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STUDY ON THE UNDERSTANDING AND PERCEPTION OF PHYSICAL LITERACY AMONG PHYSICAL EDUCATION AND SPORT TEACHERS IN ROMANIA

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ABSTRACT. Introduction: Physical literacy (PL) is a concept that, in recent years, has earned notoriety within the field of physical education and has become a focus point in schools physical education and sports programs. Physical education lessons represent an ideal setting for fostering and developing physical literacy, and the teacher plays an essential role in its development. The physical education teachers' choices during the lesson influence what students learn and whether the objective of physical literacy is achieved. **Objective:** The purpose of this study was to investigate the understanding and perception of PL among Romanian physical education and sport teachers. **Material and method:** The participants in this study were 169 physical education and sport teachers (42% female and 58% male) from Romania, most of them from the western part of the country (86,39%). This study was conducted using the questionnaire survey method. A questionnaire that assessed the teachers' understanding and perception towards physical literacy was applied. The collected data was analyzed using the IBM SPSS Statistics 20. **Results:** The main results indicate that there is a positive and moderate correlation between the understanding and perception of PL among Romanian physical education and sport teachers ($\rho = .454$, $p < 0.001$). **Conclusions:** It is concluded that the understanding and perception of the concept of PA are positively associated, which highlights the need for teachers to be informed about PA in order to optimize the teaching process.

Keywords: *Physical literacy, teachers, understanding, perception.*

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Introduction

Due to recent social changes, an inactive, sedentary lifestyle is becoming more and more common in society, a phenomenon also found among children (Nelson et al., 2006). In both developed and developing countries, the number of children at risk of obesity has increased significantly (Pop, 2020). According to the World Health Organization (WHO) the prevalence of overweight and obesity among children and adolescents has increased dramatically. A very important factor in preventing overweight and obesity among children and adolescents, as well as in reducing the risk of obesity in adulthood, is physical activity (Hills, Andersen & Byrne, 2011). Regular physical activity brings many physical and mental benefits and is vital for a healthy lifestyle (Tomaczkowski & Klonowska, 2020).

A potential cornerstone for increasing the number of people who engage in physical activity from an early age is represented by physical literacy (Brown, Dudley & Cairney, 2020). This concept is seen as a key element in discussions about how sports, recreation, health, and physical education could help solve problems related to physical inactivity and obesity (Roetert & MacDonald, 2015).

Physical literacy encompasses both the desire to participate in physical activity and to gain meaningful, fulfilling experiences through it. Crucially, it redefines how physical activity is understood and gives importance to the holistic development of an individual's physical potential (Whitehead, 2010). Some authors believe that physical literacy is an essential life skill that ensures participation and active involvement in society (Roetert & Jeffries, 2014), and as such, it should be seen as an integral component of a child's holistic development in the educational environment (Roetert & Couturier MacDonald, 2015).

From an education perspective, the United Nations Educational, Scientific and Cultural Organization policy document states that high-quality school curricula for physical education and sport should target physical literacy (UNESCO, 2015). The relationship between physical literacy and physical education was emphasized by Whitehead (2013) who stated that the former is not an alternative to the latter, that there is no competition between the two, and that the most important aspect is that physical literacy is the goal of physical education, a goal that can be uttered and defended with confidence to reveal the intrinsic value of physical activity.

In school environment, physical education lessons provide a suitable and formalized framework for fostering and increasing physical literacy (Stoddart & Humbert, 2017), and teachers play an important role in its development. The choices physical education teachers make during the lesson determine what students learn and whether the goal of physical literacy is achieved. School plays a significant role in a child's overall development, so it is very important that

physical education teachers understand the phenomenon of physical literacy. Knowledge of physical literacy will enable them to maximise opportunities to engage pupils in a variety of ways, which will lead to their development from this perspective. Physical education and sport teachers also play a key role in promoting understanding and awareness of the importance of the concept of physical literacy among both other teachers and parents. Therefore, it is an absolute must that physical education and sport teachers are aware of the complexity of the concept, given that physical literacy incorporates components from three domains of learning: cognitive, affective and psychomotor (Graham, Holt/Hale & Parker, 2013).

Objective and hypotheses

The objective of this study was to analyze the relationship between the understanding and perception of the concept of physical literacy as well as the differences in terms of gender among physical education and sport teachers in Romania.

In this research the following hypotheses were assumed:

Hypothesis 1: It is assumed that there is a correlation between the understanding and perception of the concept of physical literacy among physical education and sport teachers participating in the study.

Hypothesis 2: It is assumed that, depending on the gender of the subjects, there may be differences in their understanding and perception of the concept of physical literacy.

Material and methods

Participants

A total of 169 physical education and sport teachers (42% female and 58% male) from Romania participated in this study, most of them from the western part of the country (86,39%). All subjects were informed about the study objectives and the procedure and agreed to participate voluntarily in the research.

Procedure

In this study, the questionnaire administered to assess the understanding and perception of physical literacy was adapted from the model proposed by Essiet et al. (2022). The original version of the questionnaire includes 19 items.

In this study, 17 of them were selected, which make up 2 scales – understanding and perception – 10 items for the first scale and 7 for the perception scale, the answers being given on a 5-point Likert scale. Of these, three items are reversed. High scores reflect a higher level of understanding and underscore the perceived importance of the concept. The questionnaire used in this study was translated into Romanian by a specialized translator. The questionnaire was developed using Google Forms, the participants having the opportunity to provide the answers online.

The IBM SPSS Statistics 20 program was used for the statistical processing and analysis of the collected data. To study the internal consistency of the questionnaire, Cronbach's alpha coefficient will be calculated and a simple correlation analysis will be performed to analyze the association between understanding and perception of the concept of physical literacy.

Results

Regarding the participants in the study, most of them (38%) were aged between 25 - 34 years, 34% were aged between 35 - 44 years, 17% were aged between 45 - 54 years, 7% were aged between 21 - 24 years, and the fewest were 55 years old and older (4%).

In terms of the degree programme graduated, 33% of the subjects graduated only a bachelor's degree programme, 64% a master's degree programme and 3% a doctoral degree programme.

Concerning the professional experience in the field of education, 28% of subjects declared that it falls within the range of 1 – 4 years, 27% between 5 – 9 years and 9% have experience of 25 years or more.

Of the subjects included in the study, 16% are classified as beginning teachers, 39% are with a full-time professional degree, 19% have obtained the second teaching degree qualification and 34% have obtained the first teaching degree qualification or the PhD title (Table 1).

Table 1. Demographic data of the study participants

Demographic data		N	%
Gender *(n=169)*	Male	98	58.0
	Female	71	42.0
Age group *(n=169)*	21-24 years	11	6.5
	25-34 years	65	38.5
	35-44 years	58	34.3
	45-54 years	29	17.2
	55 + years	6	3.6

Demographic data		N	%
Educational background *(n=169)*	Bachelor's degree	55	32.5
	Master's degree	109	64.5
	PhD	5	3.0
Experience *(n=169)*	1 - 4 years	48	28.4
	5 - 9 years	45	26.6
	10 - 14 years	16	9.5
	15 - 19 years	25	14.8
	20 - 24 years	23	13.6
	25 +	12	7.1
Teaching degrees obtained *(n=169)*	Beginning teacher	26	15.4
	Full-time professional degree	66	39.1
	Second teaching degree qualification	19	11.2
	First teaching degree qualification/ PhD title	58	34.3

For the questionnaire used, after its translation into Romanian, the Cronbach alpha fidelity coefficient of the 17 items was calculated. The value of .702, with a percentage of 100%, means that the scale has a good internal consistency (Table 2).

Table 2. Internal consistency of the questionnaire

Cases	**N**	**%**	**Cronbach's Alfa**	**No. of items**
Valid	169	100.0	.702	17
Excluded	0	0		
Total	169	100.0		

Regarding the studied sample, at the descriptive level the following values were found for the Understanding and Perception scales (Table 3):

Table 3. Descriptive analysis

Variables	*Mean*	*Std. dev*	*Min. value*	*Max. value*
Understanding	37,17	3,98	26	47
Perception	29,19	3,33	21	35

In order to verify the relationship between the comprehension and perception variables, a scatter plot was first performed (Figure 1), with a scatter coefficient of R^2 = .0192. The dispersion line indicates a positive relationship, meaning that an increased value of understanding of the concept of physical literacy leads to an increased perception of it.

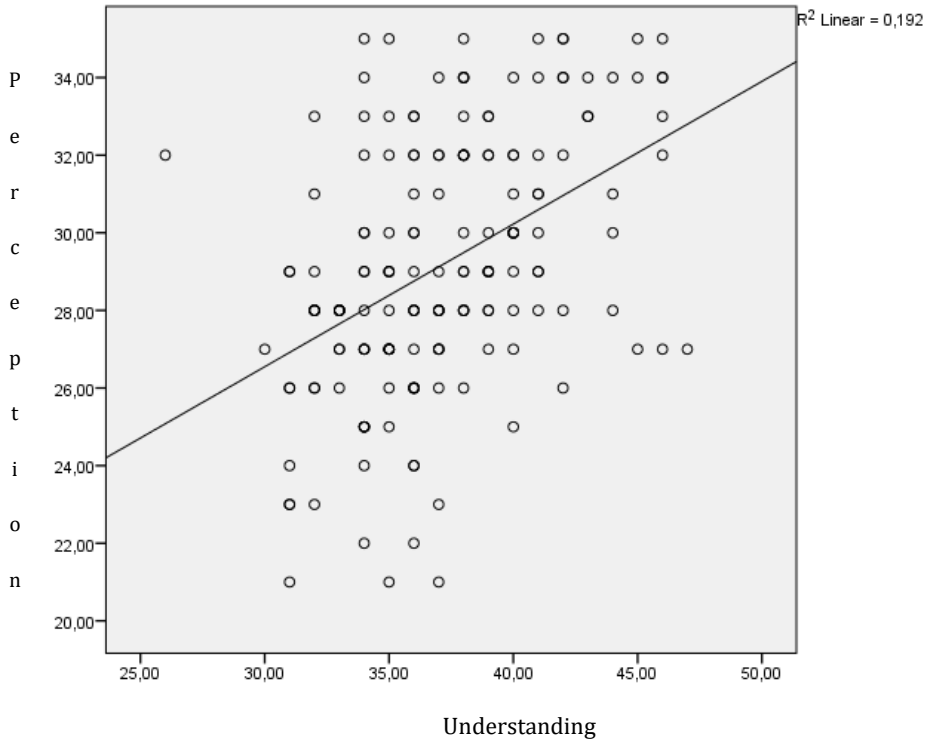

Figure 1. Scatter diagram showing the relationship between the variables of understanding and perception

Testing the associative hypothesis began by checking the shape of the distributions of the two variables. The results of the Kolmogorov-Smirnov's Test for the normality of the distributions are shown in Table 4:

Table 4. Normality test of distributions for comprehension and perception

	Kolmogorov-Smirnov		
Variables	Statistic	df	Sig
Understanding	.095	169	.001
Perception	.106	169	.000

Since none of the distributions met the normality criterion ($p<.05$), the Spearman coefficient was used as a technique for testing the hypothesis.

Calculation of the Spearman correlation coefficient shows a value of ρ = .454 (Table 5), revealing that there is a moderate positive correlation between the two variables.

Table 5. Correlation between understanding and perception variables

		Perception	Understanding
Perception	Spearman's Correlation	1	.454
	Sig. 2-tailed	-	.000
	N	169	169
Understanding	Spearman's Correlation	.454	1
	Sig. 2-tailed	.000	-
	N	169	169

Thus, as understanding scores increase among the physical education and sport teachers, so do the physical literacy perception scores.

Regarding the second hypothesis, concerning possible differences in understanding and perception of the concept of physical literacy according to the gender of the subjects, the Mann Whitney U nonparametric test for independent samples was used as a statistical technique, since the distributions of the two variables for both groups were abnormal (Table 6).

Table 6. Normality test of distributions for comprehension and perception variables

		Kolmogorov-Smirnov		
		Statistic	df	Sig
Male	*Understanding*	.149	98	.000
	Perception	.146	98	.000
Female	*Understanding*	.110	71	.033
	Perception	.144	71	.001

The results of the Mann Whitney U test for the comprehension and perception variables are shown in Table 7. One can notice that for both variables the scores are higher for female subjects. They concluded that for the understanding variable there is no significant difference between the mean scores recorded according to the gender of the subjects ($U = 2883$, $N_1 = 98$, $N_2 = 71$, $p = .057$), but that for the perception variable the difference is significant ($U = 2329$, $N_1 = 98$, $N_2 = 71$, $p = .000$).

Table 7. Mann Whitney U test – Ranks and statistics

Variable	Group	N	Mean Rank	Sum of Ranks	U	Z	Sig.
Understanding	1 Male	98	78,92	7734,00	2883	1.904	.057
	2 Female	71	93,39	6631,00			
Perception	1 Male	98	73,27	7180,00	2329	3.682	.000
	2 Female	71	101,20	7185,00			

Discussion

In this research, we focused our attention on the variables of the degree of understanding and perception of the concept of physical literacy among physical education teachers (N=169), but also on the possible differences according to the gender of the subjects.

There are studies in the literature showing that there are teachers who find it difficult to understand the concept, which highlight the need for teachers to receive support in this regard in order to be able to develop physical literacy through physical education and sports lessons (Robinson, Randall & Barrett, 2018; Stoddart & Humber, 2021).

The results obtained in this study confirm the existence of a statistically significant link between the understanding and perception of the concept of physical literacy. A similar study was conducted by Essiet et al. (2022) involving 122 subjects, mostly male 48,4%. The study sought to identify how teachers understand and perceive the concept of physical literacy and revealed that the majority of teachers included in the research perceive physical literacy as an important and valuable concept; however, it highlights the fact that without proper understanding and knowledge, it would be difficult to implement it. These results could explain what was demonstrated in the present study.

The present study also revealed a statistically significant difference according to gender, with female teachers (42% of the analysed population) having a higher perception of the concept of physical literacy than male teachers (58% of the analysed population). The level of understanding of the concept of physical literacy does not differ between the two genders.

In essence, both categories of subjects have a similar level of understanding but perceive the importance of the concept of physical literacy differently.

Limitations of the study and future recommendations

The results are limited from the point of view of generalization as most subjects are from the same geographical area. Furthermore, the small number of participants is a limit of the present research (N=169). A larger sample could have

provided a clearer, more complex picture of the relationship between the variables studied in the research. At the same time, the use of the questionnaire for data collection excluded the possibility of obtaining details of the answers provided.

Regarding future suggestions for approaching this topic, it should be taken into account that other studies also recommended the use of interviews with the subjects, as an additional method to gather more detailed and accurate information on how they understand and perceive physical literacy.

Conclusions

The objective of the present study was to capture a possible link between the understanding and perception of the concept of physical literacy among physical education and sport teachers in Romania, as well as possible gender differences between the two variables. The obtained data confirmed the associative hypothesis that there is a statistically moderate correlation between understanding and the perceived importance of physical literacy. The correlation between the two is positive, but understanding and perception are dependent in only 19% of study participants.

Moreover, a statistically significant difference was highlighted according to the gender of the subjects at the level of perception of the concept. In terms of understanding, no statistically significant differences were found between participants by gender, although there are differences here too. Thus, although the level of understanding is the same in both groups, the perception of the concept of physical literacy is more pronounced among female physical education and sport teachers.

Taking into account the fact that understanding and perception of physical literacy are corelated, it is concluded that information about the concept and knowledge of aspects of physical literacy can contribute to awareness of its importance. This association may be reflected in the future by the increased attention paid by physical education and sport teachers to all components of physical literacy.

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