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**PREDICTORS OF THE CHOICE OF EXTRACURRICULAR
SPORTS ACTIVITIES FOR HIGH SCHOOL STUDENTS**

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Abstract

The present study aimed to analyse the personality traits, the place of control, the style of coping and the somatic-functional characteristics as predictors of the choice of extracurricular activities in the field of sports in high school students. The study involved 102 subjects, all boys, aged between 14 and 18 years ($M = 16.27$; $SD = 1.11$), students of "Constantin Brâncoveanu" High School in Horezu, Vâlcea County. Personality traits were measured using the HSPQ Personality Questionnaire. The Multidimensional Child Control Perception Scale (SMPCC) was used to assess the place of control, and the coping style assessment was performed using the Cognitive Emotional Coping Assessment Questionnaire (CERQ). Four tests were used on the motor plane: Ruffier, Dorgo, Quetelet body mass index and Erissman body harmony index. The results obtained showed statistically significant correlations between personality traits, intelligence, emotional stability, conformity, cheerfulness, dominance, place of internal control and the power of others, and cognitive coping strategies, Refocusing on planning and Perspective and somatic-functional characteristics, respectively height, weight, BMI, body harmony, endurance and post-exercise recovery. The regression analysis of the strongly correlated variables demonstrated a valid model of involvement in extracurricular sports activities in high school students.

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1. Introduction

Sport and physical activity, in general, have a major role to play in contemporary society. The practice of sport is considered to be important for the development of children and young people, because it promotes their physical and emotional health, has a positive contribution to the process of learning and personal development and builds valuable social connections. In addition, sport is a powerful tool for children and young people, as it offers opportunities for discovery through play and self-expression.

In this context, physical education and sports play an essential role in the development of individuals. This is why the curriculum includes education and sports classes, and the curriculum gradually develops basic motor activities and expands their scope to cover more complex sports, such as gymnastics, sports games (especially ball games), athletics, winter sports and other sports. Moreover, special attention is paid at European level to the promotion of physical activity, with the 2009 Treaty on European Union in Lisbon giving the European Union the legal basis to act for the development of the European dimension in sport and to help promote issues of European sport. In this sense, in Romania, as in the other European countries, extracurricular physical and sports activities are organized. These extracurricular activities, which take place outside school hours, are organized, especially at school level, in order to make physical activities more accessible and attractive to young people. There is a considerable number of articles in the literature that have focused on the benefits of young people's participation in extracurricular activities in general.

Thus, the reduction of school absenteeism and the increase of school performance and psychological well-being are mentioned (Eccles et al., 2003), the consolidation of long-term school results and the improvement of problematic behaviors (Fredricks & Eccles, 2006), positive personal development and training, civic consciousness (Gardner et al., 2008).

A number of researches have focused on the benefits of youth participation in extracurricular activities in the field of sports. Studies have shown that these activities develop the social network of young people, team spirit and compliance with the instructions of the team leader (Wilson, 2009). Interaction with others can contribute to the development of young self-identity (Darling et al., 2005). Moreover, Smith, in 2008, shows that the involvement of young people in school sports not only ensures the continuation of education after high school, but also creates for them a social network that emphasizes the value of school and coordinating teachers (as cited in Wilson, 2009).

Many specialists, as well as parents, looked for the answer to the question "what sport should a teenager do?". One possible answer would be the goal, because for some young people sport is fun, and for others sport is a passion that can lead to a professional career. Thus, the focus of researchers has shifted to considering personality traits as "precursors of two basic effects: athletic performance (athletic success) and physical activity (participation in physical activity)" (Allen & Laborde, 2014, p. 460). The specific contribution of personality to success and failure (in sports, as well as in other aspects of daily life) can be observed when other factors, such as physical abilities and environmental factors, are constant (Aidman, 2007). Personality is also a good predictor of long-term success, positive coping, and behavioral adaptation (Allen et al., 2013). In addition, personality distinguishes athletes from non-athletes (Allen et al., 2013), but the evidence is somewhat contradictory (Malinauskas et al., 2014).

While the positive effects of student participation in extracurricular sports activities are well documented and the positive effect of these activities on personality development is also recognized, few studies address the personality profile of adolescents involved in sports activities.

2. Problem Statement

The school is one of the most suitable environments for practicing physical and sports activities, the school environment offering a safe and secure space for their development, an appropriate pedagogical climate (pleasure, learning, joint effort), the effectiveness of the intervention (skill of physical education teachers, collaboration with coaches, parenting) so that all children and young people can progress, depending on their level and needs. In Romania, the most common extracurricular activities in the field of sports are gymnastics, athletics and sports games or those decided by the school, as mentioned in the report of the European Commission (Eurydice) in 2013 (Eurydice, 2013).

In the life of a teenager, the positive value of sport is enormous. Many teenagers practice one form or another of sports and many are involved in competitive sports programs. The student chooses the sport he practices, it is his right. In the specialized literature there is still a need for studies that integrate the complexity of personality in the context of sports. From this perspective, we consider it important to identify the dimensions of the student's personality that are involved in sports activities. This analysis can support physical education and sports teachers who organize extracurricular sports activities, as well as parents and other decision makers, so that they meet the needs of students.

3. Research Questions

- i. Is there a statistically significant relationship between personality dimensions (personality traits, place of control, coping strategies), somatic-functional characteristics, and the preference for extracurricular sports activities in high school students?
- ii. Is there a valid predictive pattern of preference for extracurricular sports activities based on personality traits, place of control, coping strategies, and somatic-functional characteristics in high school students.

4. Purpose of the Study

The aim of this study is to identify the functional psycho-somatic profile of the high school student who is involved in extracurricular activities in the field of sports. In this regard, we aim to investigate the predictive role of significant personality traits and soma to-functional characteristics of students who choose to engage in sports activities. Moreover, the present study investigates the relationships between personality traits, soma to-functional characteristics and the preference for sports activities most appreciated by students.

Research objectives:

- 1) Establishment of the battery of tests to determine the level of motor skills and some dimensions of the personality of high school students.

- 2) Determining the level of motor ability of high school students case study.
- 3) Developing a predictive model of the high school student who is involved in sports activities.

5. Research Methods

The study was conducted between September 20 and November 27, 2020 and involved distinct stages of preparation, collection, interpretation and analysis of the data collected. The study was attended by 102 students from the ninth, tenth, eleventh and twelfth grade, boys, from the "Constantin Brâncoveanu" High School in Horezu, Vâlcea County, aged between 14 and 18 years. Subjects were randomly selected from the 1900 enrolment of high school students. The criteria for inclusion in the study were: the quality of high school student, the expressed desire to participate in extracurricular activities in the field of sports and the informed consent of parents. The exclusion criteria were those related to the student's health and lack of parental consent. Each subject responded individually to the questionnaires, which were addressed by the high school psychologist in the classrooms, with no time limit. Somatic-functional measurements were performed in a separate session.

We used the following tools to assess the personality traits and somatic-functional characteristics of the subjects:

Personality traits - The High School Personality Questionnaire (HSPQ) (Cattell et al., 1958), a self-report inventory for children ages 12-18 has been completed by each subject. The questionnaire measures 14 personality characteristics identified by factor analysis: warmth, intelligence, emotional stability, excitability, dominance, cheerfulness, conformity, boldness, sensitivity, withdrawal, apprehension, self-sufficiency, self-discipline, and tension.

Each factor in the questionnaire is measured by 10 items, with three answer options. Scores are expressed as 14 sub scores, one for each personality trait. By comparing the raw scores with the norms, the stem scores are designated as "low", "medium" or "high" expressed in percentiles. Separate rules are used for boys and girls and a Romanian version of the test is available. Several special scales help to detect intentional self-distortion and random response patterns. Short-term test-retest reliability is .70 and .80, and long-term is .50 and .60. Factor analysis was used to determine the validity of the construct, and 12 replicates of the original procedure confirmed the validity of the 14 personality traits (By comparing raw scores with the norms, stem scores which are designated as „low”, „average”, or „high” as well as percentile scores are obtained. Separate norms are used for boys and girls and a Romanian version of the test is available. Several special scales help detect deliberate misrepresentation of self, and random response patterns. Short-term test-retest reliability is in the .70s and .80s, and long-term is in the .50s and .60s. Factor analysis was used to establish construct validity, and 12 replications of the original procedure have confirmed the validity of the 14 personality characteristics).

Place of control - To measure the place of control, we used the Multidimensional Child Control Perception Scale (SMPCC), an instrument developed by James P. Connell in 1985, adapted in Romanian by Daniel David (2007). The scale evaluates different causal attributions that can be used both to interpret experiences that lead to success and those that lead to failure, seen not as one-dimensional, but as a profile of specific causal attributions. This tool allows us to evaluate what students know, that it would

contribute to their success / failure (internal control or control - the power of others) and how much they cannot explain or do not know why they succeeded or why they failed (unknown control).

The Multidimensional Scale of Perception of Control is a questionnaire with 48 items that refer to three sources of control: internal, the power of others and unknown control, encompassing each of the four areas: cognitive (school success), social (relationships with friends), physical (sports activities) and general. Half of the items describe successes, half describe the failures, each source of control being represented by two items that are never presented consecutively, and the domains and types of response are randomly ordered in the content of the scale. The answer to the items is recorded on a 4-point Likert scale (1 = false, 2 = untrue, 3 = mostly true, 4 = true). The test-retest reliability on the Romanian sample is .82 for the whole scale, for the unknown control and the internal control subscale is .80 and .62 for the Control subscale - the power of the others (N = 276).

Cognitive coping - Emotional Cognitive Coping Assessment Questionnaire (CERQ) is a multidimensional, self-assessment questionnaire that measures the cognitive coping strategies of adults and adolescents 12 years of age and older. Cognitive coping strategies are defined as cognitive strategies for regulating emotions, which involves the cognitive regulation of emotional responses to events that result in the aggravation of individual emotions (Thompson, 1991). The questionnaire has 36 items divided proportionally on nine scales: Self-blame, Acceptance, Ruminating, Positive refocusing, Focusing on planning, Positive reassessment, Putting into perspective, Catastrophe, Blaming others. Each CERQ subscale contains 4 items. Test-retest fidelity is significant on every scale. In motor terms we used four tests:

Ruffier Test (Ruffier Test) - is considered a "fitness test". The test tracks the heart rate (HR) response to standard stress and provides information on how well the circulatory system adapts to stress.

Dorgo Index - aims at the body's recovery after exertion. Through the evolution of the heart rate after the cessation of physical exertion. The Dorgo index reflects the human body's ability to recover after exertion. This test highlights, through the pulse, the behaviour of the heart in exertion.

Quetelet Body Mass Index (BMI) - The index predicts potential health risks, much better than a simple weigh-in. This index is a useful indicator of whether a person has a normal and healthy weight in relation to their height (underweight, overweight or obese).

Erissman Index (I.E.) - is the index that expresses body harmony and provides information on the general development of the chest in relation to the waist (height).

In addition to the tools mentioned, we asked the subjects to indicate their favourite sport for extracurricular sports activities (maximum four sports activities). In this sense, we have built a list of the most popular sports activities in Romania, consulting the "sports list" on the Wikipedia website¹. The list includes 13 sports, grouped into two categories (team sports and individual sports), such as: handball, volleyball, basketball, rugby, gymnastics, tennis, oina (traditional romanian sport), boxing, water sports. In our country, sport is an important part of the culture, football being the "king sport", as it is called. The 4 sports activities most appreciated by the respondents were football (59 mentions), basketball (21 mentions), handball (12 mentions), and chess (10 mentions) (De Vries, 2020).

¹https://en.wikipedia.org/wiki/Sport_in_Romania

6. Findings

Table 1 presents the somatic-functional characteristics of the subjects:

Table 1. Descriptive statistics for age and somatic-functional characteristics of the subjects

Characteristics	M	SD	Min	Max
Age, yr.	16.27	1.11	14	18
Height, m	1.73	.05	1.60	1.92
Weight, kg	67.10	11.06	51	99
Body Mass Index, kg/m ²	22.34	3.17	16.91	32.87
Body Harmony Index (EI)	4.48	3.52	78	105
Ruffier Index (RI)	7.60	6.43	4.00	19.20
Dorgo Index (DI)	12.35	3.99	4.0	21.6

Note. N=102

In order to answer the first question of the research, a correlation analysis was performed between the proposed variables. Table 2 shows the significant associations obtained from the analysis. Statistically significant associations ($p < 0.001$) were noted between personality traits, intelligence, emotional stability, dominance, conformity, cheerfulness, place of cognitive control, place of social control, and cognitive coping strategies, refocusing on planning and putting it into perspective. Significant correlations were also noted between the dimensions of the mentioned personality and the somatic-functional characteristics: height, weight, body mass index (BMI), body harmony (EI), resistance to exertion (RI) and recovery of the body after exertion (DI).

Table 2 shows that, in general, the correlations range from 0.20 to 0.70, from moderate to substantially high. We can conclude that the multidimensionality of the profile of the student who is involved in extracurricular sports activities is supported by the inter correlations of the presented variables. Similar personality traits, emotional stability, dominance, extraversion have been identified in elite football players aged 9-15 by Rizzardo in 1980. Rizzardo's analysis also identified the place of control as a dimension of personality in his research (Rizzardo, 1980). In the present study, a significant correlation was obtained between the place of internal control and the strength of others (.499, $p < .01$) explained by the fact that at this age it is important to accept others, at least in terms of physical competence.

Table 2. Correlation between Personality Traits, Locus of control and Coping strategies

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. SP	2.41	1.09	-	.31**	.39**	.20*	.38**	.19*	.36**	.28**	.29*	.16*	.19*	.16*	.21*	.20*	-.19*	.18*
2. B	5.88	2.20		-	.31**	-.26**	.21*	.25*	.42**	-.22*	.35**	.19*	.20*	-.20*	-.24*	.21*	.40**	.19*
3. C	11.07	2.79			-	.20*	.36**	.28**	.45**	-.28**	.27**	.30**	.21*	-.22*	-.24*	.25*	-.20*	.24*
4. E	10.15	2.53				-	.24*	.32**	.24*	-.35**	.33**	.49**	.29**	.22*	.26**	.23*	.23*	.21*
5. F	12.26	3.16					-	-.29**	.26**	.38**	.35**	.35**	-.21*	.23*	.23*	.23*	.25*	.21*
6. G	11.25	2.80						-	.26**	.31**	.28**	-.24*	.21*	-.30**	-.28**	.29**	.38**	.33**
7. IC	34.95	11.02							-	.49**	.29**	.24*	.20*	-.22*	-.23*	.21*	.33**	.27**
8. OP	24.18	10.86								-	-.40**	.27**	-.24*	.19*	.28**	.29**	.26**	.23*
9. RP	13.44	3.46									-	.42**	.27**	-.23*	-.29**	.20*	.28**	-.18
10. P	12.62	3.55										-	-.20*	-.22*	.19*	.28*	-.21*	.14
11. Height	1.73	.05											-	.48**	.75**	.73**	.25*	.24**
12. Weight	67.10	11.069												-	.90**	.65**	.05	.26*
13. BMI	22.34	3.17													-	.39**	-.24*	.26**
14. EI	4.48	3.52														-	.05	.39**
15. RI	7.60	6.43															-	.67**
16. DI	12.35	3.99																-

Note – N=102; SP – sport preference; B – intelligence; C - emotional stability; E – dominance; F – cheerfulness; G – conformity; IC – internal control; PO – power of others control; RP - refocusing on planning; P – perspective; BMI – Body Mass Index; EI – Erissman Index; RI – Ruffier Index; DI- Dorgo Index

*p<.05; **p<.01

Regarding the second question of the study, in order to be able to answer it, we performed a multiple regression analysis.

Table 3. Multiple regression analysis for determining the profile of personality and somato-functional characteristic in sport preference

Model	R ²	B	F	df	95%CI		p	Cohen's f ²
					UL	LL		
1	.184	-47.16	17.60	(6,101)	-86.76	-10.48	.039	0.22
2	.321	-44.44	22.42	(11,101)	-86.74	-1.90	.031	0.47
3	.367	-42.83	26.60	(13,101)	-85.51	1.02	.044	0.58
4	.380	-44.16	27.62	(15,101)	-87.79	-.05	.016	0.61

Note – N=102; CI = confidence interval; LL = lower limit; UL = upper limit.

The results presented in Table 3 show that Model 4 represents 38% of the preference variant for sports activities, where F (15,101) is 27.62 (p <0.05). The model includes personality traits, intelligence, emotional stability, dominance, conformity, joy, place of internal control and the power of others, coping focused on refocusing and perspective, along with somato-functional characteristics, height, weight, body mass index (BMI), body harmony (EI), resistance to exertion (RI) and recovery of the body after exertion (DI).

7. Conclusions

The present study outlined a profile of the high school student who is involved in extracurricular activities in the field of sports. Personality traits, along with the place of control, coping style and somato-functional characteristics are valid predictors of the preference for sports and motor activities. The present analysis supports the decision-makers regarding extracurricular sports activities, as well as the parents when choosing a sport for their child. For any teenager, the practice of a sport involves the formation of a healthy lifestyle, the prevention of unwanted behaviors, the strengthening of health, the development of dexterity, strength and endurance, then the main thing is the personal interest of the teenager.

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