

Original scientific paper

## THE STRUCTURE OF RELATIONS BETWEEN FIVE-FACTOR MODEL AND DIMENSIONS OF MOTIVATION AMONG JUNIOR KARATEKAS<sup>1</sup>

UDC: 796.853.26-053.2:159.947.5

159.923.3-053.2

DOI: 10.5937/snp2102067I

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**Abstract:** The aim of this study was to examine the latent structural relations between the main personality traits and dimensions of motivation among junior karatekas. Empirical research was conducted on a pertinent sample (N = 148) of karatekas from Valjevo, aged 15.18 on average (SD = 1.9). Three measuring instruments were used: the Big Five Inventory - BFI, the Sport Attitudes Inventory - SAI, and the Task and Ego Orientation in Sport Questionnaire – TEOSQ. The results of the Pearson's correlation coefficient have shown the significance level of  $p \leq .05$ , and a significant number of bivariate linear correlations (of low or moderate intensity) between the manifested variables. Using the canonical correlation analysis, two significant canonical functions were extracted. The first unipolar pair of canonical factors in the personality traits section, with 44% of the explained variance, was maximally defined by Conscientiousness and Extraversion, and was defined to a lesser degree by the Openness/Intellect variable, as well as dimensions of motivation (motives to achieve power, motives to achieve success and orientation aimed towards the task). The second isolated bipolar pair of canonical factors in the personality traits domain, with 21% of the explained variance, was determined by the Neuroticism variable, and to a lesser degree by Agreeableness and Conscientiousness, as well as the motive to avoid failure and orientation aimed towards the goal. The obtained results have shown that the measuring instruments used in this research have satisfactory construct and convergent validities, as well as satisfactory reliability of internal consistency, and can therefore be used in personality assessment of Serbian adolescents. The results of this transversal research offer relevant empirical contribution and important implications to everyday sports practice and better understanding of the complex constructs mentioned in this research. In addition, this research contributes to sports psychology, which enables higher level of understanding of the functioning of an athlete's personality during adolescence.

**Keywords:** *personality traits, sports motivation, sport orientation, junior karatekas, canonical factors*

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### INTRODUCTION

According to the relevant literature on psychology, the main personality traits and dimensions of motivation have been a relevant topic of theoretical debates in sports psychology, as well as in empirical research studies because their structure determines the degree to which certain athletes manifest their biological, cognitive, conative, social, cultural, and health potential while performing motor and technical-tactical tasks (Blank et al., 2018; Wang et al., 2017). It is therefore necessary to identify the constructs of the personality type and motivation of an athlete (Meixner et al., 2021).

<sup>1</sup> Paper received: 20 October 2021, edited: 4 December 2021, accepted for publication: 10 December 2021.

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Personality is a system of relatively consistent and stable psychological dimensions and mechanisms within an individual, which influence interactions and psychological adjustment to intra-psychical, physical and social environment (Eysenck et al., 2021). The aforementioned authors believe that the personality traits are continuous and bipolar dimensions based on which people can be compared and that latent constructs of personality can have differential implications to motivational variables, which enables the prediction of a relatively consistent behaviour of an individual. In the research studies conducted so far, personality has been most often explored using the Big Five model which is based on the assumption that its basic structure can be described using five traits: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Intellect or Openness, which is shown in the research (Rosales et al., 2021). The aforementioned traits with their mechanisms make theoretically logical correlations to sports achievements, psychological wellbeing and the aspects of psychopathology (Poškus & Žukauskienė, 2017). In their study, Larsen and Buss (2014) point out that the five-factor theory can give a satisfactory answer to the question: Which athlete will make progress in sports hierarchy and achieve relevant social status? The advantage of the five-factor model is that it enables simple, but parsimonious taxonomy of personality traits, the maximum segment of variance and that it brings order to the set of structural dimensions. In addition, the authors (Reyes-Hernández et al., 2021) consider that personality traits are organized, and that therefore interactions between their dimensions are the key for an athlete and their career.

Motivation is a mental process in which an individual is internally prompted by certain needs, urges and strivings, and is oriented towards the realization of a given goal which works as an external motive for their behaviour (Horga, 2009). If there is no motivation, despite the gained knowledge and skills, it is difficult to achieve a goal (Ivanović et al., 2015). According to a research study conducted by Mladenović (2011), motivation includes all mechanisms that exist in the essence of human behaviour, and which move and guide their behaviour. That is why, apart from theories of personality, one has to know the theories of motivation (Larsen & Buss, 2014). Motivation in sport has been the subject of research for many years, and there is a significant number of studies that aim to answer the question about what orients sports activity in a certain direction and regulates its intensity and duration (Šimunić & Barić, 2011). However, even though motivation as a psychological process of activity has a great influence on an individual, its modern concept is insufficiently explained in the area of sports, the authors claim (Van den Akker et al., 2021). Therefore, to better understand the personality traits of an athlete, it is necessary to identify the emotional constructs as well (Mladenović & Trunić, 2015).

The central variable for an athlete is how they perceive competition, and then set their goals (for example, task-orientation and outcome-orientation) which maximally suit their Intellectual vision of success. An athlete who is primarily task- an ego-oriented assesses their success through the invested effort, and the development and improvement of their sports skills. A competitor who is mostly outcome- or result-oriented believes that they are more efficient if they are better than their opponents or teammates. If they do not succeed in defeating their opponents, they give up the task or quit the sport (Ring & Kavussanu, 2018). Another research study (Beni et al., 2017) has shown that personality dimensions and motivation correlate, meaning that individuals with low Extraversion are prone to avoidance and defence mechanisms. The authors also believe that the personality trait Agreeableness is a significant medium for social motives (affiliation motive and power motive). They also believe that the individuals who have a high level of the Conscientiousness dimension tend to be highly motivated to achieve success in sport. On the other hand, the results of a study by Ahluwalia & Preet (2018) indicates that an athlete with a low level of Conscientiousness, and big motive for achieving success, is prone to self-pity. In addition, the same authors point out that a high correlation between the personality trait Neuroticism and the affiliation motive generates unhappiness, while adolescents with a low level of Neuroticism manifest happiness. Also, there have been determined the positive relations between achievement motivation, Extraversion and Neuroticism, whereby Extraversion, Openness towards new experiences and Conscientiousness positively correlate with the task-orientation, while Neuroticism interacts negatively with mastering skills. At the same time, they also revealed that personality traits (Openness towards new experiences and Agreeableness) correlate negatively with competitiveness. In addition, the study (Clancy et al., 2016) pointed out that the main personality traits Conscientiousness, Openness towards new experiences and Extraversion are in positive correlation with intrinsic achievement motivation, while Extraversion, Conscientiousness and Neuroticism positively correlate to extrinsic achievement motivation. Another research (Martínez-Alvarado et al., 2016) determined that there is positive interaction between the personality trait Conscientiousness and motivation which refers to “burnout” in sport, while Neuroticism is in negative correlation to motivation.

It is clear that the results of the aforementioned studies are not consistent. The studies conducted so far indicate that there is a lack of research concerning the canonical design between personality traits and dimensions of motivation among athletes, especially among junior karatekas.

A partial review of the literature shown in this research indicates that this is a complex problem that should be thoroughly examined. Keeping also in mind the fact that the design of the studies conducted so far has not been applied enough to the Serbian karateka population, the aim of this transversal study is to test the canonical structure and the intensity of correlation between the Big Five personality traits, sports motivation and focus on sport among karatekas during adolescence. The starting point of this research was the hypothesis that such correlation exists and that it can be used to predict the variance and the potential relations between the constructs in question. Based on the aforementioned empirical research and the aim of this research, it seems reasonable to look into the linear correlation between personality traits and dimensions of motivation, which can have implications on further research, as well as practical implications for domestic use.

## METHOD

### Participants

The transverse cross-section method was used in this study that included 148 participants. The average age of participants was 15.18 ( $SD = 1.9$ ). The sample was pertinent and it included karatekas from three clubs from the Kolubara district: KC "Shodan" (Valjevo), KC "014 Valjevo" (Valjevo), and KC "Kizame" (Valjevo). All participants had minimum two years of training, at least three times a week. The research was conducted during September 2021.

Just before anonymous and voluntary testing, the instructions were read and explained to the participants, and it was emphasized that the data would solely be used for scientific purposes. In addition, participants had the option to quit the process at any time with no consequences.

### Instruments

The research was conducted using the questionnaire for assessing the Big Five fundamental personality traits and two questionnaires for assessing the dimensions of motivation (Sport Attitudes Inventory and Task and ego orientation in sport questionnaire). With all the measuring instruments, the participants used a five-point Likert scale to assess to which degree the given items relate to them (from 1 – "I strongly disagree" to 5 – "I strongly agree"). The testing process took approximately 20 minutes.

#### **Big Five Inventory** (*BFI*; Benet-Martinez & John, 1998)

The BFI includes 44 items (for example "I see myself as a talkative person.") or (self)evaluation of the big five dimensions of personality: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness/Intellect. The evaluation is conducted using a five-point Likert scale to manifest the level of agreement/disagreement from "I strongly disagree" (1) to "I strongly agree" (5) by circling the level of agreement with a certain item. The total score for the dimensions of the BFI is calculated by adding evaluations for each claim for each dimension of personality. A significant advantage of the Big Five Inventory can be found in its short, simple and comprehensive items, which is important for time-limited questioning processes. In addition, this instrument has a great advantage when used on the adolescent population.

In this research, the five-factor model of personality has shown good metric characteristics. Cronbach's alpha coefficient (internal consistency type) for Extraversion is ( $\alpha = 0.82$ ), Agreeableness ( $\alpha = 0.80$ ), Conscientiousness ( $\alpha = 0.79$ ), Neuroticism ( $\alpha = 0.75$ ), and for Openness ( $\alpha = 0.86$ ), while the value of reliability coefficient for the entire scale is ( $\alpha = 0.85$ ).

#### **Sport Attitudes Inventory** (*Sport Attitudes Inventory - SAI*; Willis, 1982)

The SAI includes 40 items, and it measures three basic motives: MAS – motive to achieve success (consists of 17 claims), MAF – motive to avoid failure (11 claims), and MAP – motive to achieve power (12 claims). The MAS (for example "I enjoy most doing things at which I am successful") represents the discrepancy between the sum of the set level of aspiration and the sum of the level of task performance. This motive is measured by giving the participants psychomotor tasks where they are given 30 seconds to put as many matches as they can in a specially made wooden board with holes in it. Participants were first asked how many matches they believe they can manage to put in the holes in that amount of time. They were asked to assess the level of their success. This exact procedure is repeated four times, and

the results are noted. The MAF includes the items which represent the motive to avoid failure, and the fear of failure (for example “I easily give up when I find the task difficult”).

All three scales used on our sample have shown satisfactory reliability of this instrument. The reliability coefficient ranged from 0.80 to 0.88.

#### **Task and ego orientation in sport questionnaire (TEOSQ; Duda, 1989)**

TEOSQ includes 13 items with two independent and orthogonal subscales – task and ego. The task scale (task-oriented scale) assesses personal orientation aimed at task and at perfecting sports skills, and it contains seven claims, for example “I feel most successful in sports when I’m learning new skills and that makes me train more”. The ego scale is goal-oriented and it assesses personal orientation towards superior performance and result, and it contains six claims, for example “I feel most successful in sports when I’m the best”. The participants give answers by circling the numbers on a five-point Likert scale, where 1 means “I strongly disagree” and 5 means “I strongly agree”.

These sports-specific task-oriented and goal-oriented measurements have satisfactory internal consistency (0.79 for the task, and 0.90 for the ego scale).

#### **Statistical analysis**

Cronbach's alpha coefficient was used to examine the internal consistency of the measuring instruments used in this study. The linear correlation of the parameters was assessed using Pearson's correlation, while the canonical correlation analysis was used to examine the correlation between two sets of variables. The result that was perceived as statistically significant was  $p \leq .05$ .

## **RESULTS**

#### **Correlation between personality traits and dimensions of motivation**

With the aim of testing the linear correlations between the manifest variables (fundamental personality traits and various dimensions of motivation), 45 Pearson's linear coefficients of correlation were calculated and are shown in Table 1.

**Table 1.** *Correlations between examined variables*

<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
1. Extraversion									
2. Agreeableness	.05								
3. Conscientiousness	.43**	.42**							
4. Neuroticism	-.20*	.53**	-.39**						
5. Openness	.28**	.12	-.50**	-.03					
6. Motive to achieve success	.29**	.07	.28**	-.02	.33**				
7. Motive to avoid failure	.02	-.20*	-.09	.41**	.06	.22**			
8. Motive to achieve power	.51**	.03	.43**	-.13*	.24**	.51**	.08		
9. Goal orientation	.10	-.04	.11	.07	.26**	.30**	.10	.03	
10. Task orientation	.20*	.10	.44**	-.14*	.06	.50**	.18*	.13	.15*

\*\*  $p \leq .01$  ; \*  $p \leq .05$

With the insight into the matrix of the cells, one can spot a great number of statistically significant inter-correlations between the measuring variables (of low and moderate intensity) ranging from .02 to .53. For example, on the one hand the *motive to achieve success* and the *motive to achieve power* correlate positively to personality traits Extraversion ( $r = .51$ ), Conscientiousness ( $r = .43$ ) and Openness ( $r = .24$ ), on the other hand the *motive to avoid failure* is in positive interaction with the personality trait Neuroticism ( $r = .41$ ) and has a negative linear correlation to Agreeableness ( $r = -.20$ ). In addition *goal orientation* is in positive inter-correlation with the personality trait Openness ( $r = .26$ ), and *task orientation* is in positive inter-correlation with Conscientiousness ( $r = .44$ ) and Extraversion ( $r = .20$ ).

Within the domain of personality traits, Extraversion is in positive bivariate low-intensity correlation with personality traits Conscientiousness ( $r = .42$ ) and Openness ( $r = .28$ ), while it is in very low-intensity negative correlation with Neuroticism ( $r = -.20$ ). Personality trait Neuroticism also statistically negatively correlates to Agreeableness ( $r = -.53$ ) and Conscientiousness ( $r = -.39$ ). On the other hand, personality trait Conscientiousness correlates positively with Agreeableness ( $r = .39$ ) and Openness ( $r = .50$ ).

Significant correlations are found within the domain of dimensions of motivation as well. The *motive to achieve success* and *task orientation* have a moderate-intensity linear connection (.50), are in positive inter-correlation with all the dimensions of motivations used, and the correlation between the two motives in question is high. For example: the *motive to achieve success* is positively and moderately in bivariate correlation to the motive for achieving power ( $r = .51$ ), goal orientation ( $r = .30$ ) and the motive to avoid failure ( $r = .22$ ), while task orientation is in statistically positive and statistically significant interaction with the motive for achieving power ( $r = .43$ ), goal orientation ( $r = .22$ ) and the motive to avoid failure ( $r = .20$ ).

### Canonical correlation analysis

The relations between the two sets of manifest variables (personality traits and dimensions of motivation) are defined using the model of canonical correlation analysis (Table 2). Two statistically significant canonical functions were extracted, and are tested using Bartlett's chi-square test, with the error of conclusion of 5%.

**Table 2.** Significance of characteristic squares and percentage of explained variance of extracted canonical items

Function	$R_c$	$R_c^2$	$\chi^2$	$p$
1.	.61	.44	111.26	.05
2.	.42	.21	39.35	.05

**Legend:**  $R_c$  = canonical correlation coefficient;  $R_c^2$  = coefficient of determination;  $\chi^2$  = chi-square test;  $p$  = significance proportion

The standard coefficient of canonical correlation or the connection within the first orthogonal pair of canonical factors is the greatest ( $r = .61$ ), which indicates that there is a moderate level of interaction between the linear combinations of the two analysed sets of variables. The coefficient of determination or the square coefficient of the structure indicates that there is a maximal proportion of the total variability (44%) that manifest variables share with the first pair of canonical functions. The second isolated independent standard canonical factor, with the lower value of coefficient of canonical correlation ( $r = .39$ ) and 21% of the total variance explained which share the examined variables, indicates that the linear correlation of this dimension between the two sets of variables is of low intensity.

With the aim of having better insight into the research matter, further data analysis has shown the coefficients of structure and functions (standardized canonical coefficient) with their most representative variables within the system of personality traits and dimensions of motivation. This shows the interactions between each variable and canonical function within their set (Table 3).

**Table 3.** *Structure of canonical factors*

Constructs	Variables	CF <sub>1</sub>	CF <sub>2</sub>
Personality traits	Extraversion	.74	.20
	Agreeableness	.09	-.49
	Conscientiousness	.79	-.44
	Neuroticism	-.38	.80
	Openness	.48	.22
Dimensions of motivation	Motive to achieve success	.75	.15
	Motive to avoid failure	.17	.70
	Motive to achieve power	.79	.07
	Goal orientation	.05	.27
	Task orientation	.47	-.24

The structure of the first isolated unipolar canonical pair of factors within the domain of personality traits, linked with the moderate correlation, is maximally canonically loaded by manifest variables Conscientiousness (.79), Extraversion (.74) and Openness (.48), while within the domain of dimensions of motivation the greatest contribution in defining the first canonical function have the motive to achieve power (.79), the motive to achieve success (.75) and task orientation (.47). In short, this canonical function reveals the maximum positive correlation between personality traits and dimensions of motivation.

The structure of the second isolated unipolar pair of canonical factors within the domain of personality traits, linked with the low correlation, is on the one hand predominantly determined by positive indicators of the manifest variable Neuroticism (.80), and on the other hand on the negative side, and with lower intensity, determined by Agreeableness (-.49) and Conscientiousness (-.44), while the domain of dimensions of motivation is significantly characterized by the motive to avoid failure variable (.70) and, in very low intensity, by goal orientation (.27).

## DISCUSSION

The aim of this research was to identify the structures and the intensities of the correlation between the Big Five personality traits, sports motivation, and orientation towards sports among adolescent karatekas. The canonical analysis has extracted two pairs of canonical factors for the personality of karatekas. From the theoretical point of view, the first integral pair of canonical factors contains two different systems of variables, main personality traits Conscientiousness, Extraversion and Openness, as well as the motive to achieve power and motive to achieve success, and task orientation. The obtained positive correlation between personality traits and the dimensions of motivation is identical to the findings (Rogowska, 2020), where a positive correlation was established between Extraversion, Openness and Conscientiousness, and task orientation. This canonical correlation contains positive traits and points to the specific combination of personality traits which is characterized by reliability, openness and the increase of positive performance, as well as the efficient mutual effect of certain factors (environmental and personal) during training and competitions. At the same time, these karatekas will exhibit a tendency to get into challenging situations. On the other hand, unreliable and undisciplined athletes can manifest lower motivation of orientation towards task, which will have a negative effect on the correlation between their personality traits.

The research results (Kim et al., 2018) have shown that personality trait Openness correlates more to creativity and divergent thinking, while Extraversion interacts more with positive affectivity and sensibility. In their empirical study, Le Thi My & Tran Minh (2021), stated that athletes who possess the manifest dimension Openness are more flexible in their behaviour, more imaginative and willing to engage in new training processes and competitions, and therefore are more prone to personal growth. In their study Abhar et al. (2021) pointed out that the factor of motivation task orientation and ego orientation correlate to supporting social values in sport, which motivates the development of self-control and acceptance of cooperation. In addition, these authors believe that study orientation of an athlete affects

their focus on mastering skills, on motor tasks and on minimal negative feelings. A research by Litwiniuk et al. (2019) has shown that high task orientation includes the optimal model of motivation in sports. During the process of training, the efficiency of task completion can be predicted with the help of the personality trait Conscientiousness and the dimensions of motivation. Athletes with a more intense level of Conscientiousness and the motive to achieve success will most likely have more developed motor skills compared to the athletes who possess a lower level of Conscientiousness and the motive to achieve success. Another research results (Rogowska, 2020) have shown the correlation between personality traits and motivational systems. According to a research by Navas et al. (2021), the first pair of canonical factors is linked to the system that activates behaviour that regulates motivation for engaging. The research results of Kang et al. (2016) indicate that there is a positive correlation between the variables Extraversion and temperament, as well as between temperament and positive emotionality. In conclusion, the first canonical function consists of personality dimensions and latent motivational variables, which represent relevant predictors of sports results.

The extracted second integral pair of canonical factors of our sample theoretically includes two separate sets of variables: on the negative side, there is Neuroticism, Agreeableness and Conscientiousness, and on the positive one the motive to avoid failure and goal orientation. It is presumed that this canonical correlation which includes negative personality traits inhibits the socialization of karatekas during training and competing.

Emotional instability and high anxiety level incite an athlete's ego and increase pressure to perform, as is stated in a study by Stambulova (2020). It is likely that personality traits Neuroticism, inhibited Conscientiousness and Agreeableness reduce the manifestation of skills during training or inhibit task and goal orientation. In addition, athletes who have distinct negative emotionality perceive a higher degree of negative feelings, and thus social environment can irritate them. At the same time, a high degree of impressionability and motive to avoid failure during adolescence is manifested in the uneven performance and the failure to deal with the stress of competing.

The findings of the second canonical function indicate that karatekas who integrate personality traits and dimensions of motivation tend to avoid failure during competition in order to protect their self-esteem. In their study, the authors Paweł et al. (2019) have pointed out that the athletes who have the minimal level of Openness and/or emotional stability tend to avoid difficulties, while the athletes who have increased level of Extraversion and/or emotional stability tend to face difficulties. It is expected that athletes who are more sensitive to stress during training and competitions more clearly manifest Neuroticism, minimal emotional stability and maximal motive to avoid failure. Hypothetically, athletes with the expressed construct of Neuroticism are more self-oriented and their stress and are prone to unfavourable emotional perception.

The extracted significant canonical functions of our sample reveal the correlation between main personality traits and dimensions of motivation of junior karatekas, as well as the structure of the latent mechanisms of the measuring psychological constructs. Both statistically significant extracted canonical pairs show that there is a high probability that the personality variables of karatekas interact with dimensions of motivation, which means that together they coordinate karatekas' behaviour. Based on the findings of this research, one can form a theoretical structural model of characteristic correlations between the constructs of personality traits and dimensions of motivation.

Identifying the examined personality traits and dimensions of motivation can help trainers to more efficiently develop karatekas' self-regulating skills, as well as manage their process of training. Empirical findings of this research indicate that the period of training and the time after should create a motivational atmosphere directed towards a specific task and goal (beating the opponent), where the trainer praises young athletes, which will decrease anxiety and increase their self-esteem. At the same time, it is necessary to intensify the motive to achieve success. During multi-annual systematic training, guided by an expert trainer, it is possible for an athlete to decrease Neuroticism and increase the level of Conscientiousness and task orientation.

The results of the research that examine the relations between the Big Five personality traits and the motive to achieve success created a starting point for a better understanding of personality traits and dimensions of motivation of junior karatekas. The obtained results can be used for the selection of athletes and for managing the mechanisms for the entire anthropological development of an athlete, such as encouraging emotionally stable perceptions and manifestations, sports motivation and self-regulation of behaviour during training and competition.

This correlational research has certain limitations. The first methodological limitation is the transversal research outline, meaning that the research has been conducted using the sample of only male participants and at one point in time, instead of assessing their personality traits and dimensions of motivation at various stages of growth. The second methodological limitation of this research is using the self-assessment questionnaires, which means using only the five-factor model of personality.

Future research should include a larger and more heterogeneous sample of karatekas of various age and both genders, trainer's evaluation, as well as the data on sports career, which would enable a more detailed analysis of the

structure of the relations between personality traits and dimensions of motivation, the selection of athletes and systematic management of the top athletes' development process. In addition, when examining the latent constructs of athletes' personality, besides transversal, one should apply longitudinal mode of research, using experimental and control group, which would enable the influence of latent variables and training on the positive biopsychological personality transformations of an individual during various stages of growth. It is also necessary to construct new valid measuring instruments which will, with interdisciplinary and multidisciplinary approach, such as structural modelling, enable the measuring of characteristic personality traits of an athlete and the generalization of the cause-effect type of interactions between the measuring variables.

## CONCLUSION

The aim of this research was to examine the relations between the main personality traits and the dimensions of motivation in the period of adolescence. The results obtained in this cross-sectional study confirmed the reliability and validity of the applied measuring instruments, which means that they have satisfactory internal consistency and are suitable to be used on the Serbian population.

The research findings, with the error of estimate being 5%, identified a great number of significant correlations of low and moderate intensity between the manifest variables of personality traits and the dimensions of motivation. Using the model of canonical correlation analysis, two significant canonical functions have been isolated. The first pair of canonical factors within the domain of personality traits, with 44% of the explained variance, is maximally determined by the constructs Conscientiousness, Extraversion and Openness, while within the domain of dimensions of motivation is determined mostly by the motive to achieve power, the motive to achieve success and task orientation.

The second pair of canonical factors within the domain of personality traits, on the negative side, and accounting for 21% of the explained variability, is dominantly defined by Neuroticism, Agreeableness and Conscientiousness, while the structure within the domain of dimensions of motivation is dominantly defined by the motive to avoid failure and goal orientation. The results of the conducted multivariate analysis have empirically confirmed the initial hypothesis of this research, which is that it is expected that the correlation between most manifest variables of personality traits and dimensions of motivation can be found in adolescent karatekas, as can the extraction of significant canonical factors.

The results of this transversal research suggest that there is a relevant empirical contribution and important implications for everyday training practices and a better understanding of the explored complex constructs. In addition, the conducted research gives a relevant contribution in the domain of sports psychology, which enables a higher level of understanding of the functioning of adolescent athlete's personality.

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