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Evaluation of Children's Playgrounds in Terms of Various Variables in Osmaniye Province

Serkan Necati METİN[1], Mehmet Ali KILIÇ[2]
[1]Emniyet Genel Müdürlüğü, İstanbul İl Emniyet Müdürlüğü, İstanbul, TURKEY
https://orcid.org/0000-0001-5951-2893
[2] Milli Eğitim Bakanlığı, Gaziantep İl Milli Eğitim Müdürlüğü, Gaziantep, TURKEY
https://orcid.org/0000-0002-0479-7032
Email: serkanmetin1985@windowslive.com , mehmetalikilic080@gmail.com

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Abstract

The aim of this study was to evaluate the children's playgrounds in Osmaniye province in terms of various variables by the users. A total of 932 participants (444 males and 488 females) were randomly selected on a voluntary basis. Along with the variables such as marital status, profession, and income, the "Evaluation Scale for Child Playground" (ESfCP), whose validity and reliability study was performed by Ulaş and Ayan (2016), was applied to the volunteers. The obtained data were evaluated in the SPSS 22 package program. According to the information obtained from the data; In the evaluation of children's playgrounds, it was understood that there was no significant difference in terms of marital status in general mean and all sub-dimensions ($p>0.05$). In terms of income and profession, it was understood that there was a statistically significant difference between the groups in terms of "hygiene and lighting competence", "general competence", "equipment competence", "safety and functionality competence", and overall mean ($p<0.05$). As a result, it can be said that the evaluation of children's playgrounds differs according to various variables in terms of users.

Keywords: Playgrounds, Safety and Functionality, Equipment, Hygiene and Lighting

Introduction

The most important way to share the world of children, and to communicate with them is the game. The game is a voluntary fun activity that takes children away from real life and has its own rules (Esen, 2008). The game was also accepted as a right by the United Nations Convention on the Rights of the Child (UNICEF, articles 31, 1989).

Many studies have shown that the game contributes significantly to the development of children in terms of their physical, mental, and psychological health (Rothon et al., 2010; Anderssen, 2006; Pawlowski, Thomsen, Schipperijin & Troelsen, 2014; Andersen, Riddoch, Kriemler & Hills, 2011; Timmons et al. , 2012; Blaes et al., 2013; Ayan & Memiş, 2012) and has an important role in their healthy growth (Janssen & LeBlanc, 2010; Ayan & Dündar, 2009). The physical activity of the individual also prevents many diseases in terms of public health (McKenzıe, Crespo, Baquero, and Elder, 2010). Mobility of the individual in childhood can ensure that he/she is a healthy individual in adulthood.

It is thought that playgrounds in schools make an important contribution to children's play activities (Ridgers, Stratton and Fairclough, 2006, van Sluijs, Mcminn and Griffin, 2007). Besides, outside of the school, there is an increasing interest in large children's playgrounds in cities in recent years (Broekhuizen, Scholten & Vries, 2014). Moreover, it has been found that many factors can be effective in the selection of children's playgrounds (van der Horst, Chin, Paw, Twisk & Van Mechelen, 2007, Hinkley, Crawford, Salmon, Okely &Hesketh, 2008).

It is also important that children's playgrounds, also known as green spaces in the city, are easily accessible expect of environmental impacts such as dust and noise. In addition, equipment used in playgrounds must be environmentally friendly, not harming the environment, and meeting security needs (Louicades, Jago and Charalambous, 2009; Stratton, 2000; Stratton & Mullan, 2005).

In the past, some studies suggested increasing the quality of materials used in playgrounds, making small grass areas (Herrington & Studtmann, 1998), and expanding the limited playground activities (Frost, 1992), while today it is seen that the number of playgrounds, which are colorful, many physical activities can be done and some of the problems are solved, has increased. (Quigg, Gray, Reeder, Holt, and Waters, 2010; Podolska, 2014).

Method

In this study, a relational screening model was used. The screening model is a research approach that aims to describe the situation that was present or is present (Karasar, 2013). With the likert type scale prepared for this purpose, user opinions about children's playgrounds in Osmaniye province were tried to be determined.

Study Group

932 people (488 men and 444 women) participated in the survey conducted in Osmaniye province on a voluntary basis.

Data Collection Tools

In this study, "Evaluation Scale for Child Playground (ESfCP)", which was developed by Ulaş and Ayan (2016), was used. The Evaluation Scale for Children's Playground has four factors. The first of the factors determined to be important is 28.93% of the total variance

(Hygiene and lighting adequacy: 4,920), the second factor is 8,72% (general competence: 1,483), the third factor is 6,349 (equipment adequacy: 1,079) and the fourth factor explains

5,94% (safety and functionality adequacy: 1,011).The total variance explained by the four factors is 49.963%.

Considering the content of the items in the I. factor (14,13, 15, 20, 21), “Hygiene and lighting adequacy dimension”, II. Considering the content of the items in the factor (1, 2, 3, 4), this factor is referred to as the “general adequacy dimension”, III. Considering the content of the items in the factor (18, 16, 12, 19, 8), "Hardware adequacy dimension", IV. When looking at the content of the items in the factor (11, 7, 9), this factor is named as “Safety and functionality adequacy dimension”. Cronbach Alpha coefficient of Evaluation Scale for Child Playground applied in the study was determined as .84.

Data Analysis

SPSS 22.0 statistical package program was used to analyze the data obtained in the study. Percentage and frequency were given as descriptive statistics.In the analysis of normally distributed dataIndependent samples t-test and One-way ANOVA were used to analyze the data. Significance was set at p< ,05.

Results

Table 1. Descriptive Information of Research Group

Variables		n	%
Gender	Man	444	47,6
	Woman	488	52,4
Marital Status	Married	703	75,4
	Single	229	24,6
Profession	Public Employees	364	39,1
	Private Sector	154	16,5
	Self-Employed	217	23,3
	Others	197	21,1
Income	0-1000 TL	174	18,7
	1001-2000 TL	269	28,9
	2001-3000 TL	201	21,6
	3001 and above	288	30,9

A total of 932 people, 444 men, 488 women, participated in the study voluntarily. 703 of the participants are single, 229 are married. When the working groups of the participants are examined, 364 people are classified as public employees, 154 private sector, 217 self-employed, and 197 others. The income level of the participants was determined as 174 people between 0 - 1000 TL, 269 people between 1001 - 2000 TL, 201 people between 2001 - 3000 TL, and 288 people from 3001 and above.

Table 2.T-Test Results of ESfCP Scores Based on the Marital Status of Users

Evaluation of Children's Playgrounds	Married/Single	$\bar{X}$	S.D.	t	df	p
Hygiene and Lighting Competence	703	2,81	,92	-,366	930	,714
	229	2,84	,89			
General Competence	703	2,93	,95	-,698	930	,485
	229	2,98	,89			
Equipment Competence	703	2,97	,86	-,215	930	,830
	229	2,99	,78			
Safety and Functionality Competence	703	2,85	,91	-,436	930	,663
	229	2,89	,88			
ESfCP Score	703	2,91	,77	-,453	930	,651
	229	2,93	,72			

$p<0.05$

In Table 2, T-test results were given depending on the marital status variable according to the ESfCP. Accordingly, it was concluded that there was no statistically significant difference in the overall mean and all sub-dimensions of the ESfCP ($p>0.05$).

Table 3.ANOVA Test Results of ESfCP Scores based on Income Variable of Users

Evaluation of Children's Playgrounds	Intergroup Intragroup Total	Sum of Ranks	df	Mean of Ranks	F	p	Tukey
Hygiene and Lighting Competence	**Intragroup**	13,519	3	4,506	5,513	**,001***	4<1-2-3
	Intragroup	758,488	928	,817			
	Total	772,007	931				
General Competence	**Intergroup**	15,467	3	5,156	5,965	**,000***	4<1-2-3
	Intragroup	802,136	928	,864			
	Total	817,603	931				
Equipment Competence	**Intergroup**	16,390	3	5,463	7,843	**,000***	4<1-2-3
	Intragroup	646,470	928	,697			
	Total	662,860	931				
Safety and Functionality Competence	**Intergroup**	20,983	3	6,994	8,755	**,000***	4<1-2-3
	Intragroup	741,382	928	,799			
	Total	762,365	931				
ESfCP Score	**Intergroup**	15,337	3	5,112	9,067	**,000***	4<1-2-3
	Intragroup	523,241	928	,564			
	Total	538,578	931	4,506			

1= 0-1000 TL 2=1001-2000 TL 3=2001-3000 TL 4=3001 and above

$p<0.05$

Table 3 shows the ANOVA test results of the levels of children's playgrounds according to the income variable of the users. According to the income variable, there is a statistically significant difference between the groups in terms of "Hygiene and Lighting Competence", "General Competence", "Equipment Competence", "Safety and Functionality Competence", and overall mean ($p<0.05$). As a result of the Tukey test conducted to determine which groups the significant difference was between, it was stated that the users with income levels of 3001 and above were said children's playgrounds are insufficient then the other income users.

Tablo 4. One-way ANOVA Test Results of ESfCP Scores Based on Users' Profession Variables

Evaluation of Children's Playgrounds	Intergroup Intragroup Total	Sum of Ranks	df	Mean of Ranks	F	p	Tukey
Hygiene and Lighting Competence	**Intergroup**	11,685	3	3,895	4,754	**,003***	1<4
	Intragroup	760,322	928	,819			
	Total	772,007	931				
General Competence	**Intergroup**	13,437	3	4,479	5,169	**,002***	1<2
	Intragroup	804,166	928	,867			
	Total	817,603	931				
Equipment Competence	**Intergroup**	10,632	3	3,544	5,043	**,002***	1<2-4
	Intragroup	652,228	928	,703			
	Total	662,860	931				
Safety and Functionality Competence	**Intergroup**	14,267	3	4,756	5,899	**,001***	1<2-4
	Intragroup	748,098	928	,806			
	Total	762,365	931				
ESfCP Score	**Intergroup**	10,120	3	3,373	5,923	**,001***	1<2-4
	Intragroup	528,458	928	,569			
	Total	538,578	931				

1= Public Employees 2=Private Sector 3=Self-employed 4=Other

p<0.05

Table 4 shows the ANOVA test results of the ESfCP according to the profession variable of the users. According to the profession variable, there was a statistically significant difference between the groups in terms of "Hygiene and Lighting Competence", "General Competence",

"Equipment Competence", "Safety and Functionality Competence", and overall mean (p<0.05). As a result of the Tukey test conducted to determine which groups the significant

difference was between, it was stated that the users working in the public sector were said children's playgrounds were insufficient then the users working in other sectors.

Discussion

In the company of increasing city life, areas, where children can play and spend time has been restricted and children's playgrounds in cities have gained importance. In the studies conducted in some countries, it was understood that the time spent in the playgrounds of children varies between 30 minutes and 100 minutes. It was stated that school-age children in Denmark spent about 60 minutes for physical activity in the playgrounds and this time decreased between the ages of 9 and 15 (Currie et al., 2012, Nader, Bradley, Houts, McRitchie and O'Brien, 2008). In European countries, this rate varies between 30 and 105 minutes (Mota et al., 2005). In addition, in Australia, the necessary free area in the playgrounds and the equipment to meet the basic need for children are insufficient, and the playgrounds are said to be open, and the playgrounds are affected by weather variability (Stanley, Boshoff & Dollman, 2012., Ridgers, Salmon, Parrish, Stanley and Okely, 2012).

Nowadays, with the increase in the need for children's playgrounds, it can be said that the expectation as a proficiency from the playgrounds has also increased. Uysal (2015), in his study in Çanakkale province for this expectation, revealed the conclusion that children's playgrounds are spatially inadequate and unqualified. Similarly, Aksoy (2011) stated that children's playgrounds in Isparta, Eskişehir, Erzurum, Kayseri, Ankara, Istanbul, Trabzon, and Zonguldak were insufficient to meet the needs of children both in terms of quality and quantity and that children were not able to move freely in terms of safety and space.

In other studies, it was also found that there was an average of 4 to 6 donuts on the playgrounds and that they consisted mainly of swing, slide, seesaw, and climbing inventories. It was emphasized that this situation was insufficient in terms of modern game donkeys. Also, it was found that the necessary equipment such as toilet, lighting, and shading in the playgrounds were mostly absent (Duman ve Koçak, 2013; Kuşuluoğlu, 2013).

Ayan ve Ulaş, (2015) In her study of playground used in Turkey, located in the playground of our country remains far behind many countries in terms of the current situation, it is stated that there are deficiencies both in design applications in both large steps. It was concluded that due to the neglect of the developmental and expectations of the children, this situation could not fully discard their daily energies and therefore health problems occur (Ayan ve Ulaş, 2015).

Conclusion

In this study we conducted in Osmaniye, it was understood that the expectation in children's playgrounds differs according to the income and professional status of the users, and the expectation increases as the income level increases. It can be said that the people with low-income level are more satisfied with the opportunities provided by the playgrounds and the expectations are lower.

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Research on Critical Thinking and Empathy Building Levels of Physical Education and Sports School and Science Faculty Students

Mert Mazhar ERDURAN[1] , Taner BOZKUŞ[2]
[1]Ankara University, Faculty of Sports Sciences, Ankara, TURKEY
https://orcid.org/0000-0002-2504-7978
[2]Bartın University, Faculty of Sports Sciences, Bartın, TURKEY
https://orcid.org/0000-0002-4096-773X
Email: mert.erdurann@gmail.com , tanerbozkus@yahoo.com

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Abstract

The aim of this study was to examine the levels of critical thinking and empathy of students studying in the physical education sports school and science faculty and to reveal the difference between these two variables. In the research, a method for descriptive scanning and relational scanning, which aimed to reveal the current situation, was used. The universe of the research consists of students studying at Bartın University in the 2017-2018 academic year. The study comprised a total of 673 ($n_{(male)}$= 362, $n_{(female)}$ = 311) selected by random cluster sampling method from School of Physical Education and Sports and Science Faculty students in 2017-2018 academic year. In the research, "Personal Information Form" prepared by the researcher, "Critical Thinking Tendency Scale" developed by Semerci (2003) and Empathic Tendency Scale (EES) developed by Dökmen (1988) were used as data collection tools. In the research, t test was used for binary comparisons and One Way Variance Analysis (ANOVA) was used for three or more cluster comparisons. Tukey HSD multiple comparison test was used to determine the source of the differences found to be significant as a result of ANOVA, because the variances are homogeneous. Pearson Moments Product Correlation (r) Coefficient technique was used to reveal the relationship between the participants' critical thinking disposition and their empathy. Significance level was taken as $p < 0.05$. According to the results of the research, it was concluded that when variables such as gender, actively doing sports (Faculty of Science), reading habit, income level were taken into account, there was a significant difference in terms of empathic tendency total scores. There was a statistically significant difference between the critical thinking disposition metacognition, flexibility, systematicity subscales according to the reading variable, and the critical thinking disposition resilience sub-dimension point average in terms of faculty variable.

Keywords: Critical Thinking, Empathic Tendency, Physical Education and Sport, Faculty of Science, Student*

Introduction

The free and self state of the human mind is called thought.In other words, it is the situation that makes comparing, separating and connecting, establishing connection and shaping (Semerci, 2000).Thinking directs human effort to a particular purpose or outcome.Instead of making erroneous decisions without storing enough information, it provides direction with the help of systematically collected information.The mental process that connects and concludes between concept and event, solves problems, investigates and criticizes the event is called thinking (Yüceliş, 2003; Aybek, 2006).Critical thinking constitutes an important part of the thinking that provides easier solution of information and the ease of accessing information (Semerci, 2000).The mental and effective process that a person does to understand the situation is called thinking (Cüceloğlu, 2009).The reflection achieved by the reaction of the person as a result of the reaction of the stimulus is called thinking (Morgan et al., 1986).Critical thinking is called the regular, functional and effective process to understand and present one's own and others' thoughts, ideas, and to make these abilities even better (Chaffe, 1994; act. Kökdemir, 2003).According to Facione, critical thinking; In addition to interpretations, analyzes, evaluations and inferences, it is defined as making a decision and making judgments for a purpose as a result of the explanation of criteria, concepts, evidence, contexts and methods (Özdemir, 2005).On the other hand, critical thinking is defined as one's ability to think independently, logically and openly, and this concept has no meaning for controversy and constant negative criticism (Külahçı, 1995).It is possible to base the origins of critical thinking historically on ancient, medieval and modern philosophy.Names such as Jean Piaget, John Dewey, Edward Thorndike, Henry Hazlitt, Ernest Dimnet, Joseph Wertheimer, Joseph Jastrow, Karl Duncker, Victor Noll, GrahamWallas and Joseph Rossman are important scientists who have made great contributions to the field of critical thinking (Ruggiero, 1988).Based on the definitions, the elements of critical thinking are stated as follows (Güzel, 2005):

Table 1. Elements of critical thinking

Modesty	Problem solving	Discipline
Impartiality	Discussion	Honesty
Experience	To decide	Autonomy
Analyzing	Courage	Reasoning
Organizing	Consistency	Creativity
Rationality	Validity	Making Observations
Alternative search	Versatile inquiry	Making inferences
Empathy	Cognitive awareness	Evaluation
Perseverance	Reflectivity	Wonder
Confidence	Knowledge	

The realistic and logical thinking that will enable the individual to decide what to do and what to believe is called critical thinking (Ennis, 1987). Skills such as gaining certainty of ideas, testing the accuracy of information, evaluating the result and solving the problem are components of critical thinking. On the other hand, it is necessary to respect the opinions of the other person, to approach with a different perspective, to find the right information, to be open-minded and to think critically as a whole (Beyer and Pasnak, 1993).

Halpern, who emphasized metacognitive mechanisms in his definitions on critical thinking, proposed four models for teaching critical thinking skill:

- Demonstrate clearly critical thinking skills,
- Willingly develop thinking and learning process,
- Being in learning activities that can transform and present continuity,
- Controlling the behavior and displaying behavior based on the control of metacognition mechanisms (Halpern, 2003).

Ennis expressed his critical thinking skills under 12 items:

- To focus on the question,
- Analyzing arguments, evidence, evidence etc.,
- Formulating and analyzing questions,
- To evaluate the validity and reliability of the resources,
- To evaluate the observation reports,
- To reveal and evaluate the results,
- Inducing and evaluating inductions,
- Formulating and evaluating judgments about value,
- Defining and evaluating terms,
- To evaluate the hypothesis put forward,
- To comply with the stages of the decision process in the resulting action,
- Being able to communicate with different individuals (Ennis, 1987).

The main purpose of our country is to provide the physical, cognitive, social and psychological development of the person, to participate in physical activities gradually and by doing, to participate in physical activities throughout life, critical thinking, problem solving, creative thinking and decision making, there are high-level cognitive skills like. Although there is a difference in physical education lesson hours in high school and primary education programs, critical thinking skills are part of the curriculum and uniting in common point is the aim of physical education lesson (MEB, 2007).The intense relationship between affective, cognitive and psychomotor domains leads critical thinking to an indispensable position while creating a program in physical education (Gillespie and Culpan, 2000). Critical thinking skills are the main elements in the curriculum of Physical Education and Creative Dance lessons (Chen and Cone, 2003).The process by which the individual thinks that he / she is in front of him is looking at the events as such, understanding the thoughts and feelings of the other person and transmitting this is called empathy (Dökmen, 2002). The necessary factor for behaviors such as helping and sharing is empathy (Gander and Gardiner, 1993). In the philosophical dictionary, it is defined as empathy that the person puts himself in another consciousness, understands the wishes, thoughts, feelings of that consciousness, and reflects his inner feelings into a situation (Cevizci, 1996). It is known that empathy is a process of comprehension that sometimes involves taking perspective, while others are known to play a role in comprehension (Cress and Holm, 1998).Except for a few reflexive movements that we have brought from birth, all the behaviors that we do are learned. Although the effects of our genetic equipment on learning ability are the same, the movements vary greatly. The reason for this change is that everyone's learning process passes differently (Arı, 2002). In the trainings given in order to gain empathy skill, it should be given as a skill one by one rather than by disintegrating empathy as a whole (Özbay and Şahin, 2010).It is known that people with high levels of empathy have higher levels of association in the team than others. There is

a parallel structure between the empathic tendency levels of the teams and the empathic tendency levels of the athletes. If the level of empathic tendency in the team is high, the probability of being successful also increases (Dorak and Vurgun, 2004; Özgün et al., 2017). The high empathic tendencies of athletes at the time of sporting competitions become a positive approach for the athletes to be successful. The fact that the athlete has empathic behavior towards his teammates, coach, supporters and follow-up team players at the time of the competition provides an opportunity to increase the skill level in the team and provides the opportunity to perform better in the team (Erkuş and Yakupoğlu, 2001). As a result of another study on empathic sensitivity, it was observed that coaches engaged in individual sports tend to have more empathic tendencies compared to coaches engaged in team sports (Lorimer and Jowett, 2009). Although physical education lessons are outside the competitive sports environment, emphasis should be given to empathy education in this course (Shields and Bredemeier, 1994). It should be known that the feeling and understanding of the thoughts and feelings of the individual against the substitution of the individual is a very important situation in terms of physical education and sports, and these courses should be given due attention. The main goal is to provide opportunities for people to better understand others and to develop new ways. Within the scope of physical education lesson, different issues that may be the source of empathy exercises occur continuously (Luther and Hotz, 2004).

Material and Method

The universe of the research consisted of the School of Physical Education and Sports and the Faculty of Science (n = 1033) in Bartın University, Bartin University in 2017-2018 academic year. The research group consists of 673 ($n_{(male)}$ = 311, $n_{(female)}$ = 362) Physical Education and Sports School and Faculty of Science students who are selected by the 2017-2018 education-random random cluster sampling method in Bartın University.

Research Model

In order to reveal the current situation, a method for descriptive scanning and relational scanning was used in the research. The research consists of two stages:
In the first stage of the research, the critical thinking disposition and empathy level of the students studying in physical education and sports school and science faculty were determined. Whether students' critical thinking tendencies and empathy levels differ according to gender, age, active sports, income level variables are evaluated with various statistical processes. In the second stage of the research, the relationship between students' critical thinking disposition and empathy levels were evaluated in accordance with the relational screening model in physical education and sports school and science faculty.

Collecting Data

Personal Information Form

Collecting information about the personal characteristics of the School of Physical Education and Sports and Faculty of Science students and examining the research; A personal information form consisting of 5 questions was prepared by the researcher in order to

determine the gender, age, the unit they study, the level of active sports, the level of income and the habit of reading books.

Critical Thinking Tendency Scale

Critical Thinking Disposition Scale was developed by Semerci (2016) and its validity and reliability were tested for prospective teachers and teachers. According to the factor analysis results, the KMO value of the EDE scale is 0.972 and the Bartlett test value is 25990.380 (Sd = 1176, p = 0.000). The scale meets 49.161% of the variance. In the results of the analysis made for the EDE scale, it is seen that the factor loads vary between 0.33-0.71. The scale is multi-dimensional and its sub-themes are metacognition, flexibility, systematicity, perseverance-patience and open-mindedness. The scale consists of 49 items. The scale is rated as "I totally agree (5), I mostly agree (4), I partially agree (3), I mostly disagree (2), I disagree at all (1)".

Empathic Tendency Scale

It was developed by Dökmen (1988) in order to measure the potential of individuals to develop empathy in daily life. It is a Likert type scale and consists of 20 questions and each question is given 1 to 5 points. While collecting points, questions 3, 6, 7, 8, 11, 12, 13, 15 are collected in reverse. The minimum score to be taken from the scale is 20, and the maximum is 100. The total score represents the empathic tendency scores of the subjects. The high score indicates that the empathic tendency is high; low indicates that the empathic tendency is low.

Analysis of the data

By calculating the arithmetic means and standard deviations of the answers given to the scales, the distribution of students' critical thinking disposition and empathy levels were determined. With independent variables related to sub-problems; levels of critical thinking and empathy were tested by parametric tests, t test was used for binary comparisons, and One Way Variance Analysis (ANOVA) for three or more cluster comparisons.

Tukey HSD multiple comparison test was used to determine the source of the differences found to be significant as a result of ANOVA, because the variances are homogeneous. Pearson Moments Product Correlation (r) Coefficient technique was used to reveal the relationship between the participants' critical thinking disposition and their empathy. In the analysis, the level of significance was taken as $p < 0.05$.

Findings

Table 2. T-test results for comparing the data obtained from the research group by gender variable

	Gender	N	M	Ss	t	sd	p
Empathetic Tendency	Female	311	63,99	8,13	2,460	671	,014
	Male	362	62,42	8,30			
Metacognition	Female	311	3,82	,62	,865	671	,387
	Male	362	3,78	,63			
Flexibility	Female	311	3,80	,68	1,132	671	,258

Critical Thinking Tendency		Male	362	3,74	,65			
	Systematicty	Female	311	3,77	,61	-,336	671	,737
		Male	362	3,79	,63			
	Perseverance and Patience	Female	311	3,83	,76	,932	671	,352
		Male	362	3,78	,66			
	Catholicity	Female	311	3,90	,82	1,127	671	,260
		Male	362	3,83	,79			

A statistically significant difference was found between the average scores of the empathic tendency scale according to the gender variable of the data obtained from the study group ($p < 0.05$). Looking at the mean scores of this difference, it was observed that it was in favor of women. No statistically significant difference was found between the mean scores of critical thinking disposition sub-dimensions according to gender variable ($p > 0.05$).

Table 3. T-test results for comparing the data obtained from the research group according to the faculty / college variable

		Department	**N**	**M**	**Ss**	**t**	**sd**	**p**
Empathetic Tendency		High school of Physical Education and Sports	368	63,43	8,04	,995	671	,320
		Faculty of Science	305	62,80	8,50			
Critical Thinking Tendency	**Metacognition**	High school of Physical Education and Sports	368	3,76	,64	-1,822	671	,069
		Faculty of Science	305	3,85	,60			
	Flexibility	High school of Physical Education and Sports	368	3,72	,67	-2,273	671	,023
		Faculty of Science	305	3,84	,64			
	Systematicty	High school of Physical Education and Sports	368	3,78	,61	-,133	671	,894
		Faculty of Science	305	3,78	,62			
	Perseverance and Patience	High school of Physical Education and Sports	368	3,82	,66	,726	671	,468
		Faculty of Science	305	3,78	,76			
	Catholicity	High school of Physical Education and Sports	368	3,83	,78	-1,116	671	,265
		Faculty of Science	305	3,90	,83			

There was no statistically significant difference between the average scores of the empathic tendency scale according to the faculty variable of the data obtained from the research group ($p > 0.05$). A statistically significant difference was found between the mean scores of flexibility sub-dimension of critical thinking disposition scale according to the faculty variable ($p < 0.05$). It has been observed that this difference arises from the students of the Faculty of Science.

Table 4. T-test results for comparing the data obtained from the research group according to the variable of doing sports

		SPORTS STATUS	**N**	**M.**	**Ss**	**t**	**sd**	**p**
Empathetic Tendency		Not doing sports	212	62,47	8,74	-1,449	671	,148
		Doing sports	461	63,46	8,01			
	Metacognition	Not doing sports	212	3,78	,61	-,612	671	,541
		Doing sports	461	3,81	,63			

Critical Thinking Tendency	**Flexibility**	Not doing sports	212	3,79	,64	,577	671	,564
		Doing sports	461	3,76	,67			
	Systematicty	Not doing sports	212	3,71	,63	-1,835	671	,067
		Doing sports	461	3,81	,61			
	Perseverance and Patience	Not doing sports	212	3,72	,81	-1,964	671	,051
		Doing sports	461	3,84	,65			
	Catholicity	Not doing sports	212	3,86	,85	-,077	671	,938
		Doing sports	461	3,86	,78			

There was no statistically significant difference between the average scores of empathic tendency scale and critical thinking tendency sub-dimensions according to the sporting variable of the data obtained from the research group (p> 0.05).

Table 5. T-test results for comparing the data obtained from the students of the Faculty of Science according to the variable of doing sports

		SPORTS STATUS	**N**	**M**	**Ss**	**t**	**sd**	**p**
Empathetic Tendency		Not doing sports	212	62,47	8,74	-2,228	303	,035
		Doing sports	93	65,25	7,91			
Critical Thinking Tendency	**Metacognition**	Not doing sports	212	3,78	,61	-3,094	303	,002
		Doing sports	93	4,01	,56			
	Flexibility	Not doing sports	212	3,79	,64	-1,721	303	,086
		Doing sports	93	3,93	,63			
	Systematicty	Not doing sports	212	3,71	,63	-2,904	303	,004
		Doing sports	93	3,94	,59			
	Perseverance and Patience	Not doing sports	212	3,72	,81	-1,997	303	,047
		Doing sports	93	3,91	,62			
	Catholicity	Not doing sports	212	3,86	,85	-1,319	303	,188
		Doing sports	93	4,00	,78			

A statistically significant difference was found between the mean scores of empathic tendency scale, metacognition, systematicity, perseverance and patience sub-dimensions, which are sub-dimensions of critical thinking tendency scale, according to the variables of doing sports, obtained from the students of the Faculty of Science (p <0.05). It was observed that this emerging difference was caused by students doing sports.

Table 6. ANOVA results for comparing the data obtained from the research group according to the reading variable

		n	M	Ss	Total of Squares	sd	Frame Average	F	p	Difference
Empathetic Tendency	Often	201	65,10	9,02	1196,063	2	598,032	8,978	,000	1-2 1-3
	Rarely	376	62,54	7,47	44630,776	670	66,613			
	Never	96	61,41	8,81	45826,839	672				
Metacognition	Often	201	3,93	,66	6,769	2	3,385	8,715	,000	1-2 1-3
	Rarely	376	3,77	,61	260,215	670	,388			
	Never	96	3,63	,58	266,984	672				
Flexibility	Often	201	3,90	,68	5,249	2	2,624	5,994	,003	1-2 1-3
	Rarely	376	3,74	,66	293,355	670	,438			
	Never	96	3,64	,59	298,604	672				
Systematicty	Often	201	3,88	,63	3,217	2	1,608	4,189	,016	1-2
	Rarely	376	3,74	,61	257,283	670	,384			
	Never	96	3,71	,61	260,499	672				
Perseverance and Patience	Often	201	3,86	,70	1,841	2	,921	1,817	,163	
	Rarely	376	3,80	,71	339,522	670	,507			
	Never	96	3,69	,71	341,363	672				
Catholicity	Often	201	3,90	,78	,406	2	,203	,310	,733	
	Rarely	376	3,84	,82	437,759	670	,653			
	Never	96	3,86	,76	438,164	672				

According to the book reading variable of the data obtained from the study group, it was concluded that the difference between the mean scores of empathic tendency scale, critical thinking tendency scale metacognition, flexibility and systematicity sub-dimensions were statistically significant ($p < 0.05$). According to the Post-Hoc test conducted to determine which group these differences originated from, the empathic tendencies and critical thinking tendencies were observed to be higher than those who “frequently read”, “rarely” and “never” read.

Table 7. Correlation analysis results to determine the relationship between the data obtained from the research group according to age and income variable

		Empathetic Tendency	Metacognition	Flexibility	Systematicty	Perseverance and Patience	Catholicity
Age	r	,059	,010	-,018	,005	,020	,009
	p	,124	,800	,637	,900	,608	,809
Revenue	r	,364**	,060	,008	,061	,028	,058
	p	,000	,118	,839	,114	,463	,132
Empathetic Tendency	r	1	,327**	,325**	,307**	,265**	,194**
	p		,000	,000	,000	,000	,000

No statistically significant relation was found between the average scores of empathic tendency scale and critical thinking tendency sub-dimensions of the data obtained from the research group according to age variables. However, as a result of the correlation test conducted to determine the level of relationship between the average scores of empathic tendency to the income variable obtained from the research group, a statistically low and significant correlation was found. Additionally, in line with the data obtained from the

research group, a positive and low statistically significant relationship was observed between the mean scores of empathic tendency scale and sub-dimensions of critical thinking tendency scale.

Table 8. The distribution of the data obtained from the research group regarding the normal distribution indicators

		N	Min.	Maks.	M.	Ss	Skewness		Kurtosis	
							Statistics	Std. Error	Statistics	Std. Error
Empathetic Tendency		673	36.05	89.25	63.15	8.25	.174	.094	.532	.188
Critical Thinking Tendency	**Metacognition**	673	1.29	5.00	3.80	.63	-.599	.094	.583	.188
	Flexibility	673	1.36	5.00	3.77	.66	-.460	.094	.139	.188
	Systematicty	673	1.46	5.00	3.78	.62	-.352	.094	-.002	.188
	Perseverance and Patience	673	1.13	5.00	3.80	.71	-.524	.094	.362	.188
	Catholicity	673	1.00	5.00	3.86	.80	-.558	.094	.003	.188

Regarding the analysis of the data obtained from the research group, it was observed that the data showed a normal distribution when the basic parametric test assumptions were checked. Table 8. When examined, it can be said that the data have a normal distribution in cases where the coefficient of flatness and skewness do not exceed ± 3 (Kline, 2011)

Discussion and Conclusion

Regarding the discussion of the results obtained from the research group regarding the purpose, it was concluded that the difference between the average scores of the empathic tendency scale was statistically significant while there was no significant difference in the sub-dimensions of the critical thinking disposition scale by gender variable.

Akar (2007), Korkmaz (2009), Ekinci and Aybek (2010), Narin (2009) and Şen (2009) with Loken (2005), Sacli and Demirhan (2008) and Korur (2014) studies on physical education and sports students. 2009), it was concluded that there was no significant difference between critical thinking and gender in the study results they conducted for students studying in different departments. As a result, we can say that the results of our study are similar to those conducted. On the other hand, Walsh and Hardy (1999), Kökdemir (2003), Yıldırım (2005), Gülveren (2007), Ay and Akgöl (2008), Zayif (2008), and Beşoluk and Önder (2010) have made critical thinking trends in women. They stated that they are higher than men and these results are not in line with these studies in the literature.

According to the results of the studies conducted by Bozkurt (1997), Ünal (1997), Çimer (1998), Duru (2002), Arslanoğlu (2012) and Filiz (2009), female participants had higher empathic tendencies than male participants. It may be thought that the emergence of these results may be due to the fact that women continue their lives in a more emotional, calm and systematic approach than men. However, studies conducted by Kumanlı (1996), Genç ve Kalafat (2008), Garcia Lopez and Gutierrez (2015) showed no significant difference between

gender and empathic tendency. With these studies in the literature, it is seen that our study results are in an inverse relationship.

Regarding the discussion of the results obtained from the research group regarding the purpose, the difference between the critical thinking disposition scale resilience sub-dimension mean score was statistically significant and this difference was due to the students of the Faculty of Science, whereas there was no significant difference between the mean scores of the empathic trend scale.

In relation to the discussion of the results obtained from the students of the Faculty of Science, a statistically low and significant difference was found between the mean scores of the empathic tendency scale according to the variable of doing sports. A statistically significant difference was found between the scores of critical thinking disposition scale metacognition, systematicity, perseverance and patience sub-dimensions of the students of Science Faculty according to the variable of doing sports. It was observed that this emerging difference was caused by students doing sports. The results of our study are in parallel with the results of Kırımoğlu et al. (2014).

Regarding the discussion of the results obtained from the research group regarding the purpose, a significant difference was found between the critical thinking disposition scale metacognition, flexibility and systematicity sub-dimensions mean scores and empathic tendency scale mean scores. It has been observed that this difference is often in favor of readers.

Regarding the discussion of the results obtained from the study group, no significant difference was found between the mean scores of critical thinking disposition scale sub-dimensions and empathic tendency scale according to the age variable.

Made by Çimer (1998), Açıkalın (2000), Yıldırım (2001), Barut (2004), Zekioğlu and Tatar (2006) and Çiçek (2006) There was no difference between age variable and empathic tendency levels in studies with. Our results are parallel to our results. However, in the studies conducted by Akçalı (1991), Öz (1998), Yılmaz and Akyel (2008), Şahin and Özdemir (2015), emphatic tendency levels increased as the age increased. Our results are not parallel to our study results.

Regarding the discussion of the results obtained from the research group regarding the purpose, it was concluded that the relationship between the age variable and the mean scores of the critical thinking disposition scale sub-dimensions and the empathic tendency scale were statistically significant. It was observed that the average scores of empathic tendencies increased as the income levels increased. The results of the studies conducted by Ceyhan (1994), Filiz (2009) and our income level result are parallel.

Suggestions

As a result of the findings obtained regarding the differentiation of individuals' empathic tendency towards book reading habits and their critical thinking disposition, more practices should be given to gain this habit.It can be thought that by differentiating the demographic variables related to the socio-economic field of the region of residence, it will make

significant contributions to the emergence of values specific to the area. It is recommended to examine the studies with emphasis on theoretical and conceptual features with studies to be carried out in different age groups and to apply existing studies to individuals in the age category.

As a result of the literature review regarding the study, it can be suggested that critical thinking, empathy and social skills studies should be applied with each other. At the same time, research problems related to experimental studies can be prepared by considering the lifelong development of individuals for their conflict tendency and emotional intelligence.

Considering that students' empathic tendencies and critical thinking tendencies are increasing according to the findings obtained in the results of the study, guidance should be made at young ages, based on the importance of directing individuals to sports at an early age.

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Dynamics of the Physical Fitness Status in Students of the "Tourism" Specialized Field during a Trans-Season Stage*

Ihor ZANEVSKYY [1], Kostiantyn LABARTKAVA [2]
[1]Lviv State University of Physical Culture, Lviv, UKRAINE
https://orcid.org/0000-0002-9326-1167
[2]Lviv State University of Physical Culture, Lviv, UKRAINE
https://orcid.org/0000-0002-6756-990X
Email: izanevsky@ukr.net , labkostiantyn@gmail.com

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Abstract

The research aimed to study dynamics of the physical fitness status in students of the "Tourism" specialized field during a trans-season stage. Totally 100 university students studying "Tourism" as a business service were involved into the physical fitness testing (48 males and 52 females). A half of the participants studied in the Classic University and another half − in the Sport University. Monthly testing was conducted seven times from September to March using a complex test Kontreks–2. The scoring system consists of eleven indicators: five of them are biomedical: age, body weight, blood pressure, heart rate, reducing pulse; a six – motor: flexibility, speed, dynamic power, power, speed and overall endurance. Linear regression was used with a purpose to study trends of the physical fitness during the trans-season stage. Two-ways ANOVA was used to determine differences between samples. One-way ANOVA with repeated measures was used to evaluate test-retest reliability (ICC=0.094). A significant superiority of students from the Sport University vs. Classic University was noticed during the seven months preparation stage (17.6%, p<0.001) that is important in managing of the sport and healthy active tourism. Despite of this absolute difference, dynamics of these results was rather similar in these two universities (61.3%).

Keywords: Students, Physical Fitness, Tourism, Testing, Modelling

Introduction

Bachelors and Masters of the "Tourism" specialty field are prepared in universities of different types according similar programs (Working Program, 2016). A special place in these high schools occupies sport universities. The "Tourism" specialty is a business service one, and physical education courses are standard for this specialty as well, as for all the others specialities of non-sport types because the physical fitness is obligator for all modern students and contemporary people in general. Universities of sports have a special possibility not only in the physical fitness preparation, but also to add for the "Tourism" students' skills, which are necessary in sport and healthy active tourism (Academic Program, 2016).

Recently health and physical readiness of children and youth have sharply deteriorated (Sahoo et al., 2015). In particular, this is due to the crisis in the national physical education system, which does not meet modern requirements. Physical training sessions do not provide the volume of motor activity necessary for a young person; they are insufficiently taken into account individual interests and needs of students (Bozkus, 2014; Al-Khudairy et al., 2017; Liposek et al., 2019: 89).

Problems of physical education of student youth were studied by many scientists. It was noted that a serious obstacle to physical improvement of the student youth is the fall of interest in the traditional forms of physical education. Therefore, the organization and content of physical education in higher educational schools need to be updated (Mcdavid et al., 2019: 147).

Due to the expansion of the market of educational services and emergence of new specializations, increase a number of students who differ from the majority by the small volume of motor activity, arose the question about the study of an optimal system of educational activities that takes into account the features of different groups of students (Kharchenko et al., 2019: 194).

Validity and reliability of the physical fitness test are very necessary especially in testing of students' youth during a long time repeated testing. A quantitative measure of the test-retest reliability is intraclass correlation coefficient used effectively in different fields of sciences. Though much researches' attention has been directed at assessing the correlation coefficient under range restriction, the assessment of reliability under range restriction has been largely ignored (Fife et al., 2012: 862; Faragas et al. 2015). These articles use item response theory to simulate dichotomous item-level data to assess the robustness of test-retest under varying selection ratios.

Almehrizi (2013: 438) presented a general form of ICC and extends its use to estimate internal consistency reliability for nonlinear scale scores (used for relative decisions). He also examines this estimator of reliability using different score scales with real data sets of both dichotomously scored and poly-tomously scored items. Different score scales show different estimates of reliability. The effects of transformation functions on reliability of different score scales were also explored. Fitness testing is used frequently in many areas of physical activity, but the reliability of these measurements under real-world, practical conditions is unknown. Therefore, it is necessary to evaluate the reliability of specific fitness tests using the methods and different time periods used in the context of real-world sport and occupational management (Burnstein et al., 2011: 505; Ishiiet et al., 2015: 1254). A special interest is focused on the long period of time regarding test reliability in the physical education area because trans-seasons terms and academic years.

The theme of the use of sport and health tourism as a component of physical education of student's youth was disclosed in research works. However, not enough attention is paid to the formation of a system of perennial sport and health tourism during the whole period of study at higher education schools. Only integrated use of sports and health tourism as a component of physical education can positively influence the solution of the problem of strengthening of health, optimization of volumes of motive activity, formation of positive motivations to the tourism activities, after graduation etc. (Kukhtiy et al., 2011: 295).

Skaliy et al. (2009: 20) showed that hiking tourism has positive influence on the physical fitness of young people. They studied physical conditions of students in the course of increased physical activity in the mountain hiking tourism. The dynamics of the physical state of students during many days hiking made possible to accept the research hypothesis regarding significant improvement of the physical readiness. For the comprehensive assessment of the functional capacity of the cardiovascular system and physical qualities of the examined in the tourism practice, the test-complexes as scoring systems were useful. Kontreks–2 is a complex diagnostic system, which is recommended for current hospital and pedagogical control. It can help to determine not only the level but also the structure of physical training. It is characterized by simplicity and reliability; it can be used for individual and inter-control during the independent activities of physical exercises (Dushanin et al., 1985).

Hypothesis. The physical fitness preparation of the "Tourism" specialty field students in the Sport University and Classic University has significant different parameters during the trans-season stage.

Purpose. The research aimed to study dynamics of the physical fitness status in students of the "Tourism" specialized field during a trans-season stage.

Research tasks: (1) to compare results of the physical fitness preparation in the Sport University and Classic University during a seven months stage; (2) to study and compare trends in the physical fitness preparation in these universities during the stage; (3) to determine reliability of testing of the physical fitness preparation using Kontreks−2 complex of tests during the universities' physical education courses; (4) to compare distribution of students on the physical fitness levels regarding the studied universities.

Material and Method

Research design

The matter of the research was to compare results of the physical fitness preparation of the students studied "Tourism" as a business specialty in the Sport University and Classic University. The dynamics of the physical fitness status in students of these two universities have been determined using mathematical original modelling has been designed.

Study participants

Totally 100 university students studying "Tourism" as a business service were involved into the physical fitness testing. They were 48 males with body mass 68.3±8.4 kg (*M*±*SD*) and body length 173.9±4.8 cm; 52 females (body mass 57.6±6.7 kg, body length 165.1±5.4 cm). A half of the participants studied in the classic university (Ivan Franko National University of Lviv, n^{UF} = 50) and another half − in the sport university (Lviv State University of Physical Culture

named after Ivan Bobersky, n^{UB} = 50). There were 24 males and 26 females in both university' groups. This study was approved in advance by the local Bioethical Commission of Lviv State University of Physical Culture. All the participants voluntarily provided written informed consent before participating. The procedures followed were in accordance with the ethical standards of the Ethical Committee on human experimentation (Regulation, 2018).

Procedure

All the students were in good physical shape, and they participated in the university lessons of physical fitness according the common programs (Academic program, 2016; Working program, 2020). Monthly testing was conducted seven times from September to March using a complex test Kontreks–2 (Dushanin et al., 1985). The scoring system consists of eleven indicators: five of them are biomedical: age, body weight, blood pressure, heart rate, reducing pulse; and six – motor: flexibility, speed, dynamic power, speed, power and overall endurance. Negative scores of indicators were replaced with zeros. Levels of the physical fitness were evaluated regarding a sum score of all the indicators using the scale as follows: 50 points or fewer was recognised as low physical fitness level, 51–90 points – as lower than average, 91–160 points – average, 161–250 points – higher than average, 251 or more points – as a high level (Viktorov, 1990). Students of both genders were evaluated using the same scale of total points because in the complex of the tests gender's specific features have been taken into account. The testing was conducted afternoon on the first week of month at the sport venue of the universities.

Statistical analysis

Distribution of scores in the samples was determined in the frames of statistical hypothesis by Kolmagorov – Smirnov method (Smirnov et al., 1948).

Linear regression was used with a purpose to study trends of the physical fitness during the trans-season stage. The coefficient of linear regression (b) was determined using the formula derived as followed:

$$b = 6\frac{\frac{2}{N+1}\sum_{i=1}^{N} i\bar{x}_i - \sum_{i=1}^{N}\bar{x}_i}{N(N-1)}, \quad \text{(Eq 1)}$$

where $\bar{x}_i$ is mean value of a group in a month, N is a number of trials, i.e. months.

The significance of the slope coefficient was determined using the t–Student distribution with ($N - 2$) degrees of freedom (Zanevskyy et al., 2017):

$$t = b / \sqrt{\frac{12\sum_{i=1}^{N}(y_i - \bar{x}_i)^2}{N(N^2-1)(N-2)}}, \quad \text{(Eq 2)}$$

where y_i is the approximation linear function.

Accuracy of this approximation was determined by using the coefficient of determination as followed:

$$R^2 = \frac{\sum_{j=1}^{k}\left(y_j - \bar{x}_T\right)^2}{\sum_{j=1}^{k}\left(\bar{x}_j - \bar{x}_T\right)^2}, \quad \text{(Eq 3)}$$

where $\bar{x}_T$ is a total mean score during the study.

Dynamics of relative changing of test-retest results during the study period was evaluated using relative parameters of the total score:

$$\xi = \frac{x}{\bar{x}} - 1, \quad \text{(Eq 4)}$$

where x is a total test score of a sample, $\bar{x}$ – an average total score during the study stage (Zanevskyy et al., 2020).

The relative difference in score dynamics between UB and UF students was calculated with formula as follows:

$$\delta\xi = \frac{1}{N}\sum_{i=1}^{N}\left|\xi_i^{UB} - \xi_i^{UF}\right|, \quad \text{(Eq 5)}$$

where ξ_i^{UB} and ξ_i^{UF} are relative parameters of the total scores correspondingly for the groups studied, $N = 7$ is a number of test-retest treaties. Because $\sum_{i=N}^{N}\xi_i^{UB} = \sum_{i=N}^{N}\xi_i^{UF} = 0$, $\delta\xi$ is a difference relative to one (or 100%).

Theoretically a maximal difference was calculated by formula as follows:

$$\delta\xi_{max} = \frac{1}{N}\left[\sum_{i=1}^{N}\left|\xi_i^{UB}\right| + \sum_{i=1}^{N}\left|\xi_i^{UF}\right|\right]. \quad \text{(Eq 6)}$$

Taking into account (Eq 5), corresponding parameter of difference was determined by formula as follows:

$$k_{dif} = \frac{\sum_{i=1}^{N}\left|\xi_i^{UB} - \xi_i^{UF}\right|}{\sum_{i=1}^{N}\left|\xi_i^{UB}\right| + \sum_{i=1}^{N}\left|\xi_i^{UF}\right|}, \quad \text{(Eq 7)}$$

where $0 \le k_{dif} \le 1$ (Table A).

A parameter of similarity was determined by formula as follows:

$$k_{sim} = \left(1 - k_{dif}\right)100\%. \quad \text{(Eq 8)}$$

A quantitative measure of difference between UB and UF physical fitness scores was determined using the coefficient of difference calculated by the formula as follows (Zanevskyy et al., 2019):

$$\delta x_{dif} = \frac{\bar{x}^{UB} - \bar{x}^{UF}}{\bar{x}^{UB} + \bar{x}^{UF}}200\%. \quad \text{(Eq 9)}$$

A quantity measure of test-retest results was determined with the expression as follows:

$$\delta x_{dyn} = \frac{x_{i-1} - x_i}{x_{i-1}}100\%. \quad \text{(Eq 10)}$$

Two-ways ANOVA was used to determine differences between UB and UF samples. One-way ANOVA with repeated measures was used to evaluate differences in results between means of monthly testing and relative parts of variation between subjects and interaction between test-retest and interpersonal variation. This one-way ANOVA design was realised in three problems, i.e. for the UB sample, for the UF sample, and for the total sample. Pearson correlation between test-retest scores was applied with a purpose to substantiate ANOVA with repeated measures (Zanevskyy et al., 2016). Trans-season correlation was studied using Pearson pared linear coefficient (r), and corresponding significance of this correlation was determined using t-Student statistics as follows:

$$t = |r|\sqrt{(n-2)/(1-r^2)}. \quad \text{(Eq 11)}$$

Variation of scores in the samples was evaluated using the coefficient of variation (Suni et al., 1996):

$$V = \frac{SD}{M}100\%, \quad \text{(Eq 12)}$$

where SD: standard deviation, M: arithmetic mean. If $V < 10\%$, variation is small, 10−20% − moderate, and $V > 20\%$ − great.

Trans-season means score reliability was evaluated in the frames of the intraclass correlation coefficient using the formula by Shrout et al. (1979):

$$ICC(1,N) = \frac{MS_B - MS_W}{MS_B}, \quad \text{(Eq 13)}$$

where N is a number of trials (seven months), MS_B is mean square of scores between persons (students' samples), and MS_W − within persons. The evaluation scale was used with levels as follow: ICC>0.95 (excellent reliability), 0.91−0.95 (good), 0.81−0.90 (moderate), 0.71−0.80 (acceptable), 0.61−0.70 (questionable), and 0.60 or smaller (unacceptable).

Calculations were done using Statistica software package analysis (Dell Inc., 2017).

Findings

Because the hypothesis regarding normality of test results was accepted ($KS-D$=0.068−0.163, p=0.069−0.748), parametric statistics was used for treating of score results (Table 1). During the study, test scores in the UB group were significantly greater than in the UF (δx_{dif} = 12.4 – 25.1%, $p < 0.001$).

Students of the UB group showed a weak positive trend (b>0 with an average increase in the results) during the stage contrary to the students of the UF group which showed a slight negative trend (b<0 with an average decrease in the results). Both of the trends in the UB and UF groups were evaluated as non-significant: p^{UB}=0.996, p^{UF}=0.755 (Table 2).

A character of changing of the test scores during this seven months period for males and females was rather similar between them (Figure 1). During the first four months (September – December) the results of the UB and UF groups remained approximately constant. In January test results felt down near a quarter, and during February – March they returned up near to the autumn level. All the time, UB students had greater results than UF students: about 20% (Eq 9). Variation of the results insight the UB and UF groups was rather high (Eq 12): V=23.7−37.8%.

Table 1. Statistics of the test-retest scores (upper: n^{UB} = 50, lower: n^{UF} = 50) groups

Statistics*	Sep	Oct	Nov	Dec	Jan	Feb	Mar
M	144.3	148.6	153.9	162.3	134.6	140.7	156.0
	127.4	124.0	127.1	125.3	119.3	118.3	130.9
m	7.7	6.0	6.8	7.9	5.9	6.4	6.9
	5.6	4.8	5.1	4.6	4.2	4.1	4.4
Max	324.2	288.3	300.6	336.3	229.1	247.0	296.3
	245.8	231.4	220.0	227.8	191.0	189.7	215.6
Min	63.3	87.1	71.0	67.1	51.0	60.6	61.7
	72.2	73.0	69.4	63.6	71.5	61.9	70.0
KS-D	0.119	0.163	0.103	0.106	0.068	0.093	0.092
	0.105	0.125	0.129	0.130	0.113	0.132	0.094
p(KS-D)	0.244	0.482	0.144	0.083	0.602	0.748	0.215
	0.502	0.173	0.592	0.089	0.069	0.076	0.490
V%	37.8	28.4	31.2	34.3	31.0	32.1	31.4
	31.2	27.2	28.6	26.0	25.1	24.6	23.7
δx%	12.4	18.1	19.1	25.7	12.1	17.3	17.5
ξ	-0.0293	-0.0002	0.0355	0.0917	-0.0945	-0.0530	0.0499
	0.0224	-0.0050	0.0201	0.0054	-0.0429	-0.0508	0.0509

*Note: *M* − arithmetic mean, *m* − standard mean error, *KS-D* − Kolmagorov – Smirnov parameter, *p(KS-D)* − significance, *V* − coefficient of variance, *δx* − coefficient of difference between groups, *ξ* − relative difference in scores between UB and UF groups.

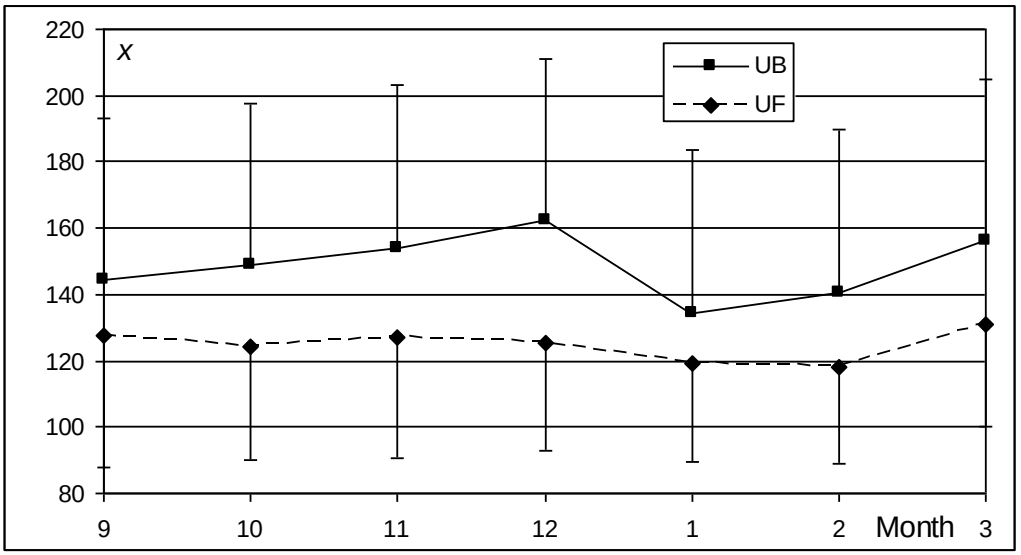

Figure 1. Graphs of the test scores during seven months: UB (*M* + *SD*) and UF (*M* − *SD*); 9 − Sep., 10 − Oct., 11 − Nov., 12 − Dec., 1 − Jan., 2 − Feb., 3 − March

Despite of significant difference between groups, in the mean scores taken place in the monthly tests, the dynamics of the results during the whole stage of study was rather similar (see Figure 1). Quantified measures of difference and similarity of the dynamics were determined regarding relative difference in scores between UB and UF groups (Figure 2). Corresponding coefficients were calculated using Eqs 7,8: k_{diff} = 0.387, k_{sim} = 61.3%.

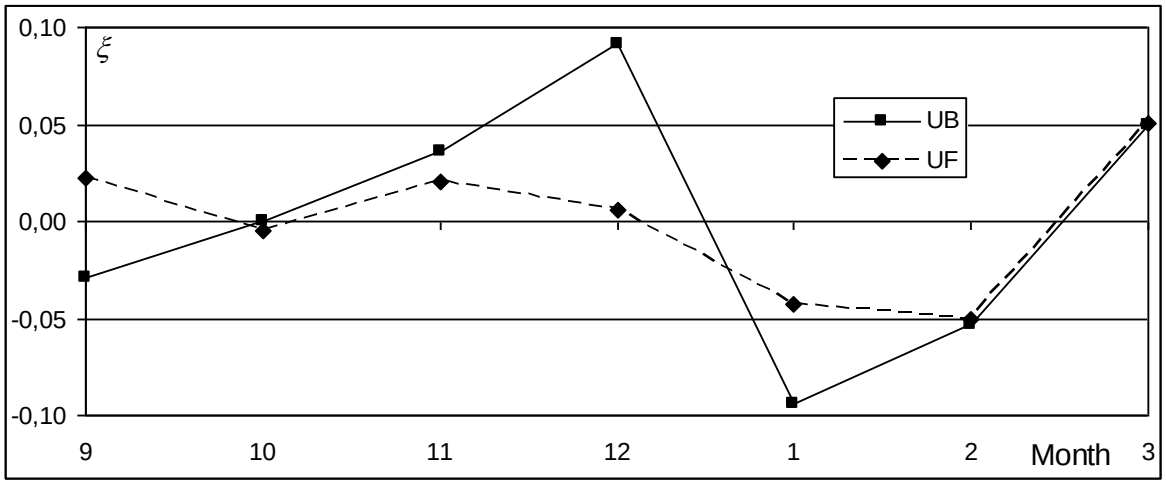

Figure 2. Relative test scores during seven months.

Significant differences between UB and UF groups were noticed: 17.6% (Eq. 9), $p < 0.001$. Test-retest differences were evaluated as significant ($p = 0.021$). A great variation within these samples was noticed too; corresponding part in the total variation was derived as 89.8% (Table 3). Similarity of trends in scores between groups during the study was determined by the coefficient of changes in dynamics equal 38.7% (Eq. 7).

Table 2. Linear trends in the physical fitness status

Sample	*a**	*b*	R^2	*t*	*p*
UB	148.6	0.0103	0.003	0.005	0.996
UF	125.8	−0.3064	0.021	0.330	0.755

*Note: *a* is a constant of the linear regression, *b* − coefficient of regression (Eq 1), *t* − Student parameter (Eq 2), R^2 − coefficient of determination (Eq 3).

Strong and high level significant correlation was noticed between all the seven months test-retest trans-season trials: in the UB group ($r = 0.385−0.951$, $p < 0.006$) and in the UF group ($r = 0.589−0.868$, $p < 0.001$, Table 4).

Because significant correlation was found between this monthly testing, one-way ANOVA of repeated measures was applied for study a trans-season reliability of the physical fitness testing (Table 5). Taking into account significant differences regarding groups, the investigation of trans-season reliability were undertaken separately in the UB and UF samples.

Table 3. Two-ways ANOVA results

Source of variation	*SS*	*df*	*MS*	*F*	*p*	*F(0.05, df)*	*Q,%*
Between samples	101004	1	101004	58.48	0.000	3.86	7.7
Test-retest	25878	6	4313	2.50	0.021	2.11	2.0
Interaction	7661	6	1277	0.74	0.618	2.11	0.6
Within samples	1184749	686	1727				89.7

Total	1319292	699	2860.8	100.0

*Note: *SS* is sum of squares, *df* − degree of freedom, *F* – Fisher – Snedecor statistics, *Q* – relative part of the total variation.

Significant trans-season reliability on the excellent (UF) and good (UB) levels was found for the samples ($ICC > 0.94$, $p < 0.001$). Both of the groups showed high trans-season reliability during the seven months testing (Eq 13).

Table 4. Pearson correlation coefficient: UB \ UF groups

Month	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sep	−	0.868	0.748	0.786	0.673	0.626	0.754
Oct	0.824	−	0.798	0.853	0.789	0.717	0.832
Nov	0.816	0.891	−	0.764	0.604	0.589^{+}	0.687
Dec	0.704	0.845	0.863	−	0.778	0.713	0.825
Jan	0.385*	0.593	0.684	0.728	−	0.803	0.831
Feb	0.392	0.670	0.692	0.731	0.851	−	0.796
Mar	0.478	0.691	0.758	0.807	0.865	0.951	−

Note: *t = 2.889, t(0.01,48) = 2.682; $^{+}$t = 5.048, t(0.001,48) = 3.505

The results of testing were evaluated on five levels of the physical fitness. Relative numbers of the subjects were plotted vs. corresponding levels (Table 6). Totally majority of the results (61.9%) were on the average physical fitness preparation, and there were no students on the low level. Eleven results (1.6%) appeared on the high level, and all of them were in the UB group. In average, students of the UB group clearly showed better results than students of the UF group.

Table 5. Intraclass correlation reliability

Sample	MS_B	MS_W	*ICC*	*Q%*	*p*
UB	12356	746	0.940	73.0	<0.001
UF	6097	301	0.951	76.8	<0.001

Trans-season reliability was evaluated regarding trends in numbers of subjects on the physical fitness levels. With a purpose to meet mathematical conditions of the chi-squared method regarding a minimum numbers of subjects' results in cells of the research table, a number of levels were reduced from five to three. 'Low' and 'Lower than average' levels were united together, as well as 'High' and 'Higher than average' levels were united, too.

Deviations from mean values in three middle levels were calculated for seven tests taken during the study period with (6−1)(2−1) degree of freedom: chi-squared = 46.02, $p < 0.001$.

Discussion and Conclusion

The study of long time stage dynamics for the physical fitness was a reasonable problem of the modern state of the theory and methods of physical education. While short-term high intensity functional training effects have been established, fitness improvements from program participation exceeding 16 weeks are unknown. Cosgrove et al. (2019: 203) examined the effectiveness of participation in high intensity functional training through CrossFit. During 2013–

2014, fitness performance testing was incorporated into an ongoing university CrossFit program with 0–27 months of the high intensity functional training experience (grouped into 0–6 months and 7+ months). Participants completed three separate days of assessments across 10 fitness domains before and after participating in the program for six months that was near seven months period of the present research.

Table 6. Distribution of test's results on the physical fitness level during the study stage

Sample	Low	Lower than average	Average	Higher than average	High	Total
UB	0	36	186	117	11	350
UF	0	53	247	50	0	350
Total	0	89	433	167	11	700

The purpose of the research (to study dynamics of the physical fitness status in students of "Tourism" specialized field), was undertaken on the example of the first year bachelors studying "Tourism" speciality. This approach was conveniently agreed with results of the analysis of the student's body physical conditions in the course of increased physical activity during mountain hiking tourist undertaken by Skaliy et al. (2009).

As a key method of achieving the aim of this research was a complex test Kontreks−2, which was used for evaluation the physical fitness of the tourist students. The results appeared with good accordance with results of previous studies taken by Tymoshenko et al. (2011). Sport and health tourism is a promising and generally accessible means of physical education of a youth. It is considered an important factor in comprehensive development of student youth, moral and physical rehabilitation, education of national consciousness and involvement in systematic activities of physical exercises.

Advances of the complex test Kontreks−2 in evaluation of physical fitness of students have age restrictions regarding adolescents younger than nineteen years old. Then, another specialised for teenagers test should be used, e.g. "Field-based fitness assessment in young people: the ALPHA health-related fitness test battery for children and adolescents". The battery include selected fitness tests: the 20 m shuttle run test to assess cardio respiratory fitness; the handgrip strength and standing broad jump to assess musculoskeletal fitness, and body mass index, skin fold thickness and waist circumference to assess body composition (Ortega et al., 2015: 533; Ruiz et al., 2011: 518; Ortega et al., 2005).

Accurate measures of youth fitness require researchers and practitioners. Evidence of validity and reliability are essential before results of youth fitness tests can be used to make sound decisions. Mahar et al. (2008: 126) proposed practical guidelines for valid and reliable youth fitness testing. They described a three-stage paradigm for validation research and provided guidance for conducting and understanding norm-referenced and criterion-referenced validity and reliability research. Advice is provided on how to administer fitness tests and how to use fitness test results in ways that promote reliability and validity in practice. Users of fitness tests are cautioned that interpretation and use of fitness tests involve important educational, pedagogical, and psychological consequences. Confidence in youth fitness test results and the decisions that are made based on these scores depend upon careful test design and administration that incorporate a

sound understanding of the principles of validity and reliability (Trost et al., 2002: 350; Haddock et al., 2016).

In addition, most of reliability tests are conducted over a short period of time, but the reliability properties may be very different over the months to years in which they are routinely used in the field. Therefore, the purpose of our study was to evaluate some typical fitness tests for reliability within the environment and using the methods and timeframe that will be used in the field. Reliability was acceptable (ICC > 0.6) over an 18-month time period for all pair wise comparisons and all time points together for the push-up, vertical jump, and pull-up assessments. The Harvard step test and 60-second jump test had poor reliability (ICC < 0.6) between baseline and other time points. When we excluded the baseline data and calculated the ICC for 6-month, 12-month, and 18-month time points, both the Harvard step test and 60-second jump test demonstrated acceptable reliability. Dynamic balance was unreliable in all contexts. Limit-of-agreement analysis demonstrated considerable intra-individual variability for some tests and a learning effect by administrators on others (Falk et al., 2019). The trans-season test Kontreks−2 in this research showed rather good reliability (ICC>0.95) relatively other tests used for the evaluation of the physical fitness (Petersen et al., 2015).

Because considerable and significant difference between groups was noticed just after beginning a bachelor course (in September: δx_{dif} = 12.4%, $p < 0.001$) and grew up during all the period of study, it is reasonable to conclude that entrants to the Sport University had a better physical fitness preparation than entrants to the Classic University. This phenomenon shows advantages of the sport universities in preparation of specialists of the sport and healthy tourism.

Considerable (δx_{dyn} = −11.7%) and significant ($p < 0.001$) decrease of the physical fitness test results in both study groups in January may be explained with traditional winter holidays and examinations between winter and summer semesters. This phenomenon needs a special study and should be problem of future researches.

A quantitative comparison of the physical fitness results in the “Tourism” specialized field showed significant superiority of students from the Sport University vs. Classic University during a seven months preparation stage (δx_{dif} = 17.6%, $p < 0.001$). Despite of this absolute difference, dynamics of changing these results are rather similar in these two universities (61.3%). Significant decrease in results was noticed on the fifth month of the stage (in January δx_{dyn} = −11.7%). Because this decrease, the whole trends in results during the stage of preparation was about zero: UB (δx_{dyn} = 0.03%, p = 0.996) and UF (δx_{dyn} = −0.98%, p = 0.755).

Totally majority of the results (61.9%) showed an average physical fitness preparation, and there were no students on the low level. Eleven results (1.6%) appeared on the high level, and all of them were in the UB group. In average, students of the UB group clearly showed better results than students of the UF group.

Study groups showed high trans-season reliability during the seven months of testing. Significant trans-season reliability was evaluated as excellent (ICC_{UF} = 0.951) and good (ICC_{UB} = 0.940, $p <$ 0.001). Therefore, developed model and methods could be recommended for sport researchers and teachers and could be accepted in the practice of physical education in the high school.

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Conflict of Interest
The authors declare that there is no conflict of interest regarding this research.

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Appendix

Table A. Nomenclature

Symbol	Description
a	Constant of linear regression
b	Coefficient of linear regression
df	Degree of freedom
F	Fisher – Snedecor statistics
ICC	Intraclass correlation coefficient
$ANOVA$	Analysis of variance
$KS-D$	Kolmagorov – Smirnov parameter
M	Arithmetic mean
MS_B	Mean square of scores between persons
MS_W	Mean square of scores within persons
SD	Standard Deviation
SS	Sum of squares
N	Number of trials
Q	Relative part of the total variation
R^2	Coefficient of determination
UB	Sport University
UF	Classic University
V	Variation coefficient
k_{dif}	Parameter of difference
k_{sim}	Parameter of similarity
m	Standard mean error
n	Number of students
p	Significance
r	Pearson correlation coefficient
t	Student statistics
x	Test points
$\overline{x}$	Sample mean
$\overline{x}_T$	Total mean
y	Linear approximation function
δx_{dif}	Relative measure of groups' difference in scores
δx_{dyn}	Relative measure of test-retest difference in scores
ξ	Relative parameters of the total score

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Examining the Relationship between Leisure Attitude and Life Satisfaction Levels of University Students*

Betül AYHAN[1], Bilge ÖZEL[2]
[1]Hitit Üniversitesi, Çorum, Türkiye
https://orcid.org/0000-0003-0713-4848
[2]BartınÜniversitesi, Bartın, Türkiye
https://orcid.org/0000-0003-0595-3786
Email: betulayhan@hitit.edu.tr , bilgeozel994@gmail.com

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Abstract

The purpose of this study is to examine the relationship between leisure attitudes and life satisfaction levels of university students in terms of certain demographic variables. The population of the study consists of 16120 students enrolled at Bartin University during the academic year 2018-2019. The sample consists of 261 (149 women and 112 men) students studying at various departments at Bartin University. The data collection tools included the "Personal Information Form" developed by researchers, the "Satisfaction with Life Scale (SWLS) developed by Diener, Emmons, Larsen and Griffin (1985) and adapted to Turkish by Köker (1991) and the "Leisure Attitude Scale (LAS)" developed by Ragheb and Beard (1982) and adapted to Turkish by Akgül and Gürbüz (2011). Frequency, percentage, descriptive statistics, t-Test, ANOVA and Pearson correlation tests were used in the analysis of the data. According to the results of the t-Test of the gender variable, there was no significant difference between the LAS sub-dimensions and SWLS ($p>0,05$). The correlation analysis for the age variable showed no significant relationship in the sub-dimensions of LAS, while a positive and low-level relationship was found with SWLS ($p<0,05$). As a result, leisure activities of university students vary and variables such as gender, age, income level and daily leisure time are important factors. However, the participation of university students in city and on-campus activities contributes to the leisure attitude level. Therefore, the participation of university students in activities and the diversity of leisure activities will improve the level of attitude and increase satisfaction with life.

Keywords: University students, leisure attitude, life satisfaction

Introduction

Today, there are many factors that directly and indirectly affect the education level of university students. Reasons included in these factors are important in engaging in leisure activities effectively and leaning towards a certain attitude in this period.

Therefore, the concept of education plays an indispensable role in the stage of human development and change. Education affects the individual's education life, status and social life in society. Education emerges as a process, and this process is effective when time is used efficiently (Yaşartürk & Bilgin, 2018). While technology provides more consumer goods necessary for human life and more rapidly, it has created the concept of "leisure time" that is different from working time (Abadan, 1961). The concept of leisure time constitutes a structural feature of the contemporary industrial society and a product of this type of society (Karakparmak, 2005).

Leisure or free time allows individuals to be by themselves, to live their freedom and to find themselves when used efficiently and in the right place. Making good use of leisure time enables individuals to express themselves, develop their creativity, gain new experiences, improve their social environment and increase their productivity. The wise use of leisure time is a result of development and education (Kılbaş, 2004; Yaşartürk, Bilgin & Yaman, 2017). Therefore, it is important to create an attitude in terms of using leisure time to be successful.

Attitude is generally a tendency that is attributed to an individual and that regularly shapes their thoughts, feelings and behaviors about a psychological object (Kağıtçıbaşı, 2010). These trends are a product of the socio-cultural environment of the society that the individual is in. The subject of attitude can be anything (abstract-concrete) or leisure time (İnceoğlu, 2000). Attitude has a quality that directs the person to action.

The concept of leisure attitude is the positive or negative reactions or trends that arise from the compilation of experiences, feelings, memories and knowledge about leisure and leisure activities (Teaff, 1975; Aydın & Yaşartürk, 2020). The person's leisure time changes and develops rapidly all over the world. When the individual's tendency to behave is examined, it is understood that there is a close relationship between lifestyle, education, attitudes and thoughts (Akgül, 2011; Bozkuş, 2014).

The concept of life satisfaction can be defined as the situation or result obtained by comparing a person's expectations with what they have (Haybron, 2004), as an important element of a person's positive assessment of their entire life per their criteria (Diener, Emmons, Larsen and Griffin, 1985), and as the sum of human beliefs and evaluations about life or general attitude of human life (Rice, Frone and McFarlin, 1992). According to Shin and Johnson (1978), life satisfaction is generally an assessment of the quality of an individual's life according to the criteria they have determined. Life satisfaction can be defined as the degree of positive development of all quality of life as a whole (Veenhoven, 1996, as cited in Dağlı and Baysal, 2016).

Life satisfaction is defined as the general judgments and evaluations of the individual regarding their life. In the formation of life satisfaction judgments, which have a subjective nature, an individual's comparison of the situation with the situations that they think is an appropriate standard plays a role (Diener et al., 1985). These standards can be the criteria of the individual for a good life, as well as general judgments that are given importance. Additionally, it may be possible for the individual to adopt different standards to achieve "success" in their different living spaces. Therefore, it is emphasized that it is more important to evaluate the individual's general judgments about their life rather than their satisfaction in certain living spaces (Pavot and Diener, 1993; as cited in Çivitçi, 2012). In terms of university students, individuals who have high attitude towards life satisfaction and leisure activities can also be more successful in their classes by improving their academic self-efficacy levels (Yaşartürk, 2019).

Therefore, it is thought that the leisure attitude level of university students or the activities they do will affect the satisfaction they will get from life. Therefore, the purpose of the study is to examine the relationship between leisure attitude and life satisfaction levels of university students in terms of demographic variables.

Method

Research Model

To reveal the current situation, a descriptive and a relational survey were used in the research model. To present the existing situation, the research model consisting of "descriptive and relational survey" was utilized. Descriptive survey models are defined as the surveying of arrangements made on the whole population or a group of samples to be taken from it to make a general judgment about the population consisting of many elements. Relational screening models aim to determine the presence and/or degree of change between two or more variables (Karasar, 2017).

Population and Sampling

The population of the study consists of 16120 students enrolled at Bartın University during the academic year 2018-2019. The sample group consists of 261 students studying at various departments at Bartın University.

Data Collection Tools

The personal information form developed by the researcher was used in the study as the data collection tool which consists of questions related to the independent variables of gender, year (at the university), age, family income and leisure time levels.

To determine the attitude levels of individuals on their leisure activities, the "Leisure Attitude Scale (LAS)" developed by Ragheb and Beard (1982) and adapted to Turkish by Akgül and Gürbüz (2010) was used. The leisure-attitude scale is a 5-point Likert scale consisting of three sub-dimensions that are; (1) cognitive, (2) affective and (3) behavioral (12 items each dimension) with a total of 36 items. The minimum score that can be obtained in the scale is 36

while the highest is 180. In the adaptation study of the scale, the internal consistency coefficients calculated for the sub-dimensions were found to be 0.81, 0.92, 0.91, respectively, and the total reliability coefficient was 0.97 (Akgül and Gürbüz, 2011). According to the analysis results, the internal consistency coefficient of the leisure attitude scale was "cognitive 0.93", "affective 0.94", "behavioral 0.92" and LAS was 0.96.

To determine the overall satisfaction levels of individuals with their lives, the "Satisfaction with Life Scale (SWLS)" developed by Diener, Emmons, Larsen and Griffin (1985) and adapted to Turkish by Köker (1991) was used. The satisfaction with life scale consists of five 7-point Likert items and the minimum score that can be obtained in the scale is 7 while the maximum is 35. The high score obtained from the scale shows that the satisfaction with life is high, and although the number of items is low, Diener et al. (1985: 72) who developed the original scale found the reliability coefficient of the scale to be 0.87 and criterion-dependent validity as 0.82 (Pavot et al., 1991: 149- 161). Köker (1991) determined that the test-retest consistency coefficient of the scale applied with three-week intervals was 0.85. According to the analysis results, the internal consistency coefficient of the leisure attitude scale was 0.89.

Data Analysis

SPSS 20 program was used to analyze the data. Besides, descriptive statistical methods, independent sample t-test, one-way variance analysis (ANOVA) and Pearson correlation test results were examined. The level of significance calculated for the equality of variances was accepted as ($p<0,05$) (Büyüköztürk et al., 2012).

Findings

In this part of the study, the results of the analysis are interpreted as a table.

Table 1. Descriptive statistics results according to the demographic variables of the participants

Variables		N	%	$\bar{x}$	s
Age		261		22,21	1,82
Family Income Level		261		3455,93	1535,80
Daily Free time		261		6,73	3,018
Gender	Female	149	57,1		
	Male	112	42,9		
Class	1st Class	45	17,2		
	2st Class	82	31,4		
	3st Class	57	21,8		
	4st Class	77	29,5		

According to the table, the average age of the participants is 22.21; family income levels (monthly) are 3455,93 TL and daily free time average is 6,73 hours.%57.1 of the participants are female and %42.9 are male students.In addition, % 17,2of the participants receive education in the first grade, 31,4 in the 2nd grade, 21,8 in the 3rd grade and 29,5 in the 4th grade.

Table 2. T-Test Results for Independent Samples According to the Gender Variable of the Participants

Dimensions	Gender	n	X	Sd	t	p
Cognitive	Female	149	4,255	,5763	,600	,549
	Male	112	4,211	,5916		
Affective	Female	149	4,183	,6255	-1,242	,215
	Male	112	4,279	,6017		
Behavioral	Female	149	4,217	,5635	,049	,961
	Male	112	4,213	,5680		
LAS	Female	149	4,218	,5037	-,254	,800
	Male	112	4,234	,5150		
SWLS	Female	149	5,055	1,2082	-,145	,884
	Male	112	5,076	1,1794		

According to the table, no statistically significant difference was found in the gender variable t-Test results (p>0,05).

Table 3. ANOVA Test Results According to Class Variable of Participants

Dimensions	Source of Variance	Total of Squares	sd	Average of Squares	F	p	Significant Difference
Cognitive	Between Groups	1,255	3	,418	1,237	,297	-
	In-groups	86,898	257	,338			
	Total	88,152	260				
Affective	Between Groups	4,183	3	1,394	3,792	,011*	3st Class >1st Class
	In-groups	94,508	257	,368			
	Total	98,691	260				
Behavioral	Between Groups	,872	3	,291	,912	,436	-
	In-groups	81,943	257	,319			
	Total	82,815	260				
LAS	Between Groups	1,563	3	,521	2,045	,108	-
	In-groups	65,452	257	,255			
	Total	67,014	260				
SWLS	Between Groups	6,039	3	2,013	1,419	,237	-
	In-groups	364,479	257	1,418			
	Total	370,519	260				

* p<0,05

According to the table, in the ANOVA test results of the class variable, “affective” dimension “While a statistically significant difference was found between the 3st grade and the 1st grade (p<0,05), no statistically significant difference was found in the "cognitive and behavioral"

dimensions and the total mean scores (p>0,05).In addition, there was no statistically significant difference in the total score mean of the SWLS according to the class variable (p>0,05).

Table 4. Correlation Analysis ResultsAccording to the Age Variable of the Participants

Variable		Cognitive	Affective	Behavioral	LAS	SWLS
Age	r	,019	,037	,027	,032	,174*
	p	,763	,557	,663	,607	,005
	n	261	261	261	261	261

* p<0,05

According to the table, no statistically significant relation was found in the correlation analysis results of the age variable in the sub-dimensions of LAS and total mean scores. A statistically significant and low level statistically significant relationship was found in the total score mean of the SWLS (r = 0.174; p<0,05).

Table 5. Correlation Analysis ResultsAccording to the Family Income Variable of the Participants

Variable		Cognitive	Affective	Behavioral	LAS	SWLS
Family Income	r	,062	,054	,044	,062	,131*
	p	,316	,385	,481	,319	,034
	n	261	261	261	261	261

* p<0,05

According to the table, while there was no statistically significant relationship in the correlation analysis results of the family income variable in the sub-dimensions of SWLS and the total score averages (p>0,05), a positive and low level statistically in the total score mean (r = 0.113; p<0,05) significant relationship was determined.

Table 6. Correlation Analysis ResultsAccording to the Daily Free Time Variable of the Participants

Variable		Cognitive	Affective	Behavioral	LAS	SWLS
Daily Free Time	r	,312*	,331*	,327*	,374*	,052
	p	,000	,000	,000	,000	,402
	n	261	261	261	261	261

* p<0,05

According to the table, as a result of the correlation analysis of the daily free time variable, a positive and moderate statistically significant relationship was determined in the cognitive, affective and behavioral sub-dimensions and total score averages (r=0,312, r=0,331, r=0,327; p<0,05) and there was no statistically significant difference in the total score average of the SWLS (p>0,05).

Table 7. Results of Correlation Analysis between LAS and SWLS

		Cognitive	Affective	Behavioral	LAS
SWLS	r	,199*	,145*	,184*	,202*
	p	,001	,019	,003	,001

	n	261	261	261	261

* p<0,05

According to the table, as a result of the correlation analysis conducted in order to show the relationship between "LAS and SWLS total score averages", a positive and low-level statistically relationship was found between the total scores and sub-dimensions of LAS (cognitive, affective and behavioral) and SWLS total scores. (r=0,199, r=0,145, 0,184 and r=0,202; p<0,05).

Discussion and Conclusion

This study aims to investigate the relationship between leisure attitude and life satisfaction levels of university students.

For the gender variable, the T-test, which was completed to examine the difference between LAS sub-dimensions and the total mean scores, showed no statistically significant difference (p>0,05). Deng, Walker and Swinnerton (2005) did not find any significant difference in the gender variable in their study conducted with Chinese and Canadian students. Gökyürek (2016) in their study focusing on leisure attitudes of individuals who engage in dance activities, did not find any significant differences in terms of the gender variable. Furthermore, Ayyıldız (2015) and Aydemir, Tokgöz and Oğuzhan (2017) did not find any significant differences by gender in their research. However, Akgül (2011) conducted a study with university students in Ankara and London, and found a difference in gender among individuals in Ankara, while they did not find any difference in gender among individuals in London. Therefore, studies in the literature show parallelism with our study that the attitude towards leisure activities does not differ by gender. No significant difference was found in the total mean scores of the SWLS by gender (p>0,05). In the study conducted by Cenkseven and Akbaş (2007) with university students, the average scores of life satisfaction level of women were higher than men, however, there was no significant difference in gender. In the study of Arıdağ and Seydooğulları (2019) no significant difference was found in terms of gender. Similarly, studies conducted by Çeçen (2007), Özkara, Kalkavan & Çavdar (2015), Dirlik (2016), Yaşartürk, Akyüz & Karataş (2017) and Yaşartürk & Bilgin (2018) are in line with our findings. Therefore, the satisfaction levels of university students from life do not differ significantly from each other as a result of their activities.

In terms of the class variable, according to the results of the ANOVA completed to examine the difference between the LAS sub-dimensions and the total mean scores, the statistically significant difference in the "affective" sub-dimension of LAS was between "3st class and 1st class" and the difference is in the 3st class (p<0,05). This shows that 3st class students have a more effective attitude in leisure activities than 1st class students at the affective level. Education at the undergraduate level may be a factor in this finding. However, no significant difference was found between other sub-dimensions and years. Similarly, Balkan (2019) did not find a significant difference between the year variable and the leisure attitude level of students studying in the recreation department. Gürtekin (2019) did not find any significant difference between the leisure attitude levels of the university students and the year variable. However, Erol, Belgin & Cansever (2017) stated that while there was no significant difference between the year variable and leisure attitudes, students in all years could obtain attitudes from leisure activities at a close level. Therefore, many studies in the literature are in line with our findings, but it cannot be said that leisure attitude will create a clear attitude

level among each year. According to the class variable, there was no significant difference in the total mean score of the SWLS (p>0,05). In his study, Ünal (2011) found that the year variable did not affect life satisfaction. Aydilek (2019) did not find any significant difference in their research conducted with physical education and sports teacher candidates. However, in a study conducted by Özel (2019) with university students, it was concluded that 4st class students had higher life satisfaction than those in other years. Therefore, studies in the literature are similar and it can be said that the year variable is not directly related to satisfaction with life.

The results of the correlation analysis conducted to examine the relationship between LAS sub-dimensions and the total mean scores by age, showed no significant relationship between the LAS sub-dimensions and the total mean scores (p>0,05). Binbaşıoğlu & Tuna (2014) found no significant relationship between the age variable and the leisure attitudes in their study with university students. Similarly, Gürtekin (2019) found no significant relationship between university students and age. Akyüz (2015) has also reached similar results in their study. Therefore, we can say that the age factor does not have a direct effect on university students' engagement with leisure activities. Besides, there is a positive and low-level significant relationship between the age variable and the total mean scores of the SWLS (p<0,05). Karakılıç, Alay & Koçak (2009) found a significant relationship between the students' age and life satisfaction in the sports management program. Kaygusuz, Kömrükçü & Adalı (2016) found a meaningful relationship between age and life satisfaction levels of physical education and sports school students, and concluded that those in the fourth year had higher life satisfaction levels. Fiske, Wetherell & Gatz (2009) found a significant relationship between age and life satisfaction, and explained this difference in age levels and life satisfaction by stating that older people experience less psychological distress in their daily lives compared to young people and middle-aged people, and that stress and anxiety decrease with age. Therefore, according to the studies in the literature and our findings, we can say that age has an effect on life satisfaction, and that satisfaction with life increases as individuals reach a certain level of maturity with experiences.

The results of the correlation analysis conducted to examine the relationship between LAS sub-dimensions and the total mean scores by age, showed no significant relationship between the LAS sub-dimensions and the total mean scores (p<0,05). In general, it is foreseen that the income level would increase the options in diversity and evaluation methods in recreational activities. However, Akyüz (2015) did not find a significant relationship between income level and leisure time in parallel with our study. In their study, Burton, Turrell & Oldenburg (2003) stated that the income level of the individual is an important factor in participating in recreational activities. Family income level is an important factor as it is one of the reasons that can limit the types of activities and participation of individuals, which may require high expenditure (Demir & Demir, 2006). Studies in the literature differ and we can say that the income status of university students does not directly affect their engagement with leisure activities, and that the family income level and the leisure attitude are not associated as activities that would create expenses are limited when students make choices. In addition, there is a positive and low-level significant relationship between the family income variable and the total mean scores of the SWLS (p<0,05). In their study with university students examining life satisfaction by certain variables, Dost (2007) stated that the participants' life satisfaction levels increased significantly when the perceived economic situation increased. Similarly, Gündoğar et al. (2007) found a direct relationship between university students' income level and life satisfaction. Atik (2020) found a significant relationship between life satisfaction and family income level in their research. As a result of these findings, it can be

said that the income status affects the preference of activities and social activities that individuals engage in their life, and even the possibility of having an option affects life satisfaction positively. Therefore, as the family income level of university students increases, the level of satisfaction from life increases in a positive way.

According to the daily free time variable, a positive and moderately significant relationship was found between the LAS sub-dimensions and total mean scores ($p<0,05$). In other words, when the daily free time of the university students increases, the attitude levels can be increased by participating in courses, personal development courses or training for their cognitive, affective and behavioral development. Therefore, we can say that the increase of daily free time allows university students to create more recreational activities in their daily, monthly or annual schedules and that they can complete their cognitive, affective, and behavioural development by obtaining a parallel attitude from these activities. However, no significant correlation was found between the daily free time and the total SWLS mean scores ($p>0,05$). We can say that the factors determining the life satisfaction of university students differ, but that the duration of daily free time is not a concept that will directly affect life satisfaction.

As a result of the correlation analysis performed to show the relationship between the LAS sub-dimensions and the mean total scores and the SWLS mean total scores, a statistically positive and low-level relationship was found ($p <0,05$). As a result of these results, the increase in the attitude of university students towards leisure activities or their concentration on activities directly affects the level of satisfaction obtained from life. In other words, individuals who adopt cognitive, affective and behavioral concepts, acquire concepts at the knowledge level, who capture and interpret meaning, transforming it from one state to another, and express their knowledge with their sentences, would increase their life satisfaction levels. Therefore, leisure activities differ according to the lifestyle and characteristics of the person, and after engaging with these activities, the level of happiness increases, and life satisfaction improves positively.

As a result, leisure activities of university students vary and variables such as gender, age, income level and daily leisure time are important factors. However, the participation of university students in city and on-campus activities contributes to the leisure attitude level. Therefore, the participation of university students in activities and the diversity of leisure activities will improve the level of attitude and increase satisfaction with life.

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Investigation of Secondary School Students 'Attitudes Towards Physical Education and Sports Course

Aykut KAYA[1], Murat ÇELEBİ[2]

[1] Bartın University, Social Sciences Institute, Bartın, TURKEY
https://orcid.org/0000-0002-9937-7443
[2] Bartın University, Faculty of Sports Sciences, Bartın, TURKEY
https://orcid.org/0000-0001-6891-9804
Email: mcelebi@bartin.edu.tr , ayka_fb_36@hotmail.com

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Abstract

This study was performed to observe the opinions and attitudes of the students studying at the second level of primary education towards physical education and sports lesson. The population of the research consists of students who study at the second level of primary education institutions, sample n (female) = 228] students. In the study; "Physical Education and Sports Attitude Scale" (PESTÖ) and "Demographic Information Form" has been used. For descriptive statistics, the percentage and frequency distributions, the arithmetic mean, standard deviation analyzes were applied, the differences between the two groups were analyzed with the T test, and one-way analysis of variance (ANOVA) was used for the differences between the groups. In the study, it was revealed that male students' attitudes to physical education and sports lessons were higher than female students for the gender. When the age variable was examined, it was seen that there was a significant difference between the ages of 10 and 15. When students' classes were analyzed, a significant difference was reached in 5th and 8th grade students.

Keywords: Middle School, Physical Education and Sports, Attitude

Introduction

Movement education and physical movements are needed in order to sustain a healthier and more qualified life. Children's physical inactivity has been categorized as a preventable risk factor for lifestyle-related diseases, and most of the known risk factors for chronic diseases are seen in young people (Strong, 2005). On the other hand, it has been suggested that physical inactivity experienced in youth was linked to various health risks in the following years (Twisk, 1997). The aim of physical education and sports (PES) course is to provide education of children through physical activities and to increase the movement capacity to the highest level possible (Çöndü, 2004). Within this scope, PES course is an active way of life, which helps students develop, learn, attitude and socialize through physical activities, while facilitating learning by adding fun to the skills in a motor and behavioral manner (Kangalgil et al., 2006). In this respect, physical education is an integral part of basic education.

If it is necessary to define physical education, it is an important method in raising an individual, who has adopted the basic principles of national education, honest, respectful to human rightsand obeys the social rules (Yetim, 2005).Physical education, which is a training method, is to improve human performance as a goal and try to reach this goal in the physical activities that it prefers (Bucher, 1983). Although there are different definitions for education, according to Eflatun,the definition of “bringing the person to the highest level in spirit and body” is quite accurate (Yaka, 1991). The education system needs to be arranged in such a way that it handles the individual as a whole with its mental, spiritual and physical aspects. It is the psychomotor development that constitutes the basic point of view of physical education, contributing to the psychomotor development of the students and the development of coordination with body control, in other words, the coordination of the neuro-muscular system (Tamer, 1987). The purpose of motor skills is to teach the individual how to act effectively using his energy economically (Wuest& Bucher, 1999).

PES course should not only target students' psychomotor and physical development but also contribute to cognitive development. PES course should encourage students to ask questions, communicate, and use cognitive concepts (Graham et al., 1993). Academic success and well-being in terms of health and performance in physical education and sports are interrelated (Almond & McGeorge, 1998). The existence of too many links of PES course with mental performance and success has been supported by research (Dustman et al., 1994). It is seen that the view“healthy child learns better” is supported in schools (Symons et al., 1997). The four main topics of the PES course program, which plays a guiding role in classroom activities, are physical awareness, problem solving, solidarity and trust. These themes form a whole shape in relation to each other (Solomon, 1997).

Concept of Attitude

There are many factors that can affect student's learning in the school environment. We can create a learning environment that can encourage development by identifying and understanding how these factors affect student achievement and thereby maximizing learning outcomes. One of the characteristics that can directly affect the student's learning is attitude (Solmon, 2003). When teachers create a learning environment where students feel comfortable and confident in the classroom environment, students will increase their positive attitudes towards the subject (Mitchell, 1993). From this point of view, creating a positive learning environment in school for students affects both the student's attitude and the student's learning activity. The formation of positive attitudes towards physical activities in PES is even more important given the increase of physical inactivity among world youth (Biddle & Goudas, 1996).

It is possible to define the concept of attitude as an emotional level that tends to show reactive behavior that may occur positively or negatively about an idea, generation or human"(Alparslan, 2008). Attitude is seen as the pre-orientation of an emotional and operant response that the individual brings to a systematic state by looking at the knowledge and experience about himself or an event, object or social issue around him (İnceoğlu, 2000). The attitude, which means "ready to move" when looking at its origins in Latin, is "a situation that has any value judgment in a psychological process, or an ongoing readiness that determines the reaction of the person as a positive or negative emotion" (Yağcı, 2012).

Attitude-forming elements

Attitudes have three different parts. There are three main complementary elements: mental, behavioral and emotional (Kavas, 2013). The attitude of the individual about an object, situation or person in a mental, behavioral and emotional sense emphasizes the attitude of individuals. In this respect, in order to create an attitude, a harmonious and organizational connection between the three mentioned items has to continue in coordination (İnceoğlu, 2010).

Cognitive element

The cognitive element of attitudes consists of information and beliefs related to the stimuli of the attitude. These are the information related to the concept of attitude in the child's life. This information occurs either when a person lives directly with an attitude object or can learn from different sources. As can be understood from this definition, attitudes are formed by the subject whose existence is known and accepted. There is no attitude with a subject whose existence is unknown. It is known that the information about the attitude object is real and the attitudes related to it are so permanent. The attitude changes when the information related to the attitude object changes (Baysal, 1981). It consists of the knowledge that creates the attitude, and the mental element is the knowledge of the person's experiences mostly related to the stimuli around him (İnceoğlu, 2010). The cognitive element appears in the literature as a mental element. However, there are various definitions of the cognitive element.

Emotional element

The emotional element is simpler than the cognitive element. It shows itself as a positive or negative reaction. In this way, in cases where the emotional element is dominant, it is more difficult to change that attitude, especially the attitude towards the events or issues related to the person's ego is more intense (İnceoğlu, 2000). To put it more clearly, the affective element comes from the feelings that include positive or negative evaluations depending on the person's attitude object (Taylor et al., 2003). The affective element consists of positive and negative aspects that can vary from person to person and cannot be explained by facts (Tavsancil, 2002). The affective element of attitude is easier than the cognitive element. It manifests itself as a good or bad reaction. However, it is more difficult to change an attitude whose affective element is dominant; the subject or attitude that is especially related to the ego of the person is more intense (İnceoğlu, 2000). However, whether a person feels positive or negative emotions for an attitude is a result of their accumulation in life. If a person has positive or negative feelings with a stimulant, it means they have had previous experience with these stimulants and have approved and refused them. Whenever one remembers these stimuli, he is in a positive and negative situation. Therefore, their reactions about that attitude will be positive or negative (İnceoğlu, 2010).

As a result, positive attitudes towards physical activity in PES can play an important role in maintaining an active lifestyle outside the school. Children who are active in PES class are more likely to become active adults in their future lives. Even for some students, PES lesson can act as a

tool to influence the attitudes of children and young people towards physical activity, as it is the only place where they can reach physical activity and PES lessons have the potential to reach most students.

Material and Method

Research Design

In this research, cross-sectional approach and relational screening model were applied as general screening model.

Research Sample

The sample part of the study consists of 424 [n (male) = 196, n (female) = 228] elementary school students who have been selected in Ankara in 2018-2019 academic year by random sampling method.

Research Instruments and Procedures

In the study, a questionnaire consisting of two parts was used to collect data. In the first part of the questionnaire, there is a "Demographic Information Form" which contains different variables to determine the personal and general information of the students. In the second part of the questionnaire, "Physical Education and Sports Attitude Scale" in which student attitudes were measured, was used to determine the opinions and attitudes of the participants about the PES course.

Data Analysis

SPSS 24.0 program was used for analysis in the research. The results of the personal information, scale and inventory and factor scores, frequencies and percentage values of the participants were analyzed. Normal distribution conditions, curves, skewness and kurtosis coefficients were examined for the scores obtained.

Findings

In this section, findings obtained from analysis of research data are presented in tables.

Table1. Percentage and Frequency Distributions Regarding Demographic Characteristics of Students Participating in the Research

Gender	**n**	**%**
Woman	228	53,8
Male	196	46,2
Total	424	100
Father's Educational Status	**n**	**%**
Primary school	62	14,6
Middle School	126	29,7
High school	145	34,2
University	91	21,5
Total	424	100
Mother's educational status	**n**	**%**
Primary school	107	25,3
Middle School	117	27,6
High school	147	34,7

According to the Table 1, 53.8% of the participants in the study were female, 46.2% were male students. Considering the classes in which the participants are members, it was seen that 23.8% of them attended 5thclass, 20% of them were 6th grade, 29.2% of them were 7th grade, 26% of them were in 9thclass. 14.6% of the fathers of the students were primary school, 29.7% were secondary school, 34.2% were high school, 21.5% were university graduates. 25.3% of the students' mothers were primary school, 27.6% were secondary school, 34.7% were high school and 12.4% were university graduates.

Table 2. The Effect of the Age of Students Participating in the Research on Attitudes towards PES Course

Age	**n**	**X± Ss**	**F**	**p**
10 Years1	16	71,50±8,30	0,637	0,672
11 Years2	106	69,42±8,11		
12 Years3	88	69,30±7,34		
13 Years4	99	68,49±7,97		
14 Years5	105	69,12±7,65		
15 Years6	10	66,70±7,60		

When we look at the statistical studies about whether there is a significant difference between the ages of the students participating in the study and the attitude scores of the PES course, it was seen that there was a significant difference at the level of p <0.05 between the ages of 10 and 15.

Table 3. The Effect of Gender on Students' Attitudes towards PES Course

	N	X± Ss	t	p
Women	228	67,64±7,80	-3,171	0,002*
Men	196	70,02±7,59		

When Table 3 is analyzed, a significant difference was found in gender at the level of p <0.05 between the attitude scores of the male and female participants regarding the PES course. It was observed that male students had higher scores in the attitude scores of the PES course than female students.

Table 4. The Effect of Student Classes on Attitudes towards PES Course

Class	n	X± Ss	F	p	Tukey HSD
5^{th1}	101	69,80±8,05	0,941	0,042	**1-4***
6^{th2}	85	68,96±7,99			
7^{th3}	124	68,87±7,59			
8^{th4}	114	66,17±6,61			

There was a significant difference between 5th grade and 8th grade students who participated in the study (p <0.05).

Table5. The Effect of Economic Status of Students on Attitudes towards PES Course

Economic Status	n	X± Ss	F	p	Tukey HSD
Low[1]	34	70,02± 7,67	1,672	0,172	
Middle[2]	288	68,94±7,66			
High[3]	102	67,76±8,13			

There was no significant difference between the economic status of the families of the students participating in the study and their attitude points regarding the PES course (p = 0.172).

Table6. The Effect of Father's Educational Status of Students on Attitudes towards PES Course

Educational Status	N	X± Ss	F	p	Tukey HSD
Primary school[1]	62	70,35±6,58	3,376	**0,018***	**1-4***
Middle School[2]	126	68,96±6,92			
High school[3]	145	69,19±8,31			
University[4]	91	66,62±8,33			

A significant difference was found at the level of p <0.05 between the father's educational status of the participants and their attitudes towards PES course (p = 0.018). When the Tukey HSD results are analyzed, it was seen that the differentiation was between primary school and university education levels.

Discussion and Findings

This study was carried out to determine the opinions and attitudes of PES students of secondary education. When looking at the effect of the age factor in determining the attitudes of the student participants about the PES course, a statistically significant difference was found between the ages of 10 and 15 (p <0.05). Considering these results, we can say that as the age increases in secondary school students, their attitudes towards PES course increase. Moreover, there are similar findings in the literature supporting the results of this study (Rice, 1988; Ryan et al., 2003). Some studies investigating students' attitudes according to their ages have reported that attitudes towards PES lesson decreased as a result of class level (Biddle &Mutrie, 2001; Butcher & Hall, 1983; Portman, 1995, Gürbüz, 2011). As a result of the age variable, the results of research on student attitudes towards PES course produced mixed findings. Mixed findings in this area can be attributed to different measurement methods used in determining student attitudes and a lack of adequately informed participants.

When looking at the effect of gender factor in determining the attitudes towards the PES course among the participant students, a significant difference was obtained at the level of (p <0.05). It was observed that attitudes towards PES lessons were higher in male students than in female students. As expected, male students gave more eager and more positive results towards PES. In the study conducted by Smoll and Schutz (1980), attitudes of male students towards PES course were generally more positive than the female students. It was concluded that male students expressed that they liked the PES lesson due to the superiority they feel in the activities (Tannehill, 1994). In the study conducted by Trenor et al. (1998: 43), it was concluded that male students in PES lessons felt more powerful, stronger and talented than female students. The fact that female students think that they are not more capable than boys when doing physical activities may have affected their attitude levels negatively. In addition, male students can be interpreted that they are more prone to movement education than female students and that they may have had higher scores on PES lessons because of their self-confidence. In similar studies, Stelzer et al. (2004); Koca and Demirhan (2004), Taşgin and Tekin (2009), Akandere et al. (2009), Pulur and Yazıcı (2011) found PES lesson attitude scores higher in male students than in female students.

In a study by Wersch (1992), different results were found. According to the findings, it was stated that female participants between the ages of 11 and 13 were more interested in the PES class than male participants, but after the age of 14, this interest changed in favor of male students. It is a period of pause and development in terms of physiological development, especially in the transition of female and male students to adolescence. The physical development of female students aged 11-13 is faster and more evident than the physical development of male students. It is known that the changes in the physical structure of girls and boys are different and may be reflected in their behavior and attitudes. It can be said that this situation can shape the attitudes towards PES lessons in different ratios for girls and boys.

When determining attitudes about PES course among students participating in the research, a significant difference was found at the level of grade 5 and 8 (p <0.05). There are studies in the literature that support similar results. When Altay and Özdemir (2006), and Sivrikaya and Kılçık (2017)looked at the mean scores of the PES course attitude, a significant difference was observed in the grade levels. Alpaslan (2008) stated that there was a significant difference between the students

in the 9th and 11th grades and those in the 10th and 11th grades in terms of the average attitude scores towards PES course. This difference is that, with the increase of the classrooms, the attitude points of the PES lesson decrease. The findings in these studies overlap with the findings we obtained in our study.There are studies in the literature where different results were obtained. Gürbüz (2011) reported that the attitude values of the PES course were positive for students who were studying in the 7th grade of primary education, and the attitude scores of the PES course were negative for the students who were studying in the 6th and 8th grades. When the responses of the students who participated in the study were examined, it was seen that there was no significant difference in their attitude towards the PES course with their class level distributions.

In addition, when the family monthly income level of the student was analyzed, it was found that there was no statistically significant difference in PES course attitude scores. In the studies conducted by Gürbüz (2011), Akman et al. (2012),Yanık and Çamlıyer (2015), and Birtwistle and Brodie (1991), it was stated that there was no significant difference in the participants' economic status levels and attitude points of the PES course. It was also found that the monthly income of the students' families as their economic statusdid not have a positive or negative effect on PES course attitude values. Although it was assumed that students would have a positive attitude towards sports and PES lessons, it was seen that this expected difference was not a significant. According to the results that is opposite of the findings of the research, (Filiz (2018);Ekici and Hevedanlı (2010); Öztürk (2000); and Devecioğlu and Sarıkaya (2006), it was revealed that the participant students played an effective role in the orientation of sports according to the income status of their families.

While analyzing the attitudes towards PES course in the students, it was found that the educational status of their mothers did not make a significant difference, while the educational status of their fathers made a significant difference in students' attitude scores. Findings show that there was a significant difference between primary school and university education. In studies with similar results, Tutal (2011); Öztürk (2000); Gürbüz (2011)found that the level of father's education among secondary school students revealed a significant difference on the attitude scores of the PES course. Koçak and Hürmeriç (2004, 2006), on the other hand, found that father's education status did not make a statistically significant difference at the value of $p < 0.05$ according to the PES course attitude scores.

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Local Criteria for Sustainable Sport and Recreation Facility Investments in Urban Sport Policies (YEK) in the Context of Urban Rights*

Sevda KORKMAZ[1], Veli Ozan ÇAKIR[2], Rıza Tayfur ÖZKAN[3]
[1] İstanbul Büyükşehir Belediyesi Gençlik ve Spor Müdürlüğü, İstanbul, TURKEY
https://orcid.org/0000-0002-6006-0473
[2] Alaeddin Keykubat University, Alanya, TURKEY
https://orcid.org/0000-0001-7996-2138
[3]Okan University, İstanbul, TURKEY
https://orcid.org/0000-0001-9756-5347

Email: svdkrkmz0@gmail.com , veliozancakir@gmail.com , tayfurozkan@gmail.com

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Abstract

The spaces, experiences and relations of the city are among the important determinants of our lives within the framework of the possibilities of concrete physical structure and features offered by the city. In addition to compulsory vital activities, all needs arising from being human are realized on the ground of the city. In this sense, the construction and creation of areas that will meet the needs of human beings and their rights arising from being human are of great importance in terms of creating continuity of use. In our study, the investments of the facilities that constitute the infrastructure of sports services, which are among the rights of the citizens, are discussed. These investments were examined by considering access and sustainability dimensions. In our research, literature review, data collection and data analysis methods were used. First of all, due diligence was made, objective numerical data obtained were analyzed comparatively and LOC (Local Criteria) was formed with the results. It was found that sustainable facilities could be built with the use of Local criteria in the selection of sports facilities and recreation service areas that should be offered to people in the context of citizen rights.

Keywords: Sport, recreation, citizen rights, facility investments, sustainability

Introduction

The daily life of man takes place entirely in an interaction relationship with a place (Şengül, 2010). Considering the diversity and variability of daily needs, places that shape our lives as areas where numerous needs and demands are met, from sheltering to socialization; It is seen that it is among the important determinants of our life with its physical structure and features, and the opportunities it offers. One of the places where users, that is, people live together and meet their needs, has been cities since prehistoric times. Because, since the city started to be established, people have been an important living space, and over time, especially with the industrialization[1], their numbers and populations have increased[2].

This urbanization process experienced; it has introduced fields such as mass communication, social security, social life, politics, culture and education[3] (Balcı, 2018). Because in addition to compulsory vital activities, all needs arising from being human are also realized in the cities. In addition to improving the personality of individuals individually; Urban Rights were born out of the needs of the urban living environment, which also provided them the opportunity to perform sitting, producing, resting and moving activities (Ertan, 1997). As a human right, sports is also included in urban rights.

The 'World Urban Rights Charter' (2004), 'European Urban Rights Declaration' (1992), 'The European Charter for Women in the City' (1994) and 'The European Charter for the Protection of Human Rights in the City' (2000) and it was included in the 'Montreal Charter of Rights and Responsibilities' (2006) (Sadri, 2008). The exercise of the right to sports requires the establishment of some infrastructure and conditions. To ensure the sustainability of sports services with the grounds and facilities offered in the cities, it is of utmost importance to plan the facility investments within the framework of a policy. In our study, the facility and branch investments that constitute the infrastructure of sports services, which are among the urban rights; the criteria that will be done by considering the dimensions of access, sustainability and equal opportunities are examined. By determining the opportunity and intensity of access to sports, it is aimed to present a scientific study for the efficient and efficient use of available resources and the healthy creation of investments and policies regarding sports facilities and areas.

Method

[1] Instead of labor-intensive family production with modernization in agriculture, the fact that technology-intensive production towards the market has gained importance, the family has ceased to be the only production unit and the traditional family structures have become smaller due to democracy, and the introduction of women into business life has led to the urbanization process (Balcı, 2018).

[2] In the World Development Indicators report published by the World Bank, it is stated that while 42.9% of the world population lived in cities in 1990, this figure increased to 48.7% in 2005, to 49.5% in 2007 and to 50.3% in 2010 (Healthy Cities Association, acting from 2011. Koç, 2014). According to the 2007 data of the United Nations Population Unit, it is estimated that the proportion of the world population living in cities will increase to 57.2% in 2025 and 69.6% in 2050 (United Nations, Akt. Yalçın, 2010). Parallel to the world, the rate of urbanization is increasing in our country, while the urban population increased from 18.7% in 1950 to 25.9% in 1960 and 48% in 2000 (Torunoğlu, 2009). Village / rural to urban migration Although there are various reasons for the growth in agriculture between these causes in Turkey, for example, to meet the population growth rate power in the absence of (Güven, 1997), permanently dividing the small units to become the inheritance of agricultural land, agricultural mechanization, the business of the city, training and There are many factors such as health facilities (Yılmaz, 2015).

[3] Turkey, determinants of urbanization in the city-based activities and decisions has become a country that plays a role (Aydinli and Çiftçi, 2015).

The research was created based on the club and district information of the city of Istanbul, which was created by the field study conducted by the Istanbul Metropolitan Municipality in 2015. In the descriptive studies carried out with the aim of describing and defining the 'what' the events, objects, assets, institutions, different areas and groups are; It also aims to define the interaction between situations taking into account the current event-conditions and the relationships between them (Kaptan, 1998). In this research approach, which aims to describe a situation that exists in the past or present, as it exists, the event, individual or object that is the subject of the study is tried to be defined within its own conditions and as it is, no attempt to change or affect is made (Karasar, 2002).With the descriptive research method, it aimed to develop local criteria (RES) that will help interpret facility needs with numerical data. Thanks to the comprehensive sports inventory project carried out in 2015, when all authors were personnel of the Istanbul Metropolitan Municipality, full Access to the inventory of the sport facility of Istanbul, as a metropolitan city, was provided.

Results

Today, cities are defined as the meeting place of cultural diversity and the primary place of social life (Güney and Tulum, 2018). Many of the city's first functions, which were natural monopolies that once required the physical presence of all participants; It has been transformed into forms that can be distributed worldwide with rapid transportation, mechanical reproduction, electronic transmission (Mumford, 1996). Mechanization in modern life has created 'increasing time' (Kılbaş, 2010) individuals have 'free time' thanks to the cities offered with developing technology. However, in this process that started with industrialization, sudden and unbalanced growth caused problems such as insufficient services and not establishing urban organizations adequately and on time (Es and Ateş, 2004). Both the solution of the problems and the fulfillment of the needs are the responsibility of the powers / administrations as well as the various rights of the people living there. At this point, it is necessary to explain what these rights are.

Urban rights; It is the realization of fundamental rights, economic, social and cultural rights, political rights and solidarity rights in the urban space as a realization area. In other words, the individual can use his human rights adequately and freely in urban space (Geray, 2000). In other words, it is the local dimension of universally accepted human rights. Since it is included in the solidarity rights, all parties of the urban rights (creditor-debtor) are in the society. Everyone in the society has the right to receive adequate public service and provide various economic, cultural and social needs in a city that is clean, healthy and worthy of human beings (Karasu, 2008).

The European Urban Charter, which is the most important source of reference in the field of urban rights[4], constitutes a 20[5] article declaration of rights and a 13 article condition

[4] The clearest and most concrete definition of the content of urban rights is contained in the European Urban Charter. The main goal of the European Urban Charter, adopted at the 27th session of the Council of Europe on March 17-19, 1992, is to improve the quality of urban life by defining the principles and obligations for a good city administration, applicable in almost every country (Palabıyık, 2004; Çelebi, 2013; Pektaş and Akın, 2010).

[5] Security; An Unpolluted, Healthy Environment; Employment; Housing; Circulation; Health; Sports and Recreation; Cross-Cultural Integration; A Quality Architecture and Physical Environment; Compliance of Functions; Participation; Economic Development; Sustainable Development; Goods and Services; Natural

principles[6]. In the 20-article rights declaration; Providing the environment and conditions that help protect physical and mental health under "health item"; Regardless of age, skill and income, opportunities for each individual to evaluate their sports and leisure time are specified under "sports and recreation". In the condition principles section, the right of citizens to have fun, rest and participate in sports activities; designing sports fields in a healthy and safe way; It has been explained as the right of every citizen to do the sport he desires in line with his individual potentials (Palabıyık, 2004; Çelebi, 2013; Pektaş and Akın, 2010).

As can be seen, sports are being dealt with today, with the need for a city that meets the needs of individuals and increases the quality of life in the face of problems and troubles caused by city life. This requirement has been concretely explained by the 'responsibilities' that are required by central and local governments, along with the explanation as a 'right' in national and international laws, contracts, declarations and protocols. In this context, it is of great importance to prepare sports policies and investment programs that consider the principles of accessibility and sustainability in order to create a sports system that respects urban rights.

Work on urban rights, this right is concerned mostly with the right philosophical and political context, not as in the world and in Turkey could not be fitted with a legally solid foundation. The existing legal texts are only advisory (Karasu, 2008). Urban rights, though not binding; It brings the responsibility of providing sports and recreation services that everyone can benefit, regardless of age, skill and income levels, to local and central governments.

At this point, sports marketing as a system that can match sports consumers and sports consumers (from Durusoy 2004 acted. Yavaş, 2005) requires analyzing and analyzing the living conditions, environmental factors, motivating factors and demographic situation that affect the sports participation decision (Seraslan acted in 1990. Ünal, 2011). Because the diversity of sports services offered, the capacity of everyone to meet their expectations and demands for sports, have a direct effect on the urbanization of the citizens, and their internalization of sports as a part of life.

It is one of the main areas of responsibility of the city administration to present sports, physical activity and recreational activities (Boylu and Paçacıoğlu, 2016) that increase the quality of life to the people of the city through healthy and sustainable development and to improve their quality of life. At this point, effective planning of the facility and recreation areas should be built in a structure that the citizens can easily access and use continuously.

Our study aimed to develop local criteria to help interpret facility needs with numerical data. Therefore; In the province of Istanbul, which constitutes the raw material of the study, the active branches of the facilities and clubs whose data are obtained are examined (Chart 1).

Table 1: Number of facilities and clubs of Istanbul (Istanbul Sports Inventory, 2015)

Number of Facilities and Clubs of Districts of Istanbul Province

Wealth and Resources; Personal Integrity; Cooperation Between Municipalities; Financial Structure and Mechanisms; Equality.

[6] Transportation and Circulation; Environment and Nature in Cities; Physical Structures of Cities; Historical Urban Building Heritage; Housing; Ensuring Urban Security and Preventing Crimes; Disabled and Socioeconomically Disadvantaged in the Cities; Evaluation of Sports and Leisure in Urban Areas; Culture in Settlements; Intercultural Integration in Settlements; Health in Cities; Public Participation, Urban Management and Urban Planning; Economic Development in Cities.

District	Number of facilities	Number of active branches in the facilities	Number of active clubs	Number of active club branches
39	928	1606	2304	4984

Local criteria, consists of three stages which must be taken into consideration by city administrations in order to plan sports and recreation facilities efficiently and sustainably, as well as ensuring equal opportunities.

First Criterion / Filter

The first criterion (filter); the right to play sports is based on the Council of Europe principle published in 2001 (https://rm.coe.int/16804c9dbb). First, (1) and (2) are compared.

(1) The ratio of districts (Esenler district used as an example to understand numerical data) with the active sports areas (m^2) within its borders, the area of that district (m^2);
(2) The ratio of all active sports areas (m^2) in Istanbul to the surface area (m^2) of Istanbul.

In the results obtained, the difference between the average on a district basis and the average in Istanbul (positive or negative) was determined (Chart 2).

Table 2. Comparison of the facility area ratio in the district with the Istanbul general (Istanbul Sports Inventory, 2015)

Comparison of Sports Facility Area Ratio in the District with Istanbul General		
The ratio of the sports areas in the district of Esenler to the district area (m^2/m^2) (%)	The ratio of sports areas in the province of Istanbul to the area of the province (m^2/m^2) (%)	Difference (%)
0,39	0,11	0,28 (Positive)

With the inclusion of the population (the number of people per 1 m² of sports area (people / m²) per province and district basis), which is the main factor of the principle of the right to exercise in the criterion of the mentioned criterion, different findings have emerged from Chart 2 results (Chart 3).

Table 3. Comparison of the average area and population density to Istanbul (Istanbul Sports Inventory, 2015)

Comparison of the Area and Population Density Averages in the District with the Istanbul		
Number of person per 1 m² of sports area in Esenler district (person/m²)	Average number of people per 1 m² sport area in Istanbul (person /m²)	Difference (person /m²)
6,45	2,22	4,23 (Negative)

These findings covering all districts are given together in Table 4. As it can be seen in Table 2, while Esenler district is in a good condition in terms of sports facility from the whole of Istanbul only by the area ratio (m^2/ m^2) without including the population; In Table 3, it was found that the number of facilities in the district was not sufficient by the population being included in the formula (person/m^2) together with the sports area. Therefore, while analyzing the sports facility investment for the district; Consideration of the population factor is necessary because efficient results can occur.

Table 4.

Comparison of Sports Facility Area Ratio in Districts with Istanbul General		**Comparison of the Area and Population Density Averages in Districts with Istanbul**	
District names	Rate (District)%	District names	Number of people per 1 m² of sports area (person / m²)
Istanbul average	**0,11**	**Istanbul average**	**2,22**
Şile	0,01	Esenler	6,45
Çatalca	0,02	Bağcılar	5,98
Arnavutköy	0,02	Esenyurt	5,08
Silivri	0,02	Bahçelievler	4,54
Çekmeköy	0,07	Kadıköy	4,46
Tuzla	0,09	Sultanbeyli	4,41
Eyüp	0,10	Güngören	4,09
Beykoz	0,11	Şişli	4,03
Başakşehir	0,12	Avcılar	3,89
Büyükçekmece	0,14	Beyoğlu	3,84
Pendik	0,14	Gaziosmanpaşa	3,79
Esenyurt	0,23	Kağıthane	3,71
Şişli	0,23	Maltepe	3,60
Sultanbeyli	0,23	Üsküdar	3,34
Avcılar	0,23	Sultangazi	2,93
Maltepe	0,24	Küçükçekmece	2,91
Beylikdüzü	0,24	Ümraniye	2,88
Sarıyer	0,25	Fatih	2,75
Esenler	0,39	Başakşehir	2,85
Üsküdar	0,45	Ataşehir	2,47
Sultangazi	0,45	Beylikdüzü	2,42
Sancaktepe	0,47	Pendik	2,35
Kadıköy	0,48	Kartal	2,17
Ümraniye	0,48	Zeytinburnu	1,94
Kartal	0,53	Çekmeköy	1,78
Bağcılar	0,56	Tuzla	1,78
Ataşehir	0,62	Bayrampaşa	1,67
Küçükçekmece	0,65	Eyüp	1,54
Beyoğlu	0,73	Beşiktaş	1,40
Beşiktaş	0,74	Sancaktepe	0,91
Kağıthane	0,76	Büyükçekmece	0,85
Bahçelievler	0,80	Beykoz	0,84
Adalar	0,95	Silivri	0,83
Fatih	1,00	Sarıyer	0,67
Güngören	1,05	Bakırköy	0,59
Gaziosmanpaşa	1,08	Şile	0,48
Bakırköy	1,25	Çatalca	0,32
Zeytinburnu	1,30	Arnavutköy	0,13
Bayrampaşa	1,68	Adalar	0,13

These results show us which district is left behind on the right to exercise. So the important point is; It is not how many facilities there are, but how balanced and fair distribution of the

population / facility area ratio is. Therefore, it is possible to decide which district or districts are in need of a facility with the help of the first filter.

Second Criterion / Filter

It is the subject of the problem in which the second criterion seeks an answer, in which branch it is necessary to establish a facility in the candidate district or districts where the situation is determined according to the population / facility area criterion. Here, it is important to compare the data presented in table 5 with each other. That is, the number of facilities in the district in question must be compared with the number of active clubs in the branches existing in this facility. This analysis allows the interest of the branch in that region to be matched with the branch asset in the facility. For example; We see an analysis of whether the interest in the boxing with the number of boxing clubs in the district can be met with the facility for the box.

Table 5. Club Branches (Capital letters) and Comparison of Branches (Small letters) (Istanbul Sports Inventory, 2015)

Comparing Club Branches and Facility Branches														
District Club Branches / District Branch Facilities	SOCCER	Football Field	BASKETBALL	VOLLEYBALL	BADMİNTON	HANDBALL	Gym	WRESTLİNG	Wrestling Hall	MUAY THAİ	BOXİNG	KİCKBOXİNG	Boxing Hall	
Total	12	2	5	1	7	1	2	3	1	17	7	19	0	
KARATE	TAEKWONDO	WUSHU	Defense sports hall	TENNİS	Tennis court	BODYBUİLDİNG FİTNESS	Fitness salon	SWİMMİNG	Indoor swimming pool	Outdoor swimming pool	DEVELOPİNG SPORTS	ARCHERY	TABLE TENNİS	SCOUTİNG
10	**3**	**20**	**2**	**1**	**0**	**6**	**3**	**1**	**1**	**0**	**1**	**1**	**1**	**1**

As a result of this filter, it is determined which branch of the region is interested in the district that needs sports facilities, and whether the facility in the branch of interest can meet this interest. Thus, the required branch determination can be determined based on the data.

Third Criterion / Filter

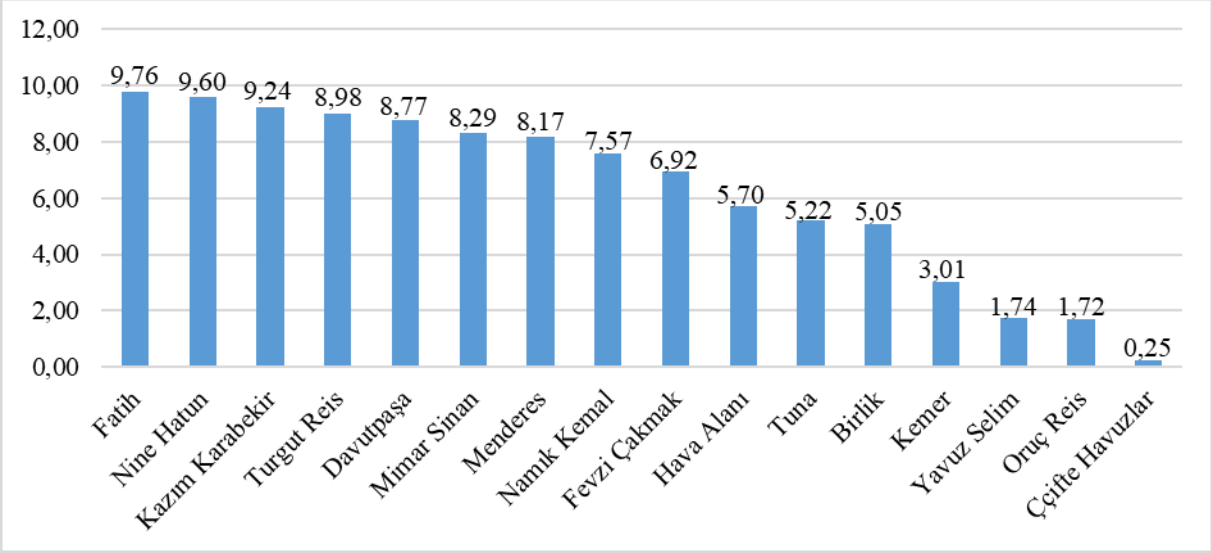
After determining the district and determining the branch to be put into service, the most productive location has to be determined in that region. Sustainability of this branch and facility is also important for ensuring equal opportunities within the district. For this reason, the district population and the number of facilities criteria constitute the third filter. For

example; In Esenler district, it is seen that there are no sports facilities in two neighborhoods (Fatih, Nine Hatun) with 20% of the population (Table 6 and 7). When it is desired to add a new branch or facility to the district, this situation should be prioritized.

Table 6. Number of sports facilities owned by the district's neighborhoods (Istanbul Sports Inventory, 2015)

Esenler District Neighborhood	Number of Facilities	Esenler District Neighborhood	Number of Facilities
Fatih	0	Fevzi Çakmak	0
Nine Hatun	0	Havaalanı	0
Kazım Karabekir	1	Tuna	1
Turgut Reis	2	Birlik	1
Davutpaşa	0	Kemer	3
Mimar Sinan	0	Yavuz Selim	0
Menderes	0	Oruç Reis	1
Namık Kemal	1	Çifte Havuzlar	0

Chart 7. Population density of districts' districts (Istanbul Sports Inventory, 2015)



The main criterion of the study is to compare the number of people per square meter of sports facilities in the district with respect to the average in Istanbul. In this way, it is aimed to determine the numerical ratio in the goal of creating similar opportunities and comfort equality for the citizens. In addition, with this criterion; Before the population was included in the analysis, it was determined by comparing the average of the district with the average of Istanbul and that the analysis created without including the population can be misleading. In the second stage, the branches that can be done in the sports facilities in the district were determined and the clubs in the district were compared with the active branches. Thus, it has been made possible to compare the status of the existing facilities with the branch demand of the residents. At the last stage, the population in the districts of the district and the number of branches in sports facilities were determined, and the statistical ratio between the population

and the number of facilities was obtained locally. With this way, it was tried to present scientific data that can be utilized to make facility investments in a healthy way and to use resources effectively and on-site.

Dıscussıon and Conclusıon

The concrete realization of the rights of the inhabitants on the place where they live is possible only if the city has the qualifications to offer these rights. In order to realize and guarantee these rights, it is necessary to create an urban environment and opportunities that individuals and communities can benefit from. In this aspect, the 'ideal city' is the city where all the rights of the people living there are guaranteed (Geray, 2000).

It is possible to evaluate the level of realization of urban rights as an indicator of success of local administrators' work and services (Karasu, 2008). When it comes to decisions and investments that will affect the life of the city and its inhabitants, the first thing to be determined is what these actions will tend to realize (Tekeli, 2011). In terms of urban life quality; Providing equal rights and opportunities to meet all kinds of needs and demands in terms of sports and recreation, ensuring the full participation of individuals in all areas of social life should be among the priorities.

But; The unfair distribution of resources in developing countries, the level of welfare provided to individuals, and inequalities in living conditions cause social and economic problems. Therefore, it is of great importance that the officials, who are in decision-making positions, use limited resources, people's needs, expectations and priorities effectively (Yavuzçehre & Torlak, 2006). Cities should not be considered and planned independently of the city's constituents (Arslan, 2014). Because transforming a physical space into a space is possible with the users living in it and their experiences (Polatoğlu & Türkkan, 2018).

As a result of our review; In order for the sports and recreation between urban rights to exist equally in the lives of individuals, it has been determined that the existing capacity, the capacity adequacy and operational efficiency of the applications should be improved. For this; It is recommended to make branch and spatial determinations using the Local Criteria (LOC) filters formulated in our study during the stage of creating branches in need. Decisions made after using these filters; it will lead to both the provision of the necessary branch areas in efficient and suitable conditions, and the establishment of the branching model that focuses on sustainability and efficiency.

Corresponding Author (Sorumlu Yazar)

Sevda Korkmaz
İstanbul Büyükşehir Belediyesi Gençlik ve Spor Müdürlüğü, İstanbul, TÜRKİYE
Email: sevda.korkmaz@ibb.gov.tr

Conflict of Interest

The authors have not declared any conflicts of interest.

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Suggested Educational Units Using The Game-Oriented to Improve the Coordination Skills of Primary Students

Harbach Brahim[1], Senouci Abdelkrim[2], Mokrani Djamel[3], Djourdem Benehiba[4]

[1234]Abdelhamid Ibn Bais Mostaganem University, ALGERIA
https://orcid.org/0000-0000-0000-0000

Email: brahim.harbach@univ-mosta.dz

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Abstract

The aim of the study was to determine the effect of proposed educational units, by directed game, on the balance, compatibility, and speed of reaction of primary school pupils (9-12 years). We assumed that the units positively affect the development of balance, compatibility, and speed of reaction. We applied them on a sample of 26 students, divided into two groups experimental and control. We relied on an eight race test, a foot-to-foot balance test, and Nelson Kinetic Response. SPSS program was used in the statistical analysis of the data obtained. Finally, we concluded that there was an improvement in the quality of compatibility in the experimental sample.

Keywords: educational units, guided game, compatibility skills, primary school.

Introduction

Good compatibility is one of the basic requirements for practicing motor skills, which is formed by muscle contractions, so that each joint muscle serving motor skills should contract and relax at the appropriate time, where harmonic exercises should be used to acquire and master the different movements and sport skills in a meaningful way, as difficult, complex and overlapping movements often need simplification and progression, and sometimes even fragmentation, for the learner to be able to perform it in its complex form as a complete skill later on.(Mustapha, O., 2013)Playing is an important educational medium, working to create children at this critical stage of human development, and one of the most vital and important activities for children's lives. It is a necessary learning experience through play that enables children to master skills and gain insights into cognitive, social, physical and psychological aspects, and therefore there is a close relationship between child intelligence and play.(Ahmed N, G., 2010) Playing is often described as an automatic activity that is not tied to external factors, and examples of play are from invertebrates to monkeys, so we need to classify playing activities into at least four categories, which need to be analyzed in at least four different sets of conditions. This is the random play that begins in early childhood, the regular semi-play that begins in the middle childhood, the regular play that appears with the late childhood, and the abstract play that accompanies adolescence.(Abdelhadi N., 2004) Learning by playing is a modern teaching technique, and children are the focus of learning, and play is a guided activity by children to develop their mental, physical, and emotional behaviors and abilities, while also making fun and fun, and the learning style by playing is to use play activities to gain knowledge, bring science principles closer to children, and extend their cognitive skills.(Harbech; B.,2020) Educational studies have demonstrated the importance of playing games in gaining knowledge and communication and interaction skills if they are best exploited and organized, and play is a pedagogical medium that works to a great extent to shape the personality of the child in its different dimensions, social outreach for more interaction with others, compulsory engagement in school education and integration with the school environment. It is also the key to building a child's productive personality by investing games in his or her economic and financial concepts. (Uskan, S., Bozkus, T., 2019; Harbach, B,.2016) Despite efforts in this regard, physical education has not been as high as it is intended at the primary level for many reasons, and the goals set for physical education at this stage (9-12) are aimed at developing physical fitness and giving children the opportunity to express themselves and their potential, as far as possible The situation and situation require that appropriate solutions be chosen, in line with their mental and physical abilities in terms of their development and improvement. Based on some previous studies, Harbach B, and others 2018, the effectiveness of the teaching strategy of playing with the development of some physical and motor capabilities in secondary school students, and the study of Marwa Mohammed Ali Sulaiman, entitled the effectiveness of a guided play program in addressing the inadequacy of some cognitive abilities of kindergarten children. As mentioned above, the use of guided games is an important issue that has not received the attention of researchers in the sports field in its general capacity and in physical and sports activities in educational institutions in particular. Through the survey conducted by researchers within educational institutions and some field visits, it was noted that the physical and sports classes lacked the types of training that contributed to the development of the physical, professional and mental capacities of this group, which needed care and attention in the exercise of physical and sports activities. Researchers have been interested in using a training program using directed play and in learning its impact on some of the compatibility abilities of primary school students.

Method

Research methodology: Researchers used the experimental method using two groups, one experimental and one control, to match the nature of the research.

Research and Sample: The research Society is 90 children between 9-12 years of school season 2018/2019 in a deliberate manner, and the research sample included 26 male pupils. A sample officer of 13 primary-year pupils was divided B and a teacher-led program was applied to them.

The two groups were chosen in the deliberate way, as the proposed units were applied to the experimental sample after being presented to a group of professors in the field of physical and sports education, sports training and movement sciences, and researchers performed the equivalence between the experimental and control eyes. This is by examining some variables that will affect the experimental variable of compatibility capabilities.

Research Tools: After getting acquainted with the methods of selecting samples, we now turn to some means of collecting information through questionnaire, interview and observation, and these three types can be relied upon by every specialist in his profession, whether that specialization is research science or social science, but it depends on the nature of the subject and the type of information to be collected.

Physical tests: One of the most important methods used in experimental research as the basis for objective evaluation is the most effective way to achieve accurate results, so researchers have relied on standardized tests that measure the compatibility of children on the research sample associated with the subject matter of study, and these tests have been presented to experts for arbitration, as follows:

Test run in the form of the number eight :

-Test objective: Measure student compatibility.

-Tools used: A person to determine the distance, my time to determine the time of each pupil, a dicameter bar.

- Working method: two persons are placed so that the distance between them is six metres, the child starts to run in the form of the number eight so that the child can lean on the two persons to determine the place where he or she changes direction, the child runs four sessions to determine the time of his or her choice.

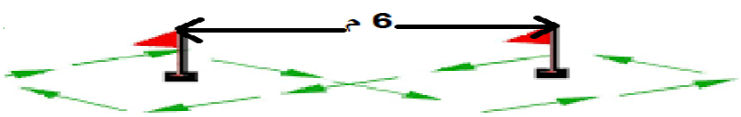


Figure 2. Shows the stages of running a run as 8

The walking test is foot behind a foot :

The purpose of the test: To measure the balance of the student.

- Instruments used: timer, decameter tape, plotter, etc.

- Method of work: The distance of 6 meters is determined by plos, where the student stands at the first pad and hearing the whistle, the student starts to walk behind to stick to reach the second pad for the attempt to be correct, then we record the time for each student.

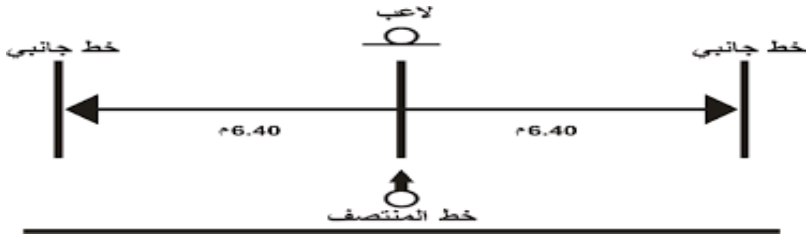
Figure 1. Shows how the foot-behind-the-foot walking is performed

Nelson test for motor response:

The objective of the test: to measure the student's reaction speed.

- Instruments used: chronometer, decameter, markers.

- The method of work: the student stands in front of the teacher who holds the chronometer with one of his hands, lifting it upwards, then quickly moves his arm, either to the left or to the right and at the same time executes the stopwatch, so that the student executes at full speed in the direction indicated by the teacher, and when he reaches the student at the end of the previously determined distance, which is a distance of (6.4 m) The teacher stops the stopwatch to record the time achieved by the student.



Figures 3. Shows how Nelson's kinetic response test is performed

Suggested educational units:

To achieve the objectives of this research and solve its problem, the researchers selected two samples, the first experimental and the second control, so that a set of tribal tests and proposed units would be applied to them, and these units were applied to the experimental sample, and these units contained a set of simplified games that would develop consensual skills, The total number of proposed units was 08 units at the rate of one teaching unit per week in two months.

A. foundations of the course development:

The researchers constructed the proposed units on a scientific basis, selecting program content, movement activities and physical exercises, focusing on a group of games to improve certain harmonic abilities of the research sample.08 units were placed at the rate of one educational unit per week within two months, to contain physical exercises And kinetic activities focused on the use of guided play, and program content included walking and balance exercises and games, running exercises and games, jumping exercises and games, exercises and compatibility of games with movement games.

The proposed modules are based on a well-established scientific basis that takes into account all aspects of pupils' development, especially with regard to the characteristics of late childhood, which are characterized by physical, psychological or social development and in which physical activity plays a significant role in this development.

Results

- Pre-testing for two sample searches:

Table 1. T-test results for the significance of differences between the means of the tribal tests for the two research samples: degree of freedom 42 at the .05 significance level.

Variables	Experimental sample		control sample		Calculated T	Tabular T	sig
	Mean	SD (±)	Mean	SD (±)			
Length (m)	1.4	0.03	1.41	0.02	1.16	1.71	No sig
Weight (kg)	30.69	1.48	31.05	1.24	0.68		No sig
Running Test (Compatibility) (s)	18.29	1.01	18.03	0.96	0.65		No sig
Walking test (balance) (s)	15.41	2.12	15.56	1.97	0.18		No sig
Nelson kinetic response test (reaction speed) (s)	2.43	0.26	2.39	1.18	0.5		No sig

Discussion and analysis of pre and post test results for the two research samples:

First: Running test in the form of 8 (compatibility)

Table 2. Results of the two tests for a running test in the form of 8.

	N	Pre-test		post-test		Calculated T	Tabular T	sig
		Mean	SD (±)	Mean	SD (±)			
Experimental sample	13	18.29	1.01	16.84	0.87	11.61	1.71	sig

Control sample	13	18.03	1.96	17.91	1.77	1.61	1.78	No sig

Second: the test of walking feet behind the feet (balance):

Table 3. The results of the pre and post tests the walking test presented behind the feet (balance).

	N	Pre-test Mean	Pre-test SD (±)	post-test Mean	post-test SD (±)	Calculated T	Tabular T	sig
Experimental sample	13	15.41	2.12	15.39	2.08	2.56	1.78	sig
Control sample	13	15.56	1.97	15.46	1.79	1.38		No sig

Third: Nelson Motor response (reaction speed):

Table 4. Results of the two tests for the Nelson Kinetic Response Test.

	N	Pre-test Mean	Pre-test SD (±)	post-test Mean	post-test SD (±)	Calculated T	Tabular T	sig
Experimental sample	13	2.43	0.26	2.4	0.25	0.55	1.78	No sig
Control sample	13	2.39	0.18	2.34	0.17	0.92		No sig

Discussion

The use of directed toys has a positive result in the improvement of some compatibility capabilities of Primary school students, and this is what we have noticed through table.02 in that there are statistically significant differences between the pre- and post-test of the experimental sample compared for all tests except Nilson's motor response test, as the This sample was applied to the proposed program using directed games, and the researchers attribute this to the positive effect of the proposed program based on the use of directed games, by focusing on the use of physical and sport activities represented by games in addition to compatibility development exercises, and the effect of indirect sensory experience in moving from the execution of motor skills during practice to the accompanying development of neuromuscular consensus, using motor activities selected in an organized manner to use directed play which helped to improve some of the students' consensual abilities, and harmony in line with what Essam Abdel-Khalek (1994) has indicated that the higher the degree of muscle nerve-muscle compatibility in an individual, the more likely it is to be achieved, the more there is harmony and harmony between the different parts of the body and its muscles in action, the better it will be to achieve specific performance, as Ahmed Al-Luqani and Amir Qureshi (1999) point out, that school activities as part of the curriculum are affected by the nature of the content and are linked to it and with it in some way. Therefore, attention needs to be paid to the content of curricula and syllabuses in schools, especially for this category.

The researchers attribute the superiority of the experimental sample over the control sample to what was taken into account when developing the program. The researchers attribute the superiority of the experimental sample over the control sample to the scientific basis of unit construction in terms of taking into account repetition, intensity and volume during training, in addition to choosing exercises that depend on changing play and directions and balance and compatibility exercises, and that these exercises were It is performed in the form of games with the use of small tools of different sizes, colours and weights, and this result is consistent with the findings of the study by Bouabsa Mohamed et al (2015) and Ben Zidan Hussein (2011) and the study by Marwa Mohamed et al (2010) on the effectiveness of the use of directed toys in improving certain abilities of compatibility of the primary school pupils under study.

The researchers also refer to the statistical differences in Tables 04 and 05 in the Running Test as 8 and the Walking Test to use a variety of activities using guided play as chain exercises by performing simple basic skills for guided games with accurate visualization of movement with increased suspense This is consistent with the physical and skill requirements of the students. In addition to improving my father's kinetic awareness factors, it helps with general compatibility, and thus the improvement of harmonic abilities helps to use these abilities in everyday life It is consistent with what Harbash Brahim and others (2016) pointed out in his study The effectiveness of teaching strategy with games in the development of some physical capacities among primary school students (6-8 years)..

Referring to Table No. 06, we find non-significant differences in Nelson's response to kinetic response (reaction speed), which the researchers explain that improving reaction speed requires more time, which is consistent with Mohamed Hassan Allawi (1990), Bstouisi Ahmed (1999).) And Issam Abdel-Khalek (2000) according to which always correct codified training depends on complex movements and shortens reaction time and that response time cannot be minimized, which is the time required for physiological processes and that reaction speed is one of the important and complex characteristics that require more training until it can be improved.

Conclusion

As a result, we think that the use of guided play is an important issue that has not received the attention of researchers in the sports field in its general capacity and in physical and sports activities in educational institutions in particular. Through the survey conducted by researchers within educational institutions and some field visits, it was noted that the physical and sports classes lacked the types of training that contributed to the development of the physical, professional and mental capacities of this group, which needed care and attention in the exercise of physical and sports activities. Researchers have been interested in using a training program using directed play and in learning its impact on some of the compatibility abilities of primary school students.

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The Effect of Physical Performance Training on Yo-Yo İntermediate Level 1 Test Parameters in Young Soccer Players

Mahmut KURTAY[1], Serhat TURAN[2], Erdil DURUKAN[2], Murat TAŞ[1]
[1]Manisa Celal Bayar University, Manisa, TURKEY
https://orcid.org/0000-0001-8431-5007
https://orcid.org/0000-0003-2940-903X
[2]Balıkesir University, Balıkesir, TURKEY
https://orcid.org/0000-0001-6236-3825
https://orcid.org/0000-0002-1627-1388
Email: mk.kurtay@hotmail.com , serhatturan2510@gmail.com , erdurukan@hotmail.com , murattas25@gmail.com

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Abstract

This research was conducted to determine the effect of physical performance training on Yo Yo intermediate level 1 test parameters in young soccer players. The research was conducted according to the experimental research model. The research was conducted in the U-14 elite development league of a football team that competed in the super league, age:14, height: 160.11 ± 7.68; weight: 47.79 ± 5.55, 18 players participated voluntarily. Yo-Yo intermediate level 1 test was applied to the football players on the grass football field and maximal heart rate was measured with a polar watch. Tests and measurements were performed two weeks before the start of the league, and the endurance and maximal heart rate of football players' values were determined. After the first test, 12 weeks of physical performance pieces of training were performed and the same tests and measurements were performed again. In order to determine the difference between pre and post-test measurements, Paried Sample t-test was performed in SPSS 21 programme. According to the findings obtained as a result of the analysis; it was found that there was a statistically significant difference between Yo-Yo intermediate level 1 test performed before the season and Yo-Yo intermediate level 1 test after the physical training program. ($p < .05$). As a result; It can be said that physical performance training performed 12 weeks had a positive effect on endurance performance and maximal heart rate in young players. It is recommended that the research is applied to components of other performance such as speed and force.

Keywords: Yo-Yo Intermittent Recovery Test, Durability, Maximal Heart Rate

Introduction

The physical needs of football, which appeal to a wide audience around the world, and the movements performed by the players in the game are among the topics that are of interest to today's sports scientists. The football is defined as having an intermittent structure with high-intensity movements ending in 3-5 seconds (bounce, turns, sliding interventions) (Castagna et al., 2006; Krustrup et al., 2003, 2006). Many studies have been conducted on the effect of physical performance training in football until today (Bendiksen et al., 2013; Ingebrigtsen et al., 2013; Laursen, 2010; Ramírez-Campillo et al., 2014). In some of these studies, the running distances were examined and it was found that adult professional players covered a distance of 9 to 12 km during a match (J. Bangsbo, 1994; J. Bangsbo et al., 1991; MOHR et al., 2003). In research on young elite players after determining the running distances of adult professional players during the match; the distance covered by young players during the match was determined as 10.3 km (Helgerud et al., 2001). The research on adult and young soccer players has shown that the distance covered by both groups is similar. The similar results of the researches conclude that the training requirements of young and adult players may be similar (Stratton et al., 2004). The performance tests are needed to be determined training requirements and to be performed an appropriate training at an appropriate intensity.

Testing players' performance is very important to contribute to the physical preparation of the players, to create an appropriate training program for them, to follow their progress and to load the players according to their performance status (Impellizzeri et al., 2006; E. Rampinini et al., 2007). In this context, there are many research methods to measure the physical characteristics of the athletes and the physical requirements of the branch. However, the field and the laboratory tests are two main methods in determining physical properties (Krustrup et al., 2003; Bozkus, 2014; Leger et al., 1982; Ramsbottom et al., 1988). However, as an alternative to laboratory tests in cases where the subject group is high; the application is designed to be simple, reliable and cheaper field tests (Sproule et al., 1993). In other ways, the field tests are more advantageous than laboratory tests in terms of measuring specific movements during the match. Because the field tests consist of certain movements, certain intensity and a certain environment (Balsom, 1994). As the field tests frequently used by researchers; the shuttle run test, hoff test, and yo-yo test are outstanding (Chamari, 2005; Hoff et al., 2002; Krustrup et al., 2006; Stølen et al., 2005). YIRT (Yo-Yo intermittent recovery test) field test is frequently used for games with an intermittent structure such as football in determining the aerobic endurance level of the players. The YIRT test measures the ability of players to repeat high-intensity runs and their ability to rest capacity between these runs (J. Bangsbo, 1994; Jens Bangsbo et al., 2008). The durability that is one of the physical parameters is described according to muscles or energy systems (aerobic, anaerobic). It is known that aerobic energy systems are usually used more intensively in football (Üner, 2017). The players exposed to high intensity during the match use %80 to %90 of the aerobic energy system. Therefore, higher efficiency can be obtained from the player, by increasing the aerobic capacity of a player (Jens Bangsbo et al., 2008). It is very important for children and young soccer players need to train for this purpose to increase aerobic capacity and adaptation to endurance studies. The fact that hemoglobin and red blood cells, which act as the transport of oxygen in childhood affect the maximal oxygen capacity as low. Besides, the slow growth of muscular growth leads to incomplete development of glycogen stores and thus causes an inability to obtain full efficiency from endurance training. However, regular endurance

training increases heart and lung capacity (%10 - %30 range) and improves endurance level. (Üner, 2017).

The aim of this research was conducted to determine the effect of physical performance training on Yo-Yo intermediate level 1 test parameters in young soccer players.

Method

Participants

The 18 football players of the U-14 elite development league (age: 14; height: 160.11 ± 7.68; weight: 47.79 ± 5.55) participated in the study voluntarily.

Research Design

Anthropometric Measurements

The measurements were taken before the Yo-Yo AT1 test. The length measurement was measured in centimeters adjacent to each other in the anatomical posture position of the bare feet and the heels. The lengths of the players were measured with a Holtain stadiometer with an accuracy of ± 1 mm. The body weights were measured in kilograms with bare feet and anatomical posture only in shorts and T-shirts. The sensitivity of the subjects' body weights was measured with the Tefal brand electronic bath scale which is ± 0.1 kilograms.

Yo-Yo Intermittent Recovery Test Level 1 (Yo-yo AT1) And Heart Rate (HR) Measurements

Yo-Yo Intermittent Recovery Test is a durability test consisting of repeated conditions starting at a running speed of 10 kmh between start, turn and end lines in an area of 2 x 20 m and increasing the running speed gradually according to the signal sound from the signal device. There is an active recovery area consisting of 2x5 m for 10 seconds after every 40 m running (19). The test is 1 lap at 10 kmh, 1 lap at 11 kmh, 1 lap at 12-13 kmh, 3 laps at 13.5 kmh, 4 laps at 14 kmh, 8 laps at 14.5 kmh and 0.5 kmh increments of up to 19.5 kmh. The test is terminated if the person misses two consecutive beeps or until the point of extinction (3). The tests and measurements were performed 2 weeks before the start of the league to determine the endurance and HRmax values of the players. The players participated in the test in groups of 6 members under the supervision of 5 football coaches. After the first test, 12 weeks of physical performance training was applied and the same tests and measurements were performed again. HR max values of the subjects were determined by Yo-Yo Intermittent Recovery Test and HR follow-up was performed with the polar clock (RS800CX). At the end of the tests, the highest HR values reached by the subjects were taken into consideration. The tape measure was used to measure the areas. The 21 funnels were used to determine the running path of the players. As a Yo-Yo AT1 signal transmitter to determine the distance and HR values of players; an HP laptop and a Yo-Yo AT1 signal program on youtube video channels were used over the Internet. The 3 loudspeakers were used to enable players to hear incoming signals clearly.

12 Weeks Physical Performance Training (Aerobic Training)

Soccer-specific training drills were applied to improve aerobic endurance 2 days week (Tuesday-Wednesday) after the preliminary Yo-Yo AT1 test and HR measurements. The following criteria were applied during the training protocol.

Load Time: 4 – 6 minutes

Number of sets: 3 – 6 sets

Total Load Time: 15 – 30 minutes

Severity: 50% - 70% heart rate reserve

Recovery: Aerobic training program, which is Productive Rest (1:2 of load time), was implemented. The most important point in this training program is to increase the loading times gradually (23). Therefore, loading times were increased by 1 minute at the end of every 2 weeks and loading time was increased by 6 minutes at the end of the 12th week.

Analysis of the data

The SPSS 21 package program was used in the analysis of the obtained data. Paired Sample t-test was used to analyze the data obtained before and after the implementation of the physical training program. Significance level was taken as $p<0.05$.

Results

Table 1. Yo-Yo AT1 Test Results of U-14 Elite League Players

	$\bar{X}$	N	SS	t	df	p
Pre-test	1235,56	18	377,14	-5,795	17	,000*
Post- test	1658,89	18	546,06			

*p<.001

As a result of Paired Sample t-test which was performed to evaluate the Yo-Yo AT1 test results of U-14 elite league football players, there was a significant difference between pre-test ($\bar{X}$=1235,56, SS=377,14) and post-test ($\bar{X}$=1658,89, SS=546.06) of football players (t_{17}=-5,795, p<,001). The difference was found to be in favor of the last test.

Table 2. HR Test Results of U-14 Elite League Players

	$\bar{X}$	N	SS	t	df	p
HR 1	200,11	18	11,67	,443	17	,663
HR 2	198,94	18	8,96			

p>.001

As a result of Paired Sample t-test which was performed to evaluate HR test results of football players, there was no significant difference between pre-test ($\bar{X}$=200.11, SD=11.67) and post-test ($\bar{X}$=198.94, SD=8.96) results (t_{17} =,443, p>,001).

Discussion and Conclusion

Football is a structurally versatile sport and success in this branch comes with top performance components (Stølen et al., 2005). The high-intensity athletic performance in football; contributes to the technical-tactical level and the elite performance, which are the most important factors in success (Mohr et al., 2008). Besides, football players' durability

levels should be at the upper levels, as traits like rust, speed, smash, sprint, etc. are frequently repeated in the competition and require recovery as soon as possible (Mohr et al., 2005). In this context, when the relevant literature is examined, it has been seen that the researchers have made studies to improve the endurance levels of football players by using different training methods (Şenel, 1991), has achieved an increase of 18% of aerobic capacity development of male high school students in the 14-16 age group by applying 8-weeks endurance training. The study of the Hong Kong elite footballers showed a significant increase in AT1 running distance after 8 weeks of muscular strength and high-intensity interval training. In this study, the 8 weeks training period was found to be 1808 m while the running distance before the test was determined to be 1510 m. (Wong et al., 2010). Rostgaard and his friends (2008); reported that a 5-week training period after the elite footballers AT1 running distance increased by 31% (Rostgaard et al., 2008), 7-week narrow field games after the study 17%, in speed after the continuation training by 22% (Hill-Haas et al., 2009). Krustrup (2003); found that his study on 10 elite players that the Yo-Yo intermittent recovery level 1 test performed when the season preparations started was worse than the test performances performed in other periods (Krustrup et al., 2003). In the pre-test and post-test results to determine the heart race; he found that the heart rate was lower in the last test and showed improvement. Krustrup and his friends (2006), applied the Yo-Yo intermittent recovery level 1 test to 15 first league players at different periods of the season. They reported that the performances performed at the end of the preparation period and at the end of the season were better than those performed at the beginning of the preparation period according to the test results (Krustrup et al., 2006). In another study conducted on footballers, the average At" running distance of 1968 m for the first week of the competition period, 2117 m for the halftime period and 2132 m for the end of the season was reported (Ermanno Rampinini et al., 2007). Seyis and his friends; have determined that the AT1 running distances of professional male footballers are 1651 m in the preparation period and 1820 m in the competition period (Seyis et al., 2011). Can and his friends; reported an average running distance of 1539 m for the first week of the preparation period and 1889 m for the first week of the competition period and they stated that there was a statistically significant difference between the preparation period and the competition period (Can et al., 2013). When looking at the distance covered during the Yo-Yo At" test in football players, U13 (933 m), U14 (1000 m), U15 (1184 m), U16 (1538 m), U17 (1581 m), U18 (1800 m) and U19 (2128 m) playing in the infrastructure of a football team in the Croatian 1st league players have a significant difference between running distances (Markovic et al., 2011). In the study conducted by Cihan and his friends on Turkish football players, the average Yo-Yo AT1 running distance of 955 m for U15 players, 1328 m for U17 players and 1967 m for A2 players was obtained (Cihan et al., 2012). In the study on players playing in the U17 age group, it was found that the mean HRmax values in the AT1 test were 197.2 beats / min-1 for the U17 Czech national team, 195.2 beats / min-1 for the best team in the U17 league, and 194 beats / min-1 for the worst team (Teplan et al., 2012). In the study conducted on professional and amateur football

players, the average HRmax values in the AT1 test were 188 beats / min-1 in professionals and 194 beats / min-1 in amateur players (Ermanno

Rampinini et al., 2010). In the study conducted in professional male football players who struggle in different game positions, the average HRmax values of the athletes in the AT1 test were 179.3 beats / min-1 for goalkeepers, 186.0 beats / min-1 for defenders, 185.0 beats / min-1 for midfielders and offensive players for 188.4 beats / min-1 (Cihan et al., 2012).

In our study, a significant difference was found between the pre-test and post-test results of the Yo-Yo AT1 of U-14 elite league football players in favor of the post-test ($p<.05$). When the results were examined, it was found that there was a 34% difference between the results of the pre-Yo-Yo AT1 test and the Yo-Yo AT1 test after 12 weeks of physical performance training. This result shows that 12-weeks physical performance training results in a 34% increase in the aerobic capacity of football players. Thus, the physical performance training program had a significant positive effect on the Yo-Yo intermittent recovery level 1 test parameters. In our study, there was not found a significant difference in the maximal heart rate of U-14 elite league players ($p>.05$). It is recommended that the study should be conducted in different age groups and with different training methods.

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