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Examination of Physical Activity Levels of Students Education in the Field of Sports Sciences in terms of Some Variables in the Period of COVID-19

Ali ÇEVİK[1], Ahmet YILGIN[2], Gökhan DOKUZOĞLU[3]
[1]Kilis 7 Aralık Üniversitesi, Beden Eğitimi ve Spor Yüksekokulu, Kilis/Türkiye
https://orcid.org/0000-0002-3664-6626
[2]Kilis 7 Aralık Üniversitesi, Beden Eğitimi ve Spor Yüksekokulu, Kilis/Türkiye
https://orcid.org/0000-0001-5629-9142
[3]Aydın İl Milli Eğitim Müdürlüğü, Aydın, Türkiye
https://orcid.org/0000-0001-5407-4927

ORJINAL MAKALE

Abstract
This study aimed to examine the physical activity levels of students education in the field of sports sciences in the period of COVID-19 in terms of some variables. The study group of the research; constitute of 207 students education at Marmara University Faculty of Sports Sciences in the 2021-2022 academic year. Descriptive statistics, normality test and non-parametric, Mann Whitney U test was used for comparison of two groups, and Kruskal Wallis H test was used for comparison of more than two groups. As a result of the study, in terms of students' participation in physical activity and age variable, There was a statistically significant difference in the personal barriers sub-dimension and the total scale ($p<0.05$). A statistically significant difference was found only in the sub-dimension of personal barriers according to the gender variable ($p<0.05$). In terms of department variable, there was a statistically significant difference in result expectation and personal barriers sub-dimension and total scale. According to sports branch, statistically significant difference was observed in the result expectation sub-dimension and the total scores of the scale ($p<0.05$). As a result, when the data obtained in this study were examined, it was determined that the physical activity levels of sports sciences students differ according to age, gender, department and sports branches due to the COVID-19 epidemic.

Keywords: *Physical Activity, Covid-19, Sports Science Students.*

Spor Bilimleri Alanında Eğitim Gören Öğrencilerin COVID-19 Dönemindeki Fiziksel Aktivite Düzeylerinin Bazı Değişkenler Açısından İncelenmesi

Özet
Bu çalışma, spor bilimleri alanında eğitim gören öğrencilerin COVID-19 dönemindeki fiziksel aktivite düzeylerinin bazı değişkenler açısından incelemeyi amaçlamıştır. Araştırmanın çalışma grubu; Marmara Üniversitesi Spor Bilimleri Fakültesi'nde 2021-2022 Eğitim-Öğretim yılında eğitim gören 207 öğrenciden oluşmuştur. İki grubun karşılaştırılmasında tanımlayıcı istatistik, normallik testi ve parametrik olmayan Mann Whitney U testi, ikiden fazla grubun karşılaştırılmasında Kruskal Wallis H testi kullanılmıştır. Araştırma sonucunda, öğrencilerin fiziksel aktiviteye katılımı ve yaş değişkeni açısından, kişisel engeller alt boyutunda ve

ölçeğin toplamında istatistiksel olarak anlamlı bir fark bulunmuştur ($p<0,05$). Cinsiyet değişkenine göre sadece kişisel engeller alt boyutunda istatistiksel olarak anlamlı bir fark saptanmıştır ($p<0,05$). Bölüm değişkeni açısından ise sonuç beklentisi ve kişisel engeller alt boyutunda ve ölçeğin toplamında istatistiksel olarak anlamlı bir fark bulunmuştur. Spor branşına göre sonuç beklentisi alt boyutunda ve ölçek toplam puanlarında istatistiksel olarak anlamlı farklılık gözlenmiştir ($p<0,05$). Sonuç olarak bu çalışmada elde edilen veriler incelendiğinde; spor bilimleri öğrencilerinin fiziksel aktivite düzeylerinin COVID-19 salgını nedeniyle yaş, cinsiyet, bölüm ve spor branşlarına göre farklılık gösterdiği tespit edilmiştir.

Anahtar kelimeler: *Fiziksel Aktivite, Covid-19, Spor Bilimi Öğrencileri.*

Introduction

The coronavirus (COVID-19), which occurred in Wuhan, China, as of December 2019 and spread rapidly to the world, has become an important threat force in the deterioration of people's health (Ovalı, 2020). This disease also affects physical and mental health due to reasons such as inactivity and increased sedentary time. It was declared a pandemic by the World Health Organization (WHO). As of the beginning of July, a number of diagnosed cases of over 10 million people and over 500,000 deaths due to the disease were reported (WHO, 2021). The COVID-19 virus is a disease that can also be transmitted by air droplets. Countries have switched to quarantine practices in order to prevent the spread of this virus among people. In particular, activities in the fields of sports and physical activity have been cancelled. Because the risk of infection is high even if social distance rules (1.5 meters) are followed during these events (Bourouiba, 2020). This situation has led to the restriction of people. It is very important for people to continue an active life at home so that their lifestyles do not change and their health does not deteriorate. Outdoors offers more suitable conditions for a physical activity and is more preferred. However, this does not mean that exercise cannot be done at home during quarantine (Jiménez-Pavón et al., 2020). In this context, it is important to increase the immune function, which will protect the body against the epidemic, with appropriate physical activity. Studies show that physical activity is an important factor in improving human health. Therefore, the fact that individuals do moderate-intensity exercises in order to strengthen the immune system against the COVID-19 virus and increase general physical capacity shows that physical activity will play an important role in protecting and improving their health and increasing body resistance (Rahmati-Ahmadabad & Hosseini, 2020).

Physical activity is defined as any body movement that requires energy expenditure and is produced by skeletal muscles (Hammami et al., 2022). In addition to improving physiological, morphological, metabolic and psychological parameters, physical activity also reduces the risk of many chronic diseases and premature death, and also helps to protect the health of the skeletal-muscular system (Heyward, 2006). Rebar et al. (2015), in their study, found that physical activity protects mental health, Warburton et al. (2006) found physical activity reduces the rates of depression and falling into depression, Kohl et al. (2012) found that it increased the physical fitness of the circulatory, respiratory and musculoskeletal systems and also increased well-being and cognitive functions. Moderate-intensity physical activity for 30 minutes or more than 30 minutes is required every day of the week or at least a few days (Driskell et al., 2005). World Health Organization has offered suggestions that physical activity

and exercise can be done at home and in similar restricted areas during the COVID-19 period, on condition of continuity (WHO, 2021).

These are daily short activities such as dancing, playing with children, cleaning the house. The other is to follow and apply exercise videos on the internet on a regular basis. By transforming physical activity and exercises at home into an appropriate form, staying active has become more important for health. The duration of these exercises can be planned according to the age, health status and possibilities of the person (Garber et al., 2011). For example; Gymnastics and aerobic exercise movements that can be done by following Zumba or video and similar visual stimuli are among the aerobic exercise options that can be done at home. Zumba and similar dance activities have been shown to be effective in maintaining quality of life, slowing down the physiological effects of aging, providing better balance and coordination and maintaining psychological well-being as well as in maintaining the level of physical activity (Rodrigues-Krause, 2019).

In addition to these activities and exercises; People can benefit from increasing their physical activity through technological equipment such as video games (Barnett et al., 2011). In addition to dance activities that can be done through video games, activities such as tennis and bowling that can be done through virtual reality applications are some of the application examples of such innovations (Graf et al., 2009). In line with this information, physical activity is also important for sports sciences students dealing with different sports branches. The transition of universities to distance education, the closure of gyms and areas, and curfews prevent students' activities. It will be seen that students in the covid 19 process will contribute to the increase of metabolism by determining the sedentary life interval. The aim of this study is to examine the physical activity levels of students studying in physical education and sports schools in terms of some variables during the covid-19 period.

Materials and Methods

Model of the Research

In this study, the relational survey model was used within the scope of the survey model. The survey model aims to show the existence or level of co-change between two or more variables (Karasar, 2015).

The Study Group

The study group of the research; constitute of 207 students education at Marmara University Faculty of Sports Sciences in the 2021-2022 academic year.

Data Collection Tool

In this study, the personal information form developed by the researcher was used, and in the second part, the cognitive behavioral physical activity scale was used. The cognitive behavioral physical activity scale, which was used by Schembre et al. in 2015 and developed by Eskiler et al. (2016), consists of three dimensions. These dimensions: result expectation consists of items 1, 2, 9, 13 and 14, self-regulation consists of items 3,4,5,6 and 8 and personal barriers consist of items 7,10,11,12 and 15. All statements in the scale are scored with a 5-point Likert Type rating as "1=strongly disagree, 5=strongly agree".

Analysis of Data

The findings of this study were made with the SPSS 25.0 package program in line with the data obtained from the people who participated in the study. In order to determine the distribution of the data, a normality test was performed and it was seen that the data did not show a normal distribution. Then, the data were analyzed with the Mann-Whitney U test for binary variables and the Kruskal Wallis H Test for more than two variables. Obtained findings were tested statistically at $p<0.05$ significance level. The reliability of the scales was determined by Cronbach's Alpha coefficient and as a result of the analysis, Cronbach's Alpha value was found to be 79.

Ethics of Research

Ethics committee approval of the research was obtained with the decision of the E-76062934-044-25886 - 29.05.2023 - 2023/11 meeting of the Ethics Committee of Kilis 7 Aralık University.

Results

In this part, descriptive statistics about the demographic characteristics of the sports science students, who constitute the study group of the research were made. In addition, analyzes were performed to determine whether there was a significant difference between demographic variables, scale sub-dimensions and scale total scores.

Table 1

Descriptive Statistical Values of Individuals Participating in the Study

Demographic Variables		f	%
Age	18-19 years	42	20.3
	20-21 years	84	40.6
	22 years and over	81	39.1
	Total	207	100.0
Gender	Female	96	46.4
	Male	111	53.6
	Total	207	100.0
Class	1st class	101	48.8
	2.nd class	15	7.2
	3 rd class	33	15.9
	4 th class	58	28.0
	Total	101	48.8
Department	Teaching	67	32.4
	Coaching	81	39.1
	Sports Management	59	28.5
	Total	207	100.0
Sports Branch	Team	78	37.7
	Individual	129	62.3
	Total	207	100.0
Doing Regular Sports	Yes	119	57.5
	No	88	42.5
	Total	207	100.0

Table 1, shows the descriptive statistics regarding the demographic characteristics of the students who constitute the study group of the research. The highest variables in their category, respectively, are students aged 20-21 40.6% (n=84). The sample consists of male students with 53% (n=111) in the gender variable; first graders with 48.8% (n=101) at class level; students in the coaching department with 39.1 (n=81) in the variable of the department they study; Individual sports with 62.3% (n=129) in the sports branch and those who do regular sports with 57.5% (n=119).

Table 2

Normality Test Results

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	**df**	**p**	**Statistic**	**df**	**p**
Result Expectation	.169	207	.000	.886	207	.000
Self- Regulation	.138	207	.000	.968	207	.000
Personal Barriers	.120	207	.000	.959	207	.000
CBPAS	.080	207	.003	.987	207	.058

In the Table 2, Normality Test was applied to the data set in order to determine which of the parametric tests is appropriate. Since the significance level was less than 0.05 according to the Kolmogorov-Smirnova test, it was observed that the data did not show normal distribution and non-parametric tests were found suitable for analysis.

Table 3

Cognitive Behavioral Physical Activity Scale and Sub-Dimensions Kruskal Wallis H Test Results according to Age Group Variable

Variables	Age group	N	Mean Rank	Chi-Square	df	p	Post-Hoc
Result Expectation	(1)18-19 years	42	101.65	13.354	2	.001	2>3
	(2)20-21 years	84	120.90				
	(3)22 years and over	81	87.69				
Self-Regulation	(1)18-19 years	42	99.23	.759	2	.684	-
	(2)20-21 years	84	102.29				
	(3)22 years and over	81	108.25				
Personal Barriers	(1)18-19 years	42	95.94	12.341	2	.002	2>3
	(2)20-21 years	84	121.42				
	(3)22 years and over	81	90.12				
CBPAS	(1)18-19 years	42	94.37	11.798	2	.003	2>3
	(2)20-21 years	84	121.21				
	(3)22 years and over	81	91.14				

*p<0.05

According to the results of Table 3, the Kruskal Wallis H test was used to determine whether there was a significant difference between the student's participation in physical activity and the age variable. As a result of the analysis, there was a statistically significant difference in the result expectation and personal barriers sub-dimension and the total scale (p<0.05). As a result of the Post Hoc analysis carried out to determine the difference, it was concluded that the physical activity levels of the students aged 20-21 were higher than the students aged 22 and over in the result expectation and personal barriers sub-dimension and the total scale.

Table 4

Cognitive Behavioral Physical Activity Scale and Sub-Dimensions Mann Whitney U Test Results According to Gender Variable

Variables	Gender	N	Mean Rank	Sum of the Ranks	U	p
Result Expectation	Female	96	108.09	10376.50	4935.500	.350
	Male	111	100.46	11151.50		
Self - Regulation	Female	96	101.40	9734.50	5078.500	.557
	Male	111	106.25	11793.50		
Personal Barriers	Female	96	113.61	10907.00	4405.000	.031
	Male	111	95.68	10621.00		
CBPAS	Female	96	111.17	10672.00	4640.000	.109
	Male	111	97.80	10856.00		

*p<0.05

When we look at Table 4, there was a statistically significant difference only in the sub-dimension of personal barriers as a result of the Mann-Whitney U test, which was conducted to determine whether there was a significant difference between students' participation in physical activity and the gender variable (p<0.05). According to this result, in the sub-dimension of

personal barriers, it is seen that the physical activity levels of male students are higher than female students.

Table 5

Cognitive Behavioral Physical Activity Scale and Sub-Dimensions Kruskal Wallis H Test Results according to the Class Variable

Variables	Class	N	Mean Rank	Chi-Square	df	p
Result Expectation	1st class	101	103.51	1.770	3	.622
	2nd class	15	109.37			
	3rd class	33	93.26			
	4th class	58	109.58			
Self-Regulation	1st class	101	97.04	3.450	3	.327
	2nd class	15	108.77			
	3rd class	33	117.89			
	4th class	58	106.97			
Personal Barriers	1st class	101	97.80	3.510	3	.319
	2nd class	15	103.00			
	3rd class	33	102.20			
	4th class	58	116.08			
CBPAS	1st class	101	97.57	3.134	3	.371
	2nd class	15	106.23			
	3rd class	33	103.44			
	4th class	58	114.94			

*p<0.05

According to the results of Table 5 examination, there is no statistically significant difference in the total and sub-dimensions of the scale as a result of the Kruskal Wallis H-test performed between the students' participation in physical activity and the grade level variable (p>0.05).

Table 6

Cognitive Behavioral Physical Activity Scale and Sub-Dimensions Kruskal Wallis H Test Results according to Department Variable

Variables	Department	N	Mean Rank	Chi-Square	df	p	Post-Hoc
Result Expectation	(1)Teaching	67	111.07	8.134	2	.017	3>2
	(2)Coaching	81	89.69				
	(3)Sports Management	59	115.62				
Self-Regulation	(1)Teaching	67	98.63	.814	2	.666	-
	(2)Coaching	81	106.72				
	(3)Sports Management	59	106.36				
Personal Barriers	(1)Teaching	67	88.61	14.539	2	.001	3>1 3>2
	(2)Coaching	81	99.26				
	(3)Sports Management	59	127.98				
CBPAS	(1)Teaching	67	93.28	10.352	2	.006	3>1 3>2
	(2)Coaching	81	97.58				
	(3)Sports Management	59	124.98				

*p<0.05

When we look at Table 6, according to the variables of students' participation in physical activity and the department they studied, a statistically significant difference was observed in the result expectation and personal barriers sub-dimension and scale total as a result of the Kruskal Wallis H test ($p<0.05$). As a result of the Post Hoc analysis conducted to determine the difference, in the result expectation sub-dimension, it was concluded that the physical activity levels of the students studying in the sports management department were higher than those of the students studying in the coaching department In the personal barriers sub-dimension and the scale total, it was concluded that the physical activity levels of the students studying in the sports management department were higher than those of the students studying in the coaching department and the teaching department.

Table 7

Cognitive Behavioral Physical Activity Scale and Sub-Dimensions Mann Whitney U Test Results according to Sports Branch Variable

Variables	Doing Regular Sports	N	Mean Rank	Ranking Total	U	p
Result Expectation	Team Sports	78	93.54	7296.00	4215.000	.046
	Individual Sports	129	110.33	14232.00		
Self -Regulation	Team Sports	78	98.16	7656.50	4575.500	.270
	Individual Sports	129	107.53	13871.50		
Personal Barriers	Team Sports	78	96.68	7541.00	4460.000	.169
	Individual Sports	129	108.43	13987.00		
CBPAS	Team Sports	78	92.70	7230.50	4149.500	.034
	Individual Sports	129	110.83	14297.50		

*$p<0.05$

When we look at Table 7, as a result of the Mann-Whitney U test, which was conducted to determine whether the students showed a significant difference according to their participation in physical activity and gender variable, there was a statistically significant difference only in the result expectation sub-dimension and the total scores of the scale, ($p<0.05$). According to this result, only in the result expectation sub-dimension and in the total scores of the scale, it is seen that the physical activity levels of the students who do individual sports are higher than those of the students who participate in team sports.

Discussion and Conclusion

The World Health Organization declared the coronavirus disease (COVID-19) as a pandemic. This disease seriously affects the health of individuals living in the world. The measures taken to reduce the speed and spread of the epidemic have led people to make changes in their lives. As the first of these measures, individuals are expected to stay at home and involve

themselves in the social isolation process. Sports sciences students, who try to get through the process in the best way, try to perform physical activity activities with their own means.

The study is important in terms of the absence of such a study in the literature and contributing to subsequent studies. In the study group of the research, It is seen that the rate of the 20-21 age group is 40.6%, the rate of male participants is 53.6%, and the rate of the 1st graders is 48%. The coaching department with a rate of 39.1% is in the majority, the individual sport is dominant with a rate of 62.3% and 57.5% of the individuals do sports regularly. It was concluded that the physical activity levels of the students aged 20-21 who participated in the research were higher than those of the students aged 22 and over, in terms of result expectation and personal barriers sub-dimension and the scale total. Sahinler et al. (2020) found that athletes between the ages of 26-30 had a higher rate of physical activity than other age groups. The fact that there is a contrast to our study may be due to the different sample sizes. When the gender variable of the participants was examined, it was determined that the physical activity levels of male students were higher than those of female students in the sub-dimension of personal barriers. In a study in which Maugeri et al. examined the physical activity status of individuals living in Italy before and during the epidemic, they found that both male and female individuals had a significant decrease in their physical activity levels (Maugeri et al., 2020). Stanton et al., in a study in which they examined the physical activity levels of individuals living in Australia, found that the physical activity rates of individuals (48%) changed negatively during the epidemic process (Stanton et al., 2020). These studies do not support our study. Because it can be difficult for people who are not involved in sports to gain this habit. No significant difference was found in the total and sub-dimensions of the scale according to the class level variable of the individuals included in the study. Gencalp (2020), in his study, did not find a significant relationship between the two grade levels of the students and the physical activity score. This research shows parallelism with our study. When we examine the department variable of the people participating in the study; In the personal barriers sub-dimension and the scale total, it was concluded that the physical activity levels of the students studying in the management department were higher than those of the students studying in the coaching department and the teaching department. In a study conducted on medical faculty students, Kıyak (2019) found that only 11% of the students had sufficient physical activity levels according to their physical activity scores. Gencalp (2020) found that 56.9% of first and emergency aid students were not physically active and 32.5% of them had low physical activity levels. It was determined that the physical activity level of 89.6% of the students was insufficient in protecting and improving

health, and only 10.6% had a sufficient physical activity level. These studies are not similar to our study. It is an expected result that the physical activity level of the students studying in different departments is lower than those of the students in sports academies. Considering the relationship between sports branches and physical activity of the participants included in the study; In the result expectation sub-dimension and the total scores of the scale, the physical activity levels of the students who do individual sports are higher than the physical activity levels of the students who participate in team sports Sahinler et al. (2020), in their study, found that those who participate in physical activities are mostly composed of individuals engaged in individual team sports.

The fact that the research on Covid-19 is new has made it difficult to find similar studies due to the scarcity of studies in the field. As a result, when the data obtained in this study were examined, it was determined that the physical activity levels of sports sciences students differ according to age, gender, department and sports branches due to the COVID-19 epidemic.

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