoga", Zbornik radova* (str. 36-44). Beograd: Univerzitet u Beogradu, Fakultet sporta i fizičkog vaspitanja.

Ivanović, M., & Ivanović, U. (2012). Aspekti self-koncepta predadolescenata kao determinante njihovog bavljenja sportom. (Pre-adolescent self-concept aspects as determinants of engagement in sports activities). *Sport - nauka i praksa, 2*(5),5-21.

Ivanović, M., Ivanović, U., & Milosavljević, S. (2014). Relacije svakidašnjih negativnih događaja i depresivnosti karatista juniora. (Common negative events and depression relations of junior karate sportsmen). *Acta Kinesiologica, 8*(2), 11–19.

Kaiseler, M., Polman, R. C. J., & Nicholls, A. R. (2012). Effects of the Big Five personality dimensions on appraisal coping, and coping effectiveness in sport. *European Journal of Sport Science, 12*, 62–72.

Katarzyna, J. B., & Radziszewska, K. G. (2014). Personality Traits of Women Training Combat Sports. *Polish Journal of Sport and Touris, 21*(1), 3–7.

Kramer, A., Bhave, D. P., & Johnson, T. D. (2014). Personality and group performance: The importance of personality composition and work tasks. *Personality and Individual Differences, 58*, 132–137.

Light, R. L. (2013). Game Sense: Pedagogy for Performance, Participation and Enjoyment. Routledge, London & New York.

Noemi, G., Agota, L., Krisztina, K. (2013). Differences Between Personality Characteristics and Sport Performance by Age and Gender. *Acta Facultatis Educationis Physicae Universitatis Comenianae, 53*(2), 5 –15.

Ramirez, J. M. (2015). Applicability of a Moral Attitudes Toward Aggression Questionnaire (CAMA) in different German age Cohorts Compared with Other Cultures by a Structural Equivalence Analysis. *The Open Psychology Journal, 8*, 17–22.

Rathschlag, M., & Memmert, D. (2013). Reducing anxiety and enhancing physical performance by using an advanced version of EMDR: a pilot study. You have full text access to this Open Access content. *Brain and Behavior, 4*(3), 348–355.

Smederevac, S., Mitrović, D., & Čolović, P. (2010). Velikih pet plus dva: primena i interpretacija. (Big five plus two: the application and interpretation). Beograd: Centar za primenjenu psihologiju.

Stahura, K. A., & Lough, N. (2012). A deconstruction of aggression and violence in youth sport: Theoretical frameworks for explaining behavior. In B. M. O'Connor (Eds.), *Social and psychological issues in sports* (pp. 169-189). Hauppauge NY: Nova.

Unrug, M., & Malesza, M. (2012). Differences in personality and temperament of people training amateur and professional combat sports. *Młoda Psychologia, 1,* 117–131.

Waller, N. G. (1999). Evaluating the structure of personality. In: R. C. Cloninger (Eds.), *Personality and psychopathology* (pp. 155-197). Washington: American Psychiatric Press.

Wann, D. L., & Waddill, P. J. (2014). Predicting sport fans' willingness to consider anonymous acts of aggression: Importance of team identification and fan dysfunction. In C. Mohiyeddini (Eds.), *Psychology of motivation, emotions, and actions* (pp. 139-151). Hauppauge NY: Nova.

FAKTORSKA STRUKTURA RELACIJA AGRESIVNOSTI I DIMENZIJA LIČNOSTI KARATISTA JUNIORA

Cilj ovog istraživanja bio je da se identifikuje faktorska struktura relacija agresivnosti i bazičnih dimenzija ličnosti i metrijske karakteristike (pouzdanost) primjenjenih skala i supskala. Ispitivanje je obavljeno na prigodnom uzorku (N = 287) ispitanika oba pola, uzrasta 14–16 godina. Korišćeni su sledeći merni instrumenti: Bas-Perijev upitnik agresije (AQ), Ajzenkov upitnik ličnosti (EPQ-R) i inventar ličnosti Velikih pet plus dva (VP + 2). Korišćene skale i supskale ukazuju na visoku pouzdanost tipa interne konzistencije (α > .70), što potvrđuje zadovoljavajuće psihometrijske karakteristike i primenljivost instrumenta i na sportskoj populaciji. Izvršena je analiza glavnih komponenata (PCA) i uz Varimax rotaciju ekstrahovane su tri dimenzije sa latentnim vrednostima većim od jedan, koje objašnjavaju 60,41% ukupne varijanse. Rezultati su pokazali da u strukturi prve komponente faktori drugog reda (Psihoticizam i socijalna poželjnost iz EPQ-R, Agresivnost i Negativna valenca iz VP + 2) imaju signifikantan doprinos na agresivne reakcije. Drugu izolovanu komponentu saturiraju konstrukti ličnosti iz dva modela EPQ i VP + 2, i koji se mogu interpretirati kao nametljivost i dominacija. Sklop treće komponente – nekontrolisana fizička agresija – maksimalno opterećuju negativne korelacije dimenzije Psihoticizam i Socijalna poželjnost iz upitnika EPO-R, Savesnost (u negativnom smeru) i Negativna valenca iz VP + 2 i Fizička agresija iz upitnika AQ, kao i Agresivnost iz VP + 2 i Bes iz AQ. U radu su prodiskutovane teorijske i praktične implikacije za operacionalizaciju nalaza istraživanja.

Ključne reči: *karatisti, AQ, EPQ-R i VP + 2.*