

# Examining the Perceived Sports Literacy of Physical Education Teachers, Trainers and Sports Managers in Terms of Various Variables

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## Abstract

*Introduction and Purpose:* UNESCO stated that literacy in the most general sense should include not only reading and writing, but also components of knowledge, thinking, communication, language, culture, and social practice (as cited in Lounsbury & McKenzie 2015). The main purpose of this study is to examine the perceived sports literacy of physical education teachers, trainers, and sports managers in terms of various variables. Furthermore, the validity and reliability level of the scale used in the study, developed by Sum et al., (2016) and adapted into Turkish by Ülker (2019), is examined in the subject group.

*Method:* 103 physical education teachers, 55 trainers and 28 sports managers working in Manisa participated in the study. The “Perceived Sports Literacy Scale” (PSLS) and “Personal Information Form” were used to obtain the data. The data were evaluated using the Mann-Whitney test and Kruskal-Wallis test, internal consistency for reliability, and exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) for construct validity.

*Results:* The gender and team supporter variables did not make a difference to PSLS scores. PSLS scores in all sub-dimensions were found to be higher and significant for those who did

regular physical activity (RPA) compared to those who did not, while “confidence in psychomotor knowledge and ability” and “communication and lifelong sports consciousness” scores of trainers were found to be higher and significant compared to those of other occupational groups. As a result of the EFA and CFA analysis, it was seen that the scale was divided into 17 items and 3 sub-dimensions.

*Conclusion:* It was concluded that doing RFA and being a trainer were effective in having higher PLS scores than those of other participants, while the gender and team supporter variables were ineffective. The scale is a measurement tool that provides psychometric qualities to measure the sports literacy levels of sports sector employees.

**Keywords:** Literacy, Perception, Validity, Reliability

## 1. Introduction

Sports literacy, which is concretised in physical education, deals holistically with sport, sports culture, self-discovery, observation, the ability to discern events, creative thinking, responsibility, the sense of struggle, and the basic skills enabled by sport. These skills enable individuals to make healthy choices as people that understand and give the necessary value to sport, can distinguish between good and bad sports practices, are informed and qualified, and are beneficial and respectful towards themselves, others and their environment (Ülker, 2019). Among the topics included in the 2010 Global Forum for Physical Education Pedagogy (GOFPEP), 21st-century sports literacy has gradually gained momentum as a fundamental structure of physical education, sport, physical activity, recreation and public health (Edginton et al., 2010; Roetert & MacDonald, 2015; Tremblay et al., 2018). By including this structure in its national programme, Canada has carried out the most comprehensive adoption of physical literacy, and is among the countries that have incorporated this concept into their schools, national federations and long-term athlete development programmes (Roetert & MacDonald, 2015). More recently, SHAPE America National Standards emphasized the need to include physical literacy in K-12 physical education. SHAPE National Convention of America at a forum, noted the growing use of the concept of physical literacy and offered perspectives on the issue, especially focusing on how the concept is adopted worldwide (as cited in Roetert & Jefferies, 2014). Whitehead (2013) defined physical literacy as a tendency to take advantage of our human body ability, in which the individual has motivation, self-confidence, physical competence, knowledge and understanding, physical pursuit and activities for the purpose throughout life.

Based on the increasing importance of sports literacy, in 2015 the Journal of Sport and Health Science published a special issue on the practicability of sports literacy (Chen & Sun, 2015). In the light of these studies, this concept has been generally adopted by the sports community. It can be said that sports literacy has been transmitted both to physical education as a new approach and as a step leading towards perfection in sport (Jurbala, 2015), and also that the case of its becoming the focal point of physical activity and sport has become widespread. Sports literacy has begun to be regarded as an important objective of Physical Education and Sports courses. Within this framework, the main goal of the Physical Education and Sports course is included in many curricula as the fostering of positive behaviours concerned with

lifelong health and basic movement skills related to these behaviours in students (Sum et al., 2016; MEB, 2018).

Humans are creatures that create culture and live within that culture. Therefore, literacy is important with respect to culture. Every sports environment is also included as a component of the culture existing in society with its participants, spectators, films, books, caricatures, magazines, newspapers, documents and specific equipment (Öztürk, 1998; cited in Uyar, 2019). Thus, it can be said that sport is one of the most important social environments commonly and actively used in today's societies.

Kirk (2013) stated that the concept of physical literacy should be used as the basis of models developed for the Physical Education and Sports course. According to Castelli et al. (2015), physical education should be carried out with new pedagogical programme revisions with which it can be performed with the aid of an investigative, understanding, studying and conscious viewpoint. Therefore, the cognitive concepts of sports literacy state that the characteristics which will enable lifelong continuity will be appropriate for the education method in this new perspective. Whitehead (2010) defined sports literacy as a necessary constituent for people's lifelong motivations in their daily lives, and as giving a value to participation in lifelong physical activities that creates a mentality of pursuing purposeful physical activity for acquiring physical skill and self-confidence. Hastie and Wallhead (2015) emphasised that sports literacy has multidimensional characteristics which can develop the concepts of self-esteem and self-confidence, that it can contribute to the development of perception of environmental factors, and that since it has the potential to create sources of intrinsic motivation that will enable participation in sport, it has an important role in sports education. Edwards et al. (2017) stated that physical literacy education has become a critical aspect of improving motivation, trust, physical competence, understanding the information and health to value and take responsibility for participation in physical activities for life. Higgs (2010) stated that sports (physical) literacy is a very practical approach for participation and development in sport during the lives of youths. Mandigo et al. (2009) defined physical literacy as a priority that can be shared by both the education and sports system and as a bridge that can close the gap between physical education and sport. These definitions correspond to a large extent with the declaration of the aims of Physical Education by the United Nations Educational, Scientific and Cultural Organisation (UNESCO), to the effect that the necessary skills for individuals to continue physical activity throughout their lives are having self-confidence and understanding, and being physically literate (Durualp, 2009). Over time, there has been increasing interest towards detailing what this concept represents and how it can be used in educational contexts. As a reason for this, it is argued that there are concerns related to structural changes that affect children's and adolescents' physical activity habits, and to increasing sedentary lifestyles. In other words, it is reported that, by stating that he conducts a process such as revealing the potential for developing oneself/realising oneself, a person included in the philosophy of sports literacy can be directly involved in sport by teaching the movement steps in sports education (Lundvall, 2015). In various contexts of physical activity such as the concept of physical literacy, physical/health education curriculum, athletic development models and lifelong healthy active life

approaches (Dowling, 2015; Hastie & Wallhead, 2015; Lundvall, 2015), in organizational settings such as private or public physical activity clubs (Castelli et al., 2014) and for various individual groups including toddlers, children, teenagers, people with disabilities (Coates, 2011; MacDonald, 2015) are widely used. June Yi et al. (2020) stated that physical literacy should not only target children, but also that this approach is necessary and beneficial for “everyone” (e.g., the elderly, young people, individuals with disabilities, individuals who experience life and cultural transitions, all individuals) for a lifetime.

While education institutions are the main places that enable development, private and official clubs are among secondary institutions where sport can be practised in both the amateur and professional spheres. It is considered that principally teachers, trainers and the sports managers who organise sport form the basis of this education. While athletes are trained by sportspeople who are open to knowledge and innovations, it is seen that in a theoretical sense other than training, sports literacy is required for individuals to investigate through inquiry and as a result, to give meaning to the task they perform. Since the physical education teachers, trainers and sports managers who undertake this duty have a role of contributing to the affective development and to increasing the willingness of the athletes they train, “perceived sports literacy”, which is one of the important actors of the phenomenon of sport, is the object of interest of this study. The main aim of this study is to examine the perceived sports literacy of physical education teachers, trainers and sports managers in terms of various variables. Furthermore, the validity and reliability level of the scale used in the study, developed by Sum et al. (2016) and adapted into Turkish by Ülker (2019), is examined in the subject group, since Sum et al. (2016) implemented this measurement tool with physical education teachers, while Ülker carried out the adaptation with physical education teachers, trainers and sports managers. Therefore the terms sports and sports literacy are used.

## **2. Method**

### *2.1 Research Model*

The study has a descriptive structure and quantitative research techniques were used. A non-random purposive sampling technique was selected to determine the participants.

### *2.2 Participant (Subject) Characteristics*

The research was carried out with the survey method and is descriptive in nature. Quantitative research techniques were used. The sample of the research consists of a total of 186 persons, of whom 103 are physical education teachers, 55 are trainers and 28 are sports managers working in the centre of Manisa province.

Table 1. Distribution of participants according to demographic characteristics

Personal Information	Subgroups	Frequency (f)	Percentage (%)
<b>Gender</b>	Female	78	41.9
	Male	108	58.1
<b>Occupational Group</b>	Physical Education Teacher	103	55.4
	Trainer	55	29.6
	Sports Manager	28	15.1
<b>Performing Regular Physical Activity</b>	Yes	124	66.7
	No	62	33.3
<b>Supporting a Team (Supporter)</b>	Yes	149	80.1
	No	37	19.9

The participants' demographic characteristics are shown in Table 1. Regarding participants' gender, 78 women (41.9%) and 108 men (58.1%) took part in the study. In terms of participants' occupational groups, 103 are physical education teachers (55.4%), 55 are trainers (29.6%) and 28 are sports managers (15.1%). Among the participants, 124 people (66.7%) stated that they performed regular physical activity, while 62 people (33.3%) said that they did not. It was determined that 149 of the participants supported a team (80.1%), while 37 participants (19.9%) did not.

### 2.3 Data Collection Tools

#### 2.3.1 Perceived Sports Literacy Scale (PSLS)

This scale was developed by Sum et al. (2016), Although the scale consisted of 18 items and 3 sub-dimensions in its original form, in later studies, points related to construct validity were raised (Sum et al., 2016), and it was emphasised that the scale could be developed in a general sense, and therefore, the scale was revised as 9 items and 3 sub-dimensions. Although 9 of the 18 items in the original form of the scale were excluded, in the Turkish study conducted by Ülker (2019), these items were also included with the consideration that they could clarify certain concepts, and the structural validity of the scale was completed in this way. In the obtained scale, whose validity was ensured, apart from one item (Item 12), 17 items were included, and these items were grouped in two sub-dimensions. In this context, the sub-dimensions obtained from the scale were named "Self-Confidence and Lifelong Sport" and "Affective Development and Health". For reliability analyses of the scale sub-dimensions in Ülker's (2019) study, the Cronbach's alpha and Guttman split-half coefficients were examined, and coefficients of .911 and .892, respectively, were obtained for the "Self-Confidence and Lifelong Sport" sub-dimension, while coefficients of .881 and .850, respectively, were obtained for the "Affective Development and Health" sub-dimension, and

it was concluded that the scale is a valid and reliable instrument. The original name of the scale is “Perceived Physical Literacy Instrument for Physical Education Teachers”, and development studies were made only on physical education teachers. By conducting the adaptation process with trainers and sports managers as well as physical education teachers, Ülker (2019) named the scale the Perceived Sports Literacy Scale. In this study, the items were not subjected to a process of retranslation, and by regarding the Turkish translation suggested by Ülker (2019) as appropriate and adequate, the same expressions were used.

#### *2.4 Statistical and Data Analysis*

The SPSS software program was used in the data analysis. Decisions were made based on whether the parametric tests provided the preconditions, on equality of variances, and on the condition of  $n > 30$  subjects in each group. The data were evaluated with the Mann-Whitney U Test and Kruskal-Wallis Test due to the suitability of normality and homogeneity conditions and the numbers of subjects in the sub-groups for non-parametric tests, internal consistency (Cronbach’s alpha) for reliability, and exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) for construct validity. Lisrel 8.80 was used for CFA. Jöreskog and Sörbom (1993) stated that more than one index should be considered in modelling conducted with the CFA technique (cited in Munusturlar & Yıldizer, 2020). Based on this, the RMSEA,  $\chi^2/sd$  NFI, NNFI, IFI, CFI, GFI, AGFI and RMR results were evaluated in the study. Type 1 error was accepted as 5%.

### **3. Findings**

#### *3.1 Exploratory Factor Analysis and Reliability Analysis*

The “item-total correlation” of Item 12 was found to be negative. It was determined that the explained variance was 61.078%. Three dimensions were found with eigenvalues greater than 1.

Table 2. Exploratory factor analysis and reliability analysis of perceived sports literacy scale

Items	Factors			Item-Total Correlation
	Confidence in Psychomotor Knowledge and Ability	Self-worth and Health	Communication and Lifelong Sports Consciousness	
PSLS1	.791			.501
PSLS2	.680			.339
PSLS3	.727			.736
PSLS4	.626			.772
PSLS6	.474			.618
PSLS7		.873		.417
PSLS8		.556		.630
PSLS5			.631	.672
PSLS9			.633	.695
PSLS10			.776	.746
PSLS11			.690	.602
PSLS13			.608	.653
PSLS14			.718	.687
PSLS15			.622	.649
PSLS16			.782	.577
PSLS17			.809	.745
PSLS18			.678	.646
PSLS12	<b>.494</b>		<b>.421</b>	<b>-.090</b>
Reliability ( $\alpha$ )	.798	.663	.917	.923
Explained Variance (%)	32.999	16.969	11.110	61.078
Eigenvalue ( $\Lambda$ )	8.394	1.485	1.115	
<b>KMO = .912; <math>\chi^2(153) = 1929.905</math>; Bartlett's Sphericity Test (p) = 0.000</b>				

Table 2 shows the results of the factor analysis of the Perceived Sports Literacy Scale. It is seen in the EFA that the data are grouped under three dimensions. These consist of “confidence in psychomotor knowledge and ability”, “self-worth and health”, and “communication and lifelong sports consciousness”. The explained variance of the

three-factor structure is 61.78%. The internal consistency values are .923 for the whole scale, and .917, .798 and .663 for the sub-dimensions, respectively. It is seen that the factor loadings range between 0.42 and 0.87. However, Item 12 was correlated with two sub-dimensions, and since its item-total correlation was -.090, it was removed from the scale. It is seen that among the correlation coefficients of the items with the sub-dimensions in the Perceived Sports Literacy Scale, the lowest correlation is 0.47 (Item 6), while the highest is 0.87 (Item 7). The sub-dimensions of the scale consist of Factor 1, “confidence in psychomotor knowledge and ability” with five items; Factor 2, “self-worth and health” with two items; and Factor 3, “communication and lifelong sports consciousness” with ten items.

### 3.2 Confirmatory Factor Analysis

Table 3. Fit Indices for CFA and fit parameters obtained from perceived sports literacy scale

Fit index	Acceptable fit	Excellent fit	Obtained value (17 items)	Obtained value (9 items)
<b>NFI</b>	= .90 and over	= .95 and over	<b>.96</b>	<b>.98</b>
<b>NNFI</b>	= .90 and over	= .95 and over	<b>.97</b>	<b>.99</b>
<b>IFI</b>	= .90 and over	= .95 and over	<b>.98</b>	<b>1.00</b>
<b>CFI</b>	= .95 and over	= .97 and over	<b>.98</b>	<b>1.00</b>
<b>GFI</b>	= .85 and over	= .90 and over	<b>.88</b>	<b>.97</b>
<b>AGFI</b>	= .85 and over	= .90 and over	<b>.84</b>	<b>.94</b>
<b>RMR</b>	between = .050 and = .080	between = .000 and < .050	<b>.029</b>	<b>.020</b>
<b>RMSEA</b>	between = .050 and < .080	between = .000 and < .050	<b>.069</b>	<b>.031</b>
<b><math>\chi^2/sd</math></b>	= less than 3		<b>218.93/109 = 2.00</b>	<b>24.79/21 = 1.18</b>

Source: Marcholudis and Shumacher (2007); as cited in Seçer (2015).

As seen in Table 3, when the goodness-of-fit of the data was evaluated according to the first- and second-level CFA, it was determined that the fit indices of the model were above the reference values and had a good and acceptable level.



Table 4. Comparison of perceived sports literacy levels of physical education teachers, trainers and sports managers according to gender factor

Sub-Groups	Gender	n	Mean Rank	Rank Total	U	p
<b>Confidence in psychomotor knowledge and ability</b>	Female	78	91.80	7160.50	4079.500	.712
	Male	108	94.73	10230.50		
<b>Self-worth and health</b>	Female	78	100.75	7858.50	3646.500	.113
	Male	108	88.26	9532.50		
<b>Communication and lifelong sports consciousness</b>	Female	78	94.96	7406.50	4098.500	.739
	Male	108	92.45	9984.50		

As can be seen in Table 4, a statistically significant difference was not found in the sub-dimensions of the Perceived Sports Literacy according to the gender factor of the physical education teachers, trainers and sports managers ( $p > .05$ ).

Table 5. Comparison of perceived sports literacy levels of physical education teachers, trainers and sports managers according to Regular Physical Activity (RPA) factor

Sub-Groups	RPA	n	Mean Rank	Rank Total	U	p
<b>Confidence in psychomotor knowledge and ability</b>	Yes	124	101.96	12643.50	2794.500	.002*
	No	62	76.57	4747.50		
<b>Self-worth and health</b>	Yes	124	99.66	12358.00	3080.000	.025*
	No	62	81.18	5033.00		
<b>Communication and lifelong sports consciousness</b>	Yes	124	98.69	12237.00	3201.000	.048*
	No	62	83.13	5154.00		

Table 5 shows that there is a statistically significant difference in all three sub-dimensions of the Perceived Sports Literacy Scale depending on whether or not the physical education teachers, trainers and sports managers performed regular physical activity. Accordingly, it was determined that the mean ranks of participants performing regular physical activity indicate a higher level of sports literacy than that of participants who did not perform regular physical activity in the “confidence in psychomotor knowledge and ability” ( $U = 2794,500$ ,  $p < 0.05$ ), “self-worth and health” ( $U = 3080,000$ ,  $p < 0.05$ ), and “communication and lifelong sports consciousness” ( $U = 3201,000$ ,  $p < 0.05$ ) subdimensions.

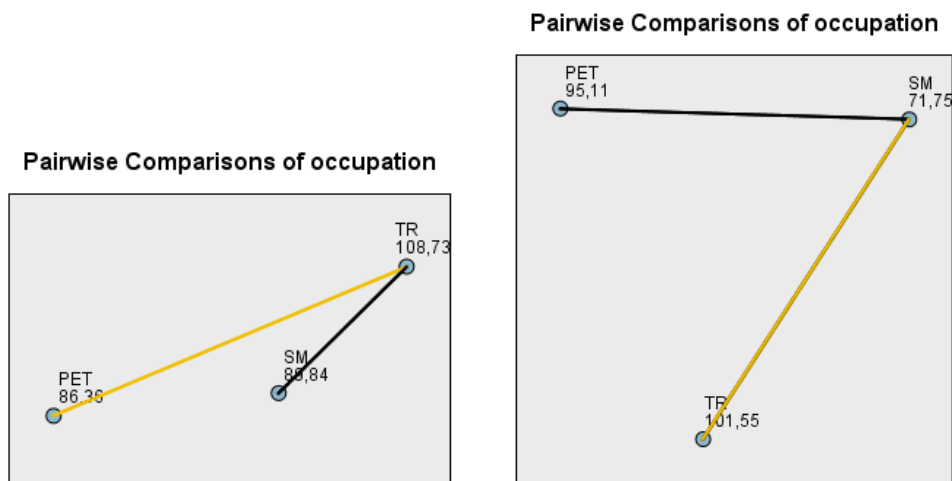
Table 6. Comparison of perceived sports literacy levels of physical education teachers, trainers and sports managers according to team supporter factor

Sub-Groups	Team Supporter	n	Mean Rank	Rank Total	U	p
<b>Confidence in psychomotor knowledge and ability</b>	Yes	149	92.47	13778.00	2603.000	.597
	No	37	97.65	3613.00		
<b>Self-worth and health</b>	Yes	149	91.13	13578.50	2403.500	.221
	No	37	103.04	3812.50		
<b>Communication and lifelong sports consciousness</b>	Yes	149	89.98	13407.50	2232.500	.057
	No	37	107.66	3983.50		

Table 6 reveals that no statistically significant difference was found in the sub-dimensions of the Perceived Sports Literacy Scale according to whether or not the physical education teachers, trainers and sports managers were team supporters ( $p > .05$ ).

Table 7. Comparison of perceived sports literacy levels of physical education teachers, trainers and sports managers according to occupation factor

Sub-Groups	Occupation	N	Mean	Sd	Mean Rank	$\chi^2$	p	Significant Difference
<b>Confidence in psychomotor knowledge and ability</b>	PE Teacher	103	44.70	5.83	86.36	6.470	.039	PET-TR
	Trainer	55	46.85	3.607	108.73			
	Sports Manager	28	45.85	3.087	89.84			
<b>Self-worth and health</b>	PE Teacher	103	22.38	2.911	97.37	1.973	.373	
	Trainer	55	22.27	2.391	92.27			
	Sports Manager	28	21.78	2.572	81.68			
<b>Communication and lifelong sports consciousness</b>	PE Teacher	103	8.66	1.149	95.11	6.670	.036	SM-TR
	Trainer	55	8.78	1.257	101.55			
	Sports Manager	28	8.14	1.112	71.75			



It can be seen in Table 7 that the occupation variable of the physical education teachers, trainers and sports managers created differences in the first and third sub-dimensions. In the “confidence in psychomotor knowledge and ability” sub-dimension of the Perceived Sports Literacy Scale, there was a statistically significant difference between the scores of trainers and physical education teachers in favour of trainers, while in the “communication and lifelong sports consciousness” sub-dimension of the scale, the difference between trainers and sports managers was statistically significant in favour of trainers.

#### 4. Discussion

The aim of this study was to examine the perceived sports literacy of physical education teachers, trainers and sports managers in terms of various variables, and to examine the validity and reliability level of the scale used in the study, developed by Sum et al. (2016) and adapted into Turkish by Ülker (2019), in the subject group.

Although the concept of sports literacy has begun to appear on the agenda in recent years, few research studies have been made in Turkey and in the international arena. However, it is seen that various countries give importance to the issue of sports literacy from childhood onwards in their education policies.

In the study conducted by Ülker (2019), the author commented that the fact that no difference was determined in the scores obtained by trainers, physical education teachers and sports managers from the Perceived Sports Literacy Scale in terms of demographic variables such as gender, professional seniority and income level shows that the Perceived Sports Literacy Scale constitutes a measurement model that can accurately measure sports literacy independently of these variables, that shows less sensitivity to differences, and without the confounding effect of other variables.

Statistically significant differences were seen in all three dimensions of the Perceived Sports Literacy Scale according to whether or not the physical education teachers, trainers and sports managers performed regular physical activity. Doing regular physical activity can be regarded as an important indicator of consciousness with regard to being healthy and fit. In this context,

it can be said that a person who is sports literate is a person who has educated himself cognitively and physically. A self-educated person can also be considered as someone who knows what he is doing and why, and who has a physically active lifestyle. Castelli et al. (2015) stated that physical literacy is a concretised concept, which includes within it interdependent structures that should be developed, such as motivation, confidence, physical skill, knowledge and responsibility, and which is also interactive, the embodiment of people's physical, mental and psychosocial aspects. As a philosophy, physical literacy begins to develop in infancy, and is not a concept that should be learnt during childhood, adulthood and old age, but is a continual, dynamic process.

It was determined that there was no statistically significant difference in any of the sub-dimensions of the Perceived Sports Literacy Scale according to the gender of the physical education teachers, trainers and sports managers, or to whether or not they supported a team. In her study, in which she aimed to examine the perspectives on the concept of sports literacy of trainers, physical education and sports teachers and sports managers who were graduates in Sports Sciences in Turkey, Ülker (2019) concluded that no difference was found in any of the sub-dimensions of the sports literacy scale according to the gender variable. This situation may be due to the fact that the sports literacy approaches of men and women were not different. This result of the study shows consistency with the data in the current research.

It is known that sport, which is a social phenomenon, brings out many psychological needs and feelings of attachment in people (Ekici et al., 2016). It is thought that these bonds are related to emotionality or psychology (Zorba et al., 2017). Wann (2006) stated that supporters' psychological commitment to a particular sports team is very important in terms of personal wellbeing. Göksel et al. (2020) examined Sports Science Faculty students' psychological commitment to the football teams they supported, and it was determined that in the general scale and all its sub-dimensions, the lowest level of psychological commitment was in students in the Physical Education and Sports Teaching and Coaching Education department. Accordingly, they stated that based on the fact that students in the Physical Education and Sports Teaching and Coaching Education department would have the chance to work in various sports clubs after they graduated, it could be said that they would be inclined to think more objectively. In their study aiming to reveal the factors causing fanship, levels of fan identification, and fan behaviours in university students, Gençay and Karaküçük (2006) reported that regarding the age at which students became fans, the majority became fans at the age of 13 and below. In another study, most students became fans at the age of 14 and under, while Yamen (1999) stated that as education level increased, fan awareness increased. Therefore, the formation of a balanced fan awareness as age increased, and also professionally, of a professional awareness of being a supporter, may have led to the lack of differentiation in sports literacy levels.

One of the findings of the study was that there were statistically significant differences between trainers and physical education teachers in the "confidence in psychomotor knowledge and ability" sub-dimension of the Perceived Sports Literacy Scale, and between trainers and sports managers in the "communication and lifelong sports consciousness"

sub-dimension of the scale. The reason for higher scores of trainers in the “confidence in psychomotor knowledge and ability” sub-dimension may be that trainers work with children, youths and different age groups, since it can be said that all coaching tasks and processes are based on implementation of skills. At the same time, as a requirement of their professional lives, trainers are required by both their own federations and the General Directorate of Youth and Sports (GDYS) to regularly attend 2-3 development seminars and/or courses per year (GDYS Trainer Education Directive, 2019). Moreover, during the promotion process, trainers are obliged to be successful in practical and theoretical subjects. Based on these grounds, it can be stated that the fact that trainers have more active work conditions and are more occupied with doing sport and having it done than physical education teachers and sports managers, gives them an advantage in this respect. In his study, Sunay (1997) evaluated the content of the trainer education programmes implemented jointly by the GDYS and the federations, and as the most suitable courses for the objectives were Special Training Knowledge, Sports Branch Game Rules, and Sports Branch Techniques and Tactics, it may be said that following current developments related to sports branches and regularly implementing the content every year were effective. “Confidence in psychomotor knowledge and ability” may also have come to the fore because these courses support the learning and use of psychomotor knowledge and skills.

The fact that trainers’ scores were higher in the “communication and lifelong sports consciousness” sub-dimension can also be evaluated as a mechanism that regulates relationships with athletes of all ages, managers employed in numerous clubs, other trainers and referees in competitions, members of the media and supporters, as well as with athletes’ immediate circles and among other individuals in the sporting community. Considered in terms of sports managers, the sports clubs, national and international sports institutions and international sports organisations indicate how wide are the dimensions covered by sports management (Sunay, 1998). Korkut (2005) stated that especially employees in professional fields requiring more interaction with people should have a greater command of communication skills. It is thought that physical education teachers, trainers and sports managers, who can be said to work in environments where human relationships are intense, need to possess skills that facilitate human relationships (Tepeköylü et al., 2009).

Sum et al. (2016), with the study they conducted to measure physical education teachers’ sports literacy perceptions in terms of their self-confidence, self-expression and sense of communication with others, contributed this scale to the literature. In the study, which they began with 18 items, the final scale consisted of 9 items and 3 sub-dimensions. However, it was stressed that the scale could be developed in a general sense. Therefore, Ülker (2019) carried out the validity and reliability study of the scale with physical education teachers, trainers and sports managers in Turkey, began the study according to the suggestions of Sum et al. (2016) with 18 items, and presented the scale for use with 17 items and 2 sub-dimensions. Later, Munusturlar and Yıldız (2020) adapted the same scale to Turkish only with physical education teachers and named the scale “The Perceived Sports Literacy Scale”. They also basically complied with the recommendations of Sum et al., started out with 18 items, and concluded the study with 9 items and 3 sub-dimensions.

Based on the fact that the same measurement tool produced different items in three different studies, in this study, it was deemed necessary to perform a universal analysis. The structure found to be valid and reliable in a Hong Kong sample by Sum et al. (2016) was tested, and also, the way was paved for the emergence of a new structure in a Turkish sample.

## 5. Conclusion and Recommendations

In this study, which evaluated the factor structures of the “Perceived Sports Literacy Scale” for physical education teachers, trainers and sports managers in a Turkish sample, it was found that all the considered  $\chi^2/sd$ , RMSEA, SRMR, RMR, NFI, NNFI, CFI, GFI and AGFI fit indices were at acceptable levels. As a result of the data obtained from the validity and reliability analyses of the scale, the 12th item was removed and the 17-item, 3-factor structure was accepted as valid and reliable. Moreover, by also testing Sum et al. (2016) 9-item, 3-factor structure with the items they recommended, another structure with good fit indices was obtained. It is seen that the factor structures that emerged are of great importance in terms of explaining the concept of sports literacy in the literature. In the Turkish adaptation of the scale, by also including the data of trainers and sports managers in the Perceived Physical Literacy Instrument for Physical Education Teachers, the scale was named the Perceived Sports Literacy Scale, as suggested by Ülker (2019).

In line with the findings obtained in the study, the inclusion of joint courses related to supporting sports literacy in the curricula of Sports Science Faculties can aid the elimination of differences with respect to sports literacy in a professional sense. In further studies conducted with physical education teachers, trainers and sports managers, the 17-item, 3-factor structure presented in this study, and the 9-item, 3-factor structure consisting of the original items and dimensions can be used. In further studies carried out only with physical education teachers, the use of Munusturlar and Yıldızır’s (2020) “Perceived Sports Literacy Scale” is recommended.

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