

# Exercise addiction of individuals receiving sports services and analysis of social appearance anxiety levels

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## ABSTRACT

The purpose of this study was to examine exercise addiction and social appearance anxiety levels of students studying at the faculty of sports sciences in terms of various variables. There were 170 participants in the study. "Personal Information Form", "Exercise Addiction Scale" and "Social Appearance Anxiety Scale" were applied to the participants. Whether the data provided the assumption of normality was evaluated by the skewness and kurtosis test. It was decided that the values obtained as a result of the analysis provided the assumption of normality; therefore it was deemed appropriate to apply parametric tests. Frequency, percentage, t-test, One-Way ANOVA and Post Hoc (Scheffe) test statistics were used to analyze the data. As a result, it was determined that participants who regularly received sports services at least 2 days a week had low levels of general exercise addiction and social appearance anxiety. In this context, it can be said that individuals' exercise addiction and social appearance anxiety levels were low. Therefore, it can be said that the physical and mental benefits individuals got from sports activities enabled them to be more at peace with themselves, as the participants who received sports services made their exercise a habit to protect their health in daily life.

**Keywords:** Exercise addiction, social appearance, anxiety, sports services.

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## INTRODUCTION

Today, societies are very interested in the physical appearance of people (Alemdağ and Öncü, 2015). Social appearance anxiety is important because it is linked to significant psychological and behavioral factors related to health. Considering the situations in which social appearance anxiety arises on an individual basis, it is thought that the physical appearance of individuals generally occurs when they fail to achieve the body image they want in the eyes of other individuals and feel inadequate (Hagger and Stevenson, 2010). Positive body image plays an important role in raising healthy generations. This image affects individuals' quality of life, success and interpersonal relations. However, a negative body image can lead to depression, eating disorders, and social anxiety in individuals, and subsequently, social appearance anxiety may appear in individuals (Yucent

and Unlu, 2017). Social appearance anxiety can be evaluated as a result of negative body image related to the individual's body and appearance (Claes et al., 2012; Doğan, 2010).

According to the researchers, social appearance anxiety occurs as a result of social and physical anxiety. Therefore, it is expressed as a result of the negative image of one's own body and appearance (Hart et al., 2008). According to Hart et al. (2008), the concept of social appearance anxiety, beyond the general physical appearance such as height, weight, and muscle structure, is a much more comprehensive concept including characteristics of body perception and body image such as skin color and face shape (nose, distance between eyes, smile, etc.). On the other hand, social appearance anxiety has an important relationship with

individuals' physical self-esteem, body satisfaction, eating habits, motivation for physical activity, and physical activity behaviors (Yousefi et al., 2009). Therefore, it has been suggested that the most important cause of exercise addiction is dissatisfaction with the image, body image and weight anxiety (Davis and Fox, 1993). Exercise addiction is defined as exercise routine getting out of the control of the individual, continuously increasing the duration, frequency and intensity of exercise in order to obtain the desired effect from the exercise, not being able to spare time for family and friends due to not giving up exercise, exercising instead of participating in social activities and rearranging the life of the individual within the framework of exercise habits (Adams and Kirkby, 2002). The effect of physical exercises on human psychology has been studied by many scientists. It has been suggested that physical exercises lead to improvement in the emotional state and systems of the human body (Korkmaz and Uslu, 2020). In particular, exercise is known to have antidepressant and anxiolytic effects (Rethorst et al., 2009). Regular physical exercise plays a very important role in maintaining good health and preventing diseases. However, it is stated that excessive exercise can bring many negative consequences on both physical and mental health (Berczik et al., 2012; Lima et al., 2017). Trying to spend most of the time by exercising regularly and doing regular exercise uncontrollably despite some obstacles can cause exercise addiction (Hausenblas and Downs, 2002). Accordingly, individuals addicted to exercise are known with symptoms such as not being able to stop exercising, feeling the need to exercise more every day, experiencing anxiety / tension in case of cessation of exercise, exercising longer than thought, spending a long time on exercise, preferring exercise instead of socializing with the social environment (Tekkurşun Demir and Türkeli, 2019). Some researchers argue that exercise addiction can be viewed as a positive addiction, as it can improve health or alleviate anxiety. Positive exercise addiction is important in that it allows people to enjoy exercise and achieve mental and physical energy to encourage personal success. Unlike positive exercise addiction, negative exercise addiction can lead to psychological or physical instability and even social isolation (Jee, 2016). Exercise addiction, a disease that can be described as the "dark side" of exercise, which negatively affects human health, has been the subject of research frequently recently (Tekkurşun Demir and Türkeli, 2019). When the literature was examined, although there are separate studies on the subjects of exercise addiction (Bavlı et al., 2011; Berczik et al., 2014; Cicioğlu et al., 2019; Griffiths, 1997; Landolfi, 2013; Lichtenstein and Hinze, 2020; Szabo and Griffiths, 2007; Tekkurşun Demir and Türkeli, 2019; Vardar, 2012; Yeltepe and İkizler, 2007) and social appearance anxiety (Çetinkaya et al., 2019; Doğan, 2010; Ekşi et al., 2016; Ermiş and İmamoğlu, 2019; Hart et al., 2008; Levinson and Rodebaugh, 2011; Reilly et al., 2018; Senger, 2017),

no research was found in which the relationship between these two concepts was examined. Based on this abstract, the study aimed to reveal the exercise addiction and social anxiety levels of healthy adults who regularly receive sports services. This study is thought to contribute to the limited literature on exercise addiction and social anxiety. The following questions would be answered in line with this purpose:

H<sub>1</sub>. What are the levels of exercise addiction and social appearance anxiety scales?

H<sub>2</sub>. Is there a significant difference in exercise addiction and social appearance anxiety levels of individuals who receive sports services according to gender variable?

H<sub>3</sub>. Is there a significant difference in exercise addiction and social appearance anxiety levels of individuals who receive sports services according to marital status variable?

H<sub>4</sub>. Is there a significant difference in exercise addiction and social appearance anxiety levels of individuals who receive sports services according to age variable?

H<sub>5</sub>. Is there a significant difference in exercise addiction and social appearance anxiety levels of individuals who receive sports services according to educational background variable?

H<sub>6</sub>. Is there a significant difference in exercise addiction and social appearance anxiety levels of individuals who receive sports services according to the variables of regular exercise, weekly exercise frequency and daily exercise duration?

## MATERIALS AND METHODS

### Participants

As can be seen, Table 1 includes information on the provinces and genders of healthy adults who receive service from sports centers regularly at least 2 days a week. This study was carried out in Antalya, Hatay and Malatya provinces of Turkey. Accordingly, 46 males, 19 females from Antalya province, 40 males, 22 females from Hatay province, 19 males, 24 females from Malatya province, so a total of 170 (105 males 61.8%), 65 females (38.2%) individuals participated in the study voluntarily.

### Instruments

Correlational screening pattern, one of the quantitative models, was used in the research. Correlational screening model aims at identifying the presence and/or degree of mutual exchange between two or more variables (Karasar, 2009). Exercise addiction scale developed by Tekkurşun Demir et al. (2018) was used in the study to determine the exercise addiction level of the participants. The scale consists of three sub-dimensions:

**Table 1.** Distribution of the participants by provinces and gender.

Gender	Province/Country			Total	%
	Antalya (Turkey)	Hatay (Turkey)	Malatya (Turkey)		
Male	46	40	19	105	61.8
Female	19	22	24	65	38.2
Total	65	62	43	170	100.0

"excessive focus and mood swings", "postponement of individual-social needs and conflict", "tolerance development and passion." Excessive focus and mood swing sub-dimension consists of the first 7 items (1, 2, 3, 4, 5, 6, 7), postponement of individual-social needs and conflict dimension consists of 6 items (8, 9, 10, 11, 12, 13), and tolerance development and passion dimension consists of the last 4 items (14, 15, 16, 17). EAS consists of 17 items in total, and the scale does not include any reverse items. The internal consistency and reliability analyses of the scale by Cronbach Alpha coefficients were as follows:  $\alpha = .83$  for excessive focus and mood swings sub-dimension,  $\alpha = .79$  for postponement of individual-social needs and conflict sub-dimension,  $\alpha = .77$  for tolerance development and passion sub-dimension (Tekkurşun Demir et al., 2018). The Cronbach's Alpha values of the data obtained from the participants in our study were calculated as  $\alpha = .78$  in the "excessive focus and mood swings" dimension,  $\alpha = .65$  in the "postponement of individual-social needs and conflict" dimension,  $\alpha = .71$  in the "tolerance development and passion" dimension. Within the context of the research, the Cronbach's Alpha internal consistency coefficient of

the scale was calculated as  $\alpha = .81$ . The score intervals of the exercise addiction scale developed in the 5-point Likert type are given in Table 2. Accordingly, the score intervals are as follows: "1-17 normal group, 18-34 low risk group, 35-51 risk group, 52-69 addicted group, 70-85 highly addicted group" (Tekkurşun Demir et al., 2018).

Social Appearance Anxiety Scale (SAAS) was developed by Hart et al. (2008) to measure individuals' social appearance anxiety. The Turkish validity and reliability of SAAS were done by Doğan (2010). The scale is a 5-point Likert type scale responded to as (1) Not at all appropriate, (2) Not appropriate, (3) Somewhat appropriate, (4) Appropriate and (5) Completely appropriate. The scale consists of 16 items and one dimension. The 1st item of the scale is coded in reverse. The high score obtained from SAAS shows that the level of social appearance anxiety is also high. The highest score on the scale is 80 and the minimum is 20. As a result of the Turkish validity and reliability analysis of the scale, the scale was found to be reliable and valid. The reliability of SAAS and Cronbach's Alpha value were determined as  $\alpha = 0.85$ . In this study, however, the Cronbach's alpha value of the scale was found to be  $\alpha = 0.88$ .

**Table 2.** Exercise addiction scale evaluation chart.

Options	Scores	Score Interval	Scale Evaluation
Strongly disagree	1	1-17	Normal Group
Partially Disagree	2	18-34	Low-Risk Group
Mostly Agree	3	35-51	Risk Group
Agree	4	52-69	Addicted Group
Strongly agree	5	70-85	High

### Statistical analysis

SPSS 22 statistical package program was used to evaluate the data obtained from the participants. The reliability of the scale was determined by calculating the Cronbach's Alpha internal consistency coefficients. Whether the data provided the assumption of normality was evaluated by the skewness and kurtosis test. It was decided that the values obtained as a result of the analysis provided the assumption of normality; therefore it was deemed appropriate to apply parametric tests.

Accordingly, data analysis utilized t test, One-Way analysis of variance (ANOVA) and Post Hoc test statistics (Scheff) in independent groups. The error level in this study was assumed to be  $p < .05$ .

### RESULTS

According to Table 3, the arithmetic mean of the Social Appearance Anxiety (SSA) scores of the participants subject to the research is 1.85, and the standard

**Table 3.** Distribution of exercise addiction and social appearance anxiety scale scores.

Variables	Number of Items	n	$\bar{x} \pm sd$	Skewness	Kurtosis
Social appearance anxiety General	16	170	1.85 $\pm$ .65	.731	-.348
Excessive Focus and Mood Swings	7	170	3.77 $\pm$ .63	-.900	1.303
Postponing Individual-Social Needs and Conflict	6	170	1.70 $\pm$ .72	.932	.030
Tolerance Development and Passion	4	170	3.01 $\pm$ .83	-.102	-.236

deviation is 0.65, while the arithmetic mean of the scores of the Exercise Addiction Scale (EAS) is 3.17 and the standard deviation is 0.52. Skewness and Kurtosis values of the observed values were found to be within the normality limits of -1.96 and +1.96 (Büyüköztürk, 2002).

As can be seen in Table 4, it is seen that the mean scores of the males ( $\bar{x} = 1.95 \pm 0.67$ ) on the social appearance anxiety scale differ statistically significantly compared to females ( $\bar{x} = 1.68 \pm 0.59$ ) ( $t_{(168)} = 2.64$ ;  $p = .009$ ;  $p < .05$ ). In the postponement of individual-social needs and conflict sub-dimension, it was determined that the mean scores of males ( $\bar{x} = 1.79 \pm 0.78$ ) were significantly higher than females ( $\bar{x} = 1.56 \pm 0.61$ ) ( $t_{(168)} = 1.98$ ;  $p = .048$ ;  $p < .05$ ). It is observed that there is no statistically significant difference in other sub-dimensions of Exercise Addiction Scale ( $p > 0.05$ ).

As can be seen in Table 5, the social appearance anxiety scores of individuals who receive sports services do not differ significantly according to the marital status variable ( $P > 0.05$ ). In the development of tolerance and passion sub-dimension, it was determined that the mean scores of singles ( $\bar{x} = 3.10 \pm 0.74$ ) were statistically significantly higher than married ones ( $\bar{x} = 2.76 \pm 1.01$ ) ( $t_{(168)} = -2.40$ ;  $p = .017$ ;  $p < .05$ ).

As can be seen in Table 6, no statistically significant difference was found between the groups in the Social appearance anxiety scale general scores according to the age group of the participants ( $p > .05$ ). However, a statistically significant difference was found between the groups in the development of tolerance and passion sub-dimension ( $F_{(2-167)} = 8.23$ ;  $p = .000$ ,  $p < .05$ ). According to the Scheffe test results for the source of the difference, tolerance development and passion levels of those aged 25 and under ( $\bar{x} = 3.20 \pm .70$ ) were found to be higher than those aged 26-35 ( $\bar{x} = 2.62 \pm .67$ ).

As seen in Table 7, no statistically significant difference was found between the groups in terms of the total scores of the social appearance anxiety scale according to the educational status of the participants ( $p > .05$ ). There was a statistically significant difference found in the excessive focus and mood swings sub-dimension ( $F_{(2-167)} = 3.584$ ;  $p = .030$ ;  $p < 0.001$ ). According to the results of the scheffe test for the source of the difference, there was a significant difference between those with undergraduate and graduate degrees. Accordingly, the mean score of the participants with graduate degree ( $\bar{x} = 4.15 \pm .60$ ) was found to be significantly higher than that of participants with undergraduate degree ( $\bar{x} = 3.71 \pm$

.65).

As seen in Table 8, no statistically significant difference was found between the groups in terms of social appearance anxiety scale general scores of the participants according to the regular exercise group ( $p > .05$ ). A statistically significant difference was found between the postponement of individual-social needs and conflict sub-dimension and the year of regular exercise variable ( $F_{(2-167)} = 3.45$ ;  $p = .010$ ;  $p < 0.05$ ). According to the Scheffe test results for the source of the difference, a significant difference was observed between individuals who exercised regularly for "1-2 years" and those who did for "5 and 6 years". According to this result, the postponement of the individual and social needs and conflict levels of those who exercised regularly for 1-2 years ( $\bar{x} = 1.88 \pm .74$ ) were determined to be higher than those who exercised for 5-6 years ( $\bar{x} = 1.27 \pm .38$ ).

As seen in Table 9, no statistically significant difference was found between the groups in terms of the social appearance anxiety scale general scores of the participants according to the weekly exercise frequency group ( $p > .05$ ). A statistically significant difference was found between the excessive focus sub-dimension and the weekly exercise frequency ( $F_{(3-166)} = 5.856$ ;  $p = .001$ ;  $p < 0.01$ ). The source of difference between groups was that there was a significant difference between 1-2 days a week, 3-4 days a week and 5-6 days a week. According to this result, excessive focus and mood swings levels of those who exercised 5-6 days a week ( $\bar{x} = 1.88 \pm .74$ ) were determined to be higher than those of who exercised 3-4 days a week ( $\bar{x} = 3.86 \pm .67$ ) and 1-2 days a week ( $\bar{x} = 3.55 \pm .59$ ). A statistically significant difference was found between the groups in terms of tolerance development and passion sub-dimensions ( $F_{(4-167)} = 7.092$ ;  $p = .000$ ;  $p < .01$ ). According to the source of differences between groups, there was a significant difference between 1-2, 3-4 and 5-6 days a week. According to this result, the tolerance development and passion levels of those who exercised 5-6 days a week ( $\bar{x} = 3.35 \pm .69$ ) were determined to be higher than of those who did 3-4 days ( $\bar{x} = 3.18 \pm .77$ ) and 1-2 days a week ( $\bar{x} = 2.73 \pm .81$ ).

As seen in Table 10, no statistically significant difference was found between the groups in the general scores of the social appearance anxiety scale according to the daily exercise duration group of the participants ( $p > .05$ ). A statistically significant difference was found between the excessive focusing sub-dimension scores

**Table 4.** Analysis of the differences of participants' social appearance anxiety and exercise addiction scores by gender variable.

Variables	Gender	n	$\bar{x}$	sd	df	t	p
Social appearance anxiety general	Male	105	1.95	.67	168	2.64	<b>.009*</b>
	Female	65	1.68	.59			
Excessive focus and mood swings	Male	105	3.77	.60	168	0.14	.885
	Female	65	3.76	.68			
Postponement of individual-social needs and conflict	Male	105	1.79	.78	168	1.98	<b>.048*</b>
	Female	65	1.56	.61			
Tolerance development and passion	Male	105	3.09	.76	168	1.62	.107
	Female	65	2.88	.92			

\*P &lt; 0.05; n = 170.

**Table 5.** Analysis of the differences of participants' social appearance anxiety and development of tolerance and exercise addiction scores by marital status variable.

Variables	Marital status	n	$\bar{x}$	sd	df	t	p
Social appearance anxiety general	Married	44	1.70	.60	168	-1.74	.083
	Single	126	1.90	.66			
Excessive focus and mood swings	Married	44	3.83	.72	168	.81	.418
	Single	126	3.74	.60			
Postponing individual-social needs and conflict	Married	44	1.55	.63	168	-1.55	.123
	Single	126	1.75	.75			
Tolerance development and passion	Married	44	2.76	1.01	168	-2.40	<b>.017*</b>
	Single	126	3.10	.74			

\*p &lt; 0.05; n = 170.

**Table 6.** Analysis of the differences of participants' social appearance anxiety and exercise addiction scores by age variable.

Variables	Age group	n	$\bar{x}$	sd	df	F	P	Scheffe
Social appearance anxiety general	25 years and below	98	1.87	.65	167	0.27	.761	
	26-35	46	1.79	.67				
	36-45	26	1.86	.67				
Excessive focus and mood swings	25 years and below	98	3.75	.57	167	0.09	.912	
	26-35	46	3.80	.64				
	36-45	26	3.76	.85				
Postponement of individual-social needs and conflict	25 years and below	98	1.73	.72	167	0.48	.618	
	26-35	46	1.61	.72				
	36-45	26	1.74	.77				
Tolerance development and passion	25 years and below	98	3.20	.70	167	8.23	<b>.000**</b>	1 > 2
	26-35	46	2.62	.92				
	36-45	26	3.00	.90				

\*\*p &lt; .01; 1 = 25 years and below; 2 = 26-35 years; 3 = 36-45 years; n = 170.

**Table 7.** Analysis of the differences of participants' social appearance anxiety and exercise addiction scores by educational status variable.

Variables	Educational status	n	$\bar{x}$	sd	df	F	P	Scheffe
Social appearance anxiety total	High School	25	1.81	.57	2 167	0.305	.738	
	Undergraduate	131	1.87	.67				
	Graduate	14	1.73	.66				
Excessive focus and mood swings	High School	25	3.87	.50	2 167	3.584	<b>.030*</b>	2<3
	Undergraduate	131	3.71	.65				
	Graduate	14	4.15	.60				
Postponement of individual-social needs and conflict	High School	25	1.60	.62	2 167	.525	.593	
	Undergraduate	131	1.73	.74				
	Graduate	14	1.58	.73				
Tolerance development and passion	High School	25	3.10	.85	2 167	1.222	.297	
	Undergraduate	131	2.96	.81				
	Graduate	14	3.30	.98				

\*  $p < 0.05$ ; 1 = High school; 2 = Undergraduate; 3 = Graduate;  $n = 170$ .

**Table 8.** Analysis of the differences of participants' social appearance anxiety and exercise addiction scores by years of exercise variable.

Variables	Years of exercise	n	$\bar{x}$	SD	df	F	p	Scheffe
Social appearance anxiety general	1-2 years	61	1.97	.68	4 165	2.23	.067	
	3-4 years	46	1.88	.65				
	5-6 years	19	1.58	.36				
	7-8 years	16	1.56	.44				
	9 years	28	1.87	.79				
Excessive focus and mood swings	1-2 years	61	3.61	.53	4 165	2.34	.057	
	3-4 years	46	3.77	.66				
	5-6 years	19	3.79	.56				
	7-8 years	16	4.04	.45				
	9 years	28	3.94	.83				
Postponement of individual-social needs and conflict	1-2 years	61	1.88	.74	4 165	3.45	<b>.010*</b>	<b>1&gt;3</b>
	3-4 years	46	1.65	.72				
	5-6 years	19	1.27	.38				
	7-8 years	16	1.45	.51				
	9 years	28	1.82	.85				
Tolerance development and passion	1-2 years	170	3.01	.83	4 165	1.73	.144	
	3-4 years	46	3.22	.45				
	5-6 years	19	3.16	.60				
	7-8 years	16	3.29	.45				
	9 years	28	3.38	.56				

\*  $p < 0.05$ ; 1 = 1-2 years; 2 = 3-4 years; 3 = 5-6 years; 4 = 9 years and over.

and daily exercise duration ( $F_{(4-165)} = 4.715$ ;  $p = .001$ ,  $p < .01$ ). When the difference between groups is examined, there is a significant difference between those who

exercised for 30 min or less and those who exercised for 60-90 min and 90-120 min. According to this result, excessive focus and mood swings levels of those who

**Table 9.** Analysis of the differences of participants' social appearance anxiety and exercise addiction scores by frequency of exercise variable.

Variables	Weekly exercise frequency	n	$\bar{x}$	sd	df	F	P	Scheffe
Social appearance anxiety total	1-2 days	66	1.89	.67	3 166	2.551	.057	
	3-4 days	71	1.77	.64				
	5-6 days	29	1.82	.55				
	7 days	4	2.67	.96				
Excessive focus and mood swings	1-2 days	66	3.55	.59	3 166	5.856	.001**	1 < 2 1 < 3
	3-4 days	71	3.86	.67				
	5-6 days	29	4.07	.46				
	7 days	4	3.61	.50				
Postponement of individual-social needs and conflict	1-2 days	66	1.69	.69	3 166	2.177	.093	
	3-4 days	71	1.64	.72				
	5-6 days	29	1.73	.71				
	7 days	4	2.58	1.05				
Tolerance development and passion	1-2 days	66	2.73	.81	3 166	7.092	.000**	1 < 2 1 < 3
	3-4 days	71	3.18	.77				
	5-6 days	29	3.35	.69				
	7 days	4	2.19	1.28				

\*\* p < 0.01; 1 = 1-2 days; 2 = 3-4 days; 3 = 5-6 days; 4 = 7 days.

**Table 10.** Analysis of the differences of participants' social appearance anxiety and exercise addiction scores by duration of daily exercise variable.

Variables	Duration of daily exercise	n	$\bar{x}$	sd	df	F	P	Scheffe
Social appearance anxiety total	30	39	2.00	.76	4 165	.893	.469	
	30-60	67	1.77	.60				
	60-90	41	1.88	.59				
	90-120	18	1.75	.72				
	120	5	1.76	.83				
Excessive focus and mood swings	30	39	3.42	.62	4 165	4.715	.001*	1<3 1<4
	30-60	67	3.79	.55				
	60-90	41	3.94	.66				
	90-120	18	3.97	.61				
	120	5	3.97	.72				
Postponement of individual-social needs and conflict	30	39	1.85	.80	4 165	1.185	.319	-
	30-60	67	1.59	.64				
	60-90	41	1.78	.73				
	90-120	18	1.55	.72				
	120	5	1.83	1.09				
Tolerance development and passion	30	39	2.57	.85	4 165	4.932	.001*	1<3 1<4
	30-60	67	3.01	.81				
	60-90	41	3.23	.67				
	90-120	18	3.40	.88				
	120	5	3.20	.48				

\*\* p < .01; 1 = 30 min. and less; 2 = 30-60 min.; 3 = 60-90 min.; 4 = 90-120 min.; 5 = 120 min. and over.

exercised for 90-120 minutes daily ( $\bar{x} = 3.97 \pm .61$ ) were determined to be higher than those of who exercised for 60-90 min ( $\bar{x} = 3.92 \pm .66$ ), and 30 min or less ( $\bar{x} = 3.42 \pm .62$ ). A statistically significant difference was found between the development of tolerance and passion sub-dimension and daily exercise duration ( $F_{(4-165)} = 7.092$ ;  $p = .000$ ;  $p < .01$ ). When the difference between groups is examined, there is a significant difference between those who exercised for 30 min or less and those who exercised for 60-90 min and 90-120 min. According to this result, the tolerance development and passion levels of those who exercised between 90-120 min a day ( $\bar{x} = 3.40 \pm .88$ ) were determined to be higher than those of who exercised for 60-90 min ( $\bar{x} = 3.23 \pm .67$ ) and 30 min or less ( $\bar{x} = 2.57 \pm .85$ ).

## DISCUSSION

This study, which was carried out with the correlational screening method, one of the quantitative research designs, was conducted to determine the exercise addiction levels of healthy adults who regularly received sports services at least 2 days a week by variables such as exercise duration, frequency and age. In this context, a total of 170 people, 105 males and 65 females, who received sports services in Antalya, Hatay and Malatya provinces, voluntarily participated in the study.

As a result of the analyses conducted in our study, a significant difference was found in the "Postponing individual-social needs and conflict", "Excessive focus and mood swings" and "Development of tolerance and passion" sub-dimensions of the scale of exercise addiction. "Excessive focus and mood swings" and "Tolerance development and passion" sub-dimensions are important symptoms of exercise addiction, in which mostly individuals constantly increase the duration, intensity and frequency of exercise, do not spare time for their family, friends and social life to exercise, plan their life within the framework of exercise. Regarding "postponement of individual-social needs and conflict" sub-dimension, on the other hand, Maslow's theory expresses that in a certain hierarchy, starting from the most basic needs, one cannot move to the next level without meeting a lower level need and that people should act within this hierarchy in order to achieve their life satisfaction and to realize themselves (Kula and Bekir, 2015).

In the initial finding of our study, it was found that the general exercise addiction and social appearance anxiety levels of the participants were low. In many studies conducted in the field of health and exercise psychology, it was found that individuals who did regular physical activity received positive physical and psychological feedback (Dishman and Jackson, 2000). In the study of Mülazimoğlu-Balli et al. (2010), it was determined that competition athletes and exercisers had lower levels of

anxiety. As a result of the research on the personnel working in a public institution providing sports related services, conducted by Yazıcı et al. (2016), it was determined that the social appearance anxiety levels of the personnel who exercised were lower than the personnel who did not exercise. It can be said that the results of the studies conducted in this direction are in line with the results of our research. In addition, in another field study conducted in Hungary on an age group between 18-64 years, the risk of exercise addiction was found to be 0.3 to 0.5% (Mónok et al., 2012). Unlike our study, Carron et al. (2003) determined that approximately 9% of those who exercised regularly had exercise addiction. It was concluded that approximately 50% of people who exercised regularly experienced symptoms similar to exercise addiction and subsequently became exercise addicted (Jee, 2016). Gün and Agirbas (2019), in their study on the students of the School of Physical Education and Sports, determined that the physical activity levels of exercise addicts and prospective addicts were higher than those who were not addicted. It was determined that 9.2% of the participants in the study conducted by Ağırbaş et al. (2019) on high school students, 8.3% of the participants in the study of İnce (2011) on individuals playing wheelchair basketball, 10.2% of the participants in the study conducted by Bavlı et al. (2015) on dancers, 1.6% of the participants in Uz's study (2015) on individuals regularly attending fitness centers were exercise addicts. Cicioğlu et al. (2019), in their research on elite athletes and students of faculty of sports sciences, determined that the average scores of exercise addiction of elite athletes were significantly higher than the average scores of the students of faculty of sports sciences. Accordingly, it was concluded that the elite athletes were in the "addicted group", and the sports sciences faculty students were in the "low risk group". Demirel and Cicioğlu (2020), in their research on elite athletes, determined that elite athletes were in the "addicted" group. It can be said that the reason for this was that elite athletes exercised regularly and incrementally, and these exercises over time turned into an addiction (Cicioğlu et al., 2019).

In the study, a significant difference was found in the level of social appearance anxiety and exercise addiction according to the gender of the participants. Accordingly, social appearance anxiety of males was found to be higher than females. It was determined that males had a higher level than females in the "postponing individual-social needs and conflict" sub-dimension of Exercise Dependence Scale. Accordingly, it can be said that males tend to postpone basic needs such as eating and drinking in order to participate in exercise, as well as postponing their social needs more than females, they cannot resist participating in longer exercises each time, and they are more and more impatient to exercise (Tekkurşun Demir and Türkeli, 2019). Also, in the study in which Tekkurşun Demir and Türkeli (2019) examined exercise addiction



levels of sports science faculty students, it was determined that males were at a higher level than females in the "postponement of individual-social needs and conflict" sub-dimension. Cicioğlu et al. (2019), in their study examining the exercise addiction levels of elite athletes and sports science faculty students, found that the exercise addiction levels of males were statistically significantly higher than female athletes. Accordingly, it can be said that the study also supports our research findings. The increase in self-esteem and masculinity in the individual as a result of the increase in muscle mass and strength can be given as an example that getting better physically affects psychological development positively (Tekin, 2009). In athletic males and females, the ideal female figure is perceived as lean and slim, and the ideal male figure as muscular and built. With this perception, groups doing sports in the society, especially young women and men who seek high social status, may lean to practices of body building, yoga, etc. in terms of exercise type (Cicioğlu et al., 2019). Unlike the research findings, there are studies in the literature that did not find a significant difference in exercise addiction (Bavlı et al., 2015; Bingöl, 2015; Cicioğlu et al., 2019; Vardar, 2012; Yeltepe, 2005; Yıldırım et al., 2017) and social appearance anxiety levels (Çepikkurt and Coşkun, 2010; Çetinkaya et al., 2019; Göksel et al., 2018; Koparan et al., 2010; Şimşir et al., 2019; Telli and Ünal, 2016) according to gender.

Examining the participants by age and marital status, a significant difference was found only in the "Tolerance development and passion" sub-dimension of the exercise addiction scale. According to marital status, participants who were single were found to be at a higher level than those who were married. This can be explained by the fact that single individuals who receive sports services have more time to spare for themselves than married individuals. According to the age status, it was found that the mean score of the participants aged 25 and under was significantly higher than the participants between the ages of 26-36. In our study, it is noteworthy that there was a large number of young people at the age of participation of individuals who regularly benefited from sports services. Features of awareness, aesthetics, social status, socialization, self-confidence and self-respect, etc. can be counted among the main reasons for the high rate of attendance of young people in sports centers (Polat and Şimşek, 2015). When the studies are examined, it is stated that as the age increases, exercise addiction decreases and a more balanced and healthy lifestyle is developed (Sussman et al., 2014; Szabo, 1995; Weik and Hale, 2009).

Examining the participants according to their education levels, a statistically significant difference was found in the "excessive focus and mood swings" sub-dimension. Accordingly, the means of those with graduate degree were found to be significantly higher than those with undergraduate degree. It is known that as the education

level of individuals increases, their self-efficacy, life satisfaction and life expectancy change, and exercise participation rate increases depending on the awareness about exercise (Oral and Aktop, 2014). There was no statistically significant difference found between the groups in the general scores of the social appearance anxiety scale of the participants. There is no study in the literature that examined social appearance anxiety according to doing regular exercise.

According to the findings of those who exercised regularly, the "postponing individual-social needs and conflict" scores of "those who had been exercising regularly for 1-2 years" were found to be significantly higher than "those who had been exercising regularly for 5-6 years" in the research. İlbak and Altun (2020), in their study examining the exercise addiction levels of non-sedentary individuals, found that those who exercised regularly for 1-3 years had lower exercise addiction than those who exercised for 4-6 years, 7-9 years and over 10 years. Accordingly, it can be said that this study also supports our research findings. However, when we examine the studies conducted, there are also studies that indicate that the addiction levels of those with more years of exercise participation are higher than expected (Kagan, 1987). In addition, it was determined that exercise addiction levels of the individuals who exercised regularly was (56.1%) (Cicioğlu et al., 2019). Namlı et al. (2018), in their study on kickboxers, taekwondo and muaytai athletes studying at the Faculty of Sport Sciences, determined that regular exercise was effective on exercise addiction. It was not determined that the social appearance anxiety level of the participants did not differ significantly according to the regular exercise. There is no study in the literature that examines social appearance anxiety according to doing regular exercise.

It was found that the "weekly exercise frequency" and "daily exercise duration" findings of the study significantly differed in the "excessive focus and mood swings" and "tolerance development and passion" sub-dimensions of the participants. Tolerance and excessive focus are important symptoms of exercise addiction, in which mostly individuals increase the duration, intensity and frequency of exercise, do not spare time for their family, friends and social life to exercise, and plan their life within the framework of exercise. Accordingly, it was found that individuals with "weekly exercise frequency" with "1-2 days" were significantly lower than those with "3-4 days and 5-6 days". According to this, it was found that individuals with "30 min or less" "daily exercise duration" were significantly lower than those who exercised 60-90 min and 90-120 min daily. Among the most important features of exercise addiction, the number of days in the week devoted to exercise and the high exercise age were determined (Bavlı et al., 2011; Yeltepe and İkizler, 2007). When the studies in this field were examined, it was determined that the years of exercise participation and high frequency of exercise were closely related to

exercise addiction (Costa et al., 2012; Hausenblas and Downs, 2002). Therefore, the fact that individuals who were found to be exercise addicts in our study were among those who exercised at high frequency for a long time is in line with the studies mentioned. It was found that the social appearance anxiety levels of the participants did not differ significantly according to the "weekly exercise frequency" and "daily exercise duration." In the literature, there were no studies found examining social appearance anxiety according to weekly exercise frequency and daily exercise duration.

## CONCLUSIONS

As a result of this study, examining the social appearance anxiety and exercise addiction levels of individuals who regularly receive sports services at least 2 days a week, it was determined that general exercise addiction and social appearance anxiety levels were low. In this context, it can be said that individuals' exercise addiction and social appearance anxiety levels were low. Therefore, it can be said that the physical and mental benefits individuals got from sports activities enabled them to be more at peace with themselves, as the participants who received sports services made their exercise a habit to protect their health in daily life. The data used in this study are limited to healthy adults who regularly received sports services. Therefore, more research is needed to determine whether the results obtained are general and consistent in different samples.

## REFERENCES

- Adams, J., and Kirkby, R. J. (2002). Excessive exercise as an addiction: A review. *Addiction Research and Theory*, 10(5): 415–437. <https://doi.org/10.1080/1606635021000032366>
- Ağırbaş, Ö., Koç, Y., Ağgön, E., Gün, A., Tatlısu, B., and Çakmak Yıldızhan, Y. (2019). Lise öğrencilerinin egzersiz bağımlılık durumlarına göre fiziksel aktivite düzeylerinin incelenmesi (Erzincan örneği). *Atatürk Üniversitesi Beden Eğitimi ve Spor Bilimleri Dergisi*, 21(2).
- Alemdağ, S., and Öncü, E. (2015). The investigation of participation physical activity and social appearance anxiety at the preservice teachers. *International Journal of Science Culture and Sport*, 3(3): 287–300. <https://doi.org/10.14486/IJSCS>
- Bavlı, Ö., Işık, S., Canpolat, O., Aksoy, A., Günar, B. B., Gültekin, K., Katra, H., Uzun, M., and Ödemiş, M. (2015). Dansçılarda egzersiz bağımlılığı semptomunun incelenmesi. *Uluslararası Spor Egzersiz ve Antrenman Bilimi Dergisi*, 1(2): 120–124.
- Bavlı, Ö., Kozanoğlu, M. E., and Doğanay, A. (2011). Düzenli egzersize katılımın egzersiz bağımlılığı üzerine etkisi. *Selçuk Üniversitesi Beden Eğitimi ve Spor Bilim Dergisi*, 13(2): 150–153.
- Berczik, K., Griffiths, M. D., Szabó, A., Kurimay, T., Urban, R., and Demetrovics, Z. (2014). Exercise addiction. In *Behavioral Addictions* (pp. 317–342). Elsevier.
- Berczik, K., Szabó, A., Griffiths, M. D., Kurimay, T., Kun, B., Urbán, R., and Demetrovics, Z. (2012). Exercise addiction: Symptoms, diagnosis, epidemiology, and etiology. *Substance Use and Misuse*, 47(4): 403–417. <https://doi.org/10.3109/10826084.2011.639120>
- Bingöl, E. (2015). Farklı branşlardaki sporcuların egzersiz bağımlılık ve psikolojik sağlamlık düzeylerinin incelenmesi. Yüksek Lisans Tezi, Muğla Sıtkı Koçman Üniversitesi, Sağlık Bilimleri Enstitüsü, Muğla.
- Büyüköztürk, Ş. (2002). Sosyal bilimler için veri ve analizi el kitabı: istatistik, araştırma deseni, SPSS uygulamaları ve yorum. Pegem A Yayıncılık.
- Carron, A. V., Hausenblas, H. A., and Estabrooks, P. A. (2003). *The psychology of physical activity* (Vol. 1). McGraw-Hill Companies.
- Çepikkurt, F., and Coşkun, F. (2010). Üniversiteli dansçıların sosyal fizik kaygı ve beden imgesinden hoşnut olma düzeyleri. *Pamukkale Spor Bilimleri Dergisi*, 1(2): 17–24.
- Çetinkaya, B., Gülaçtı, F., and Çiftçi, Z. (2019). Lise öğrencilerinin sosyal görünüş kaygı düzeylerinin bazı değişkenlere göre incelenmesi. *OPUS Uluslararası Toplum Araştırmaları Dergisi*, 10(17): 904–922. <https://doi.org/10.26466/opus.523444>
- Cicioğlu, H. İ., Demir, G. T., Bulğay, C., and Çetin, E. (2019). Elit düzeyde sporcular ile spor bilimleri fakültesi öğrencilerinin egzersiz bağımlılığı düzeyleri. *Journal of Dependence*, 20(1): 12–20.
- Claes, L., Hart, T. A., Smits, D., Van Den Eynde, F., Mueller, A., and Mitchell, J. E. (2012). Validation of the Social Appearance Anxiety Scale in female eating disorder patients. *European Eating Disorders Review*, 20(5): 406–409. <https://doi.org/10.1002/erv.1147>
- Costa, S., Cuzzocrea, F., Hausenblas, H. A., Larcana, R., and Oliva, P. (2012). Psychometric examination and factorial validity of the Exercise Dependence Scale-Revised in Italian exercisers. *Journal of Behavioral Addictions*, 1(4): 186–190.
- Davis, C., and Fox, J. (1993). Excessive exercise and weight preoccupation in women. *Addictive Behaviors*, 18(2): 201–211.
- Demirel, H. G., and Cicioğlu, H. İ. (2020). Üst düzey sporcuların egzersiz bağımlılık düzeylerinin incelenmesi. *Gaziantep Üniversitesi Spor Bilimleri Dergisi*, 5(3): 242–254. <https://doi.org/10.31680/gaunjs.737158>
- Dishman, R. K., and Jackson, E. M. (2000). Exercise, fitness, and stress. *International Journal of Sport Psychology*, 31(2): 175–203.
- Doğan, T. (2010). Adaptation of the social appearance anxiety scale (SAAS) to Turkish: A validity and reliability study. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 39(39): 151–159.
- Eksi, H., Arican, T., and Yaman, K. G. (2016). Meslek lisesi öğrencilerinin riskli davranışlarının yordayıcısı olarak sosyal görünüş kaygısı ve mükemmeliyetçilik. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 17(2): 527–545.
- Ermış, E., and İmamoğlu, G. (2019). The effects of sport education and fine arts education on social appearance anxiety. *Journal of Education and Training Studies*, 7(6): 1–6. <https://doi.org/10.11114/jets.v7i6.4147>
- Göksel, A. G., Caz, Ç., Yazıcı, Ö. F., and Zorba, E. (2018). Spor hizmeti alan bireylerin sosyal görünüş kaygısı ve öznel mutluluklarının incelenmesi. *Gaziantep Üniversitesi Spor Bilimleri Dergisi*, 3(3), 88–101. <https://doi.org/10.31680/gaunjs.434184>
- Griffiths, M. (1997). Exercise addiction: A case study. *Addiction Research and Theory*, 5(2): 161–168. <https://doi.org/10.3109/16066359709005257>
- Gün, A., and Ağırbaş, O. (2019). The relationship between exercise addiction, physical activity level and body mass index of the students who are studying at physical education and sports college. *Asian Journal of Education and Training*, 5(1), 50–55. <https://doi.org/10.20448/journal.522.2019.51.50.55>
- Hagger, M. S., and Stevenson, A. (2010). Social physique anxiety and physical self-esteem: Gender and age effects. *Psychology and Health*, 25(1): 89–110.
- Hart, T. A., Flora, D. B., Palyo, S. A., Fresco, D. M., Holle, C., and Heimberg, R. G. (2008). Development and examination of the social appearance anxiety scale. *Assessment*, 15(1): 48–59. <https://doi.org/10.1177/1073191107306673>
- Hausenblas, H. A., and Downs, D. S. (2002). Exercise dependence: A systematic review. *Psychology of Sport and Exercise*, 3(2): 89–123.
- İlbak, İ., and Altun, M. (2020). Sedaner olmayan bireylerin egzersiz bağımlılığı düzeylerinin incelenmesi. *Çanakkale Ondokuzmayıs*, 3(1): 11–19.
- İnce, G. (2011). Tekerlekli sandalye basketbolu oynayan bedensel engelli bireylerin egzersiz bağımlılığı durumlarının incelenmesi. *Selçuk Üniversitesi Beden Eğitimi ve Spor Bilim Dergisi*, 13: 233–239.
- Jee, Y. S. (2016). Exercise addiction and rehabilitation. *Journal of Exercise Rehabilitation*, 12(2): 67.
- Kagan, D. M. (1987). Addictive personality factors. *The Journal of*

- Psychology, 121(6): 533–538.
- Karasar, N. (2009).** Bilimsel araştırma yöntemi (19. bs). In Ankara: Nobel yayın dağıtım.
- Koparan, Ş., Öztürk, F., and Korkmaz, N. H. (2010).** Beden eğitimi öğretmenlerinin öz-yeterlik algısı ve sosyal fizik kaygı düzeylerinin bazı değişkenler açısından incelenmesi. *E-Journal of New World Sciences Academy*, 5(4): 286–293.
- Korkmaz, M., and Uslu, T. (2020).** Fitness yapan bireylerin benlik saygısı, sosyal görünüş kaygısı ve sosyalleşme düzeyleri arasındaki ilişkilerin incelenmesi. *Spor Eğitim Dergisi*, 4(3): 1–18.
- Kula, S., and Bekir, C. (2015).** Maslow ihtiyaçlar hiyerarşisi bağlamında toplumda bireylerin güvenlik algısı ve yaşam doyumu arasındaki ilişki. *Bartın Üniversitesi İ.İ.B.F. Dergisi*, 6(12): 191–210.
- Landolfi, E. (2013).** Exercise addiction. *Sports Medicine*, 43(2): 111–119.
- Levinson, C. A., and Rodebaugh, T. L. (2011).** Validation of the Social Appearance Anxiety Scale: Factor, convergent, and divergent validity. *Assessment*, 18(3): 350–356.
- Lichtenstein, M. B., and Hinze, C. J. (2020).** Exercise addiction. In *Adolescent Addiction* (pp. 265–288). Elsevier.
- Lima, D. F., Silva, M P. Mazzardo, O. Jr., Lima, L. A., Sampaio, A. A., and Luiz, O. C. (2017).** Association of physical activity in leisure-time with alcohol consumption in adults. *Revista Brasileira de Atividade Física & Saúde*, 22(6): 573-86.
- Mónok, K., Berczik, K., Urbán, R., Szabo, A., Griffiths, M. D., Farkas, J., Maçi, A., Eisinger, A., Kurimay, T., and Kökönyei, G. (2012).** Psychometric properties and concurrent validity of two exercise addiction measures: A population wide study. *Psychology of Sport and Exercise*, 13(6): 739–746.
- Mülazimoğlu-Balli, Ö., Koca, C., and Aşçi, F. (2010).** An examination of social physique anxiety with regard to sex and level of sport involvement. *Journal of Human Kinetics*, 26(1): 115–122.
- Namli, S., Demir Tekkurşun, G., and Cicioğlu, H. İ. (2018).** Spor bilimleri fakültesi öğrencilerinin akademik odaklanma düzeyleri. *Atatürk Üniversitesi Beden Eğitimi ve Spor Bilimleri Dergisi*, 20(4).
- Oral, C., and Aktop, A. (2014).** Üniversite öğrencilerinin egzersiz özyeterlik düzeyleri ve egzersiz davranış değişim basamaklarının incelenmesi. *International Journal of Science Culture and Sport. Special Issue 2*, pp. 287-300.
- Polat, C., and Şimşek, K. Y. (2015).** Spor merkezlerindeki bireylerin egzersiz bağımlılığı düzeylerinin incelenmesi: Eskişehir ili örneği. *Akademik Sosyal Araştırmalar Dergisi*, 3(15): 354–369.
- Reilly, E. E., Gordis, E. B., Boswell, J. F., Donahue, J. M., Emhoff, S. M., and Anderson, D. A. (2018).** Evaluating the role of repetitive negative thinking in the maintenance of social appearance anxiety: An experimental manipulation. *Behaviour Research and Therapy*, 102: 36–41.
- Rethorst, C. D., Wipfli, B. M., and Landers, D. M. (2009).** The antidepressive effects of exercise. *Sports Medicine*, 39(6): 491–511.
- Senger, K. (2017).** Beden eğitimi ve spor yüksekokulu öğrencilerinin sosyal görünüş kaygı düzeylerinin incelenmesi. *TURAN-SAM*, 9(36): 751–756.
- Şimşir, Z., Seki, T., and Dilmaç, B. (2019).** Sosyal görünüş kaygısında cinsiyet farklılıkları: Bir meta analiz çalışması. *OPUS Uluslararası Toplum Araştırmaları Dergisi*, 10(17): 615–637.
- Sussman, S., Arpawong, T. E., Sun, P., Tsai, J., Rohrbach, L. A., and Spruijt-Metz, D. (2014).** Prevalence and co-occurrence of addictive behaviors among former alternative high school youth. *Journal of Behavioral Addictions*, 3(1): 33–40. <https://doi.org/10.1556/JBA.3.2014.005>
- Szabo, A. (1995).** The impact of exercise deprivation on well-being of habitual exercisers. *Australian Journal of Science and Medicine in Sport*, 27: 68–77.
- Szabo, A., and Griffiths, M. D. (2007).** Exercise addiction in British sport science students. *International Journal of Mental Health and Addiction*, 5(1): 25–28. <https://doi.org/10.1007/s11469-006-9050-8>
- Tekin, A. (2009).** Rekreasyon. *Ata Ofset Matbaacılık*, Ankara.
- Tekkurşun Demir, G., and Türkeli, A. (2019).** Spor bilimleri fakültesi öğrencilerinin egzersiz bağımlılığı ve zihinsel dayanıklılık düzeylerinin incelenmesi. *Spor Bilimleri Araştırmaları Dergisi*, 4(1): 10–24. <https://doi.org/10.25307/jssr.505941>
- Tekkurşun Demir, G., Hazar, Z., and Cicioğlu, H. İ. (2018).** Exercise Addiction Scale (EAS): A Study of Validity and Reliability. *Kastamonu Eğitim Dergisi*, 26(3): 1–10. <https://doi.org/10.24106/kefdergi.413383>
- Telli, E., and Ünal, Z. (2016).** Üniversite öğrencilerinin sosyo-demografik özelliklerine göre sosyal görünüş kaygısı: Bir alan araştırması. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 8(15): 134–146.
- Uz, İ. (2015).** Fitness merkezlerine düzenli katılan bireylerde egzersiz bağımlılığının incelenmesi. Yüksek Lisans Tezi, Çanakkale Onsekiz Mart Üniversitesi Sağlık Bilimleri Enstitüsü, Beden Eğitimi ve Spor Öğretmenliği Anabilim Dalı, Çanakkale.
- Vardar, E. (2012).** Egzersiz Bağımlılığı. *Arşiv Kaynak Tarama Dergisi*, 21(3): 163–173. <https://dergipark.org.tr/en/pub/aktd/issue/2211/29393>
- Weik, M., and Hale, B. D. (2009).** Contrasting gender differences on two measures of exercise dependence. *British Journal of Sports Medicine*, 43(3): 204–207. <https://doi.org/10.1136/bjism.2007.045138>
- Yazıcı, Ö. F., Caz, Ç., and Tunçol, H. M. (2016).** Gençlik hizmetleri ve spor il müdürlüğünde görev yapan personelin sosyal görünüş kaygısı. *International Journal of Sports Exercise and Training Science*, 2(2): 60–65. <https://doi.org/10.18826/ijsets.46190>
- Yeltepe, H. (2005).** Egzersiz bağımlılığının tanımlanması ve egzersiz bağımlılığı ölçeği-21'in geçerlilik ve güvenilirlik çalışmasının yapılması. Yüksek Lisans Tezi, Sağlık Bilimleri Enstitüsü, Marmara Üniversitesi, İstanbul.
- Yeltepe, H., and İkizler, H. C. (2007).** Validation and reliability study of exercise dependence scale-21 in Turkish. *Journal of Dependence*, 8: 29–35.
- Yıldırım, İ., Yıldırım, Y., Ersöz, Y., Işık, Ö., Saraçlı, S., Karagöz, Ş., and Yağmur, R. (2017).** Egzersiz bağımlılığı, yeme tutum ve davranışları ilişkisi. *CBÜ Beden Eğitimi ve Spor Bilimleri Dergisi*, 12(1): 43-54.
- Yousefi, B., Hassani, Z., and Shokri, O. (2009).** Reliability and factor validity of the 7-item of social physique anxiety scale (SPAS-7) among university students in Iran. *World Journal of Sport Sciences*, 2(3): 201–204.
- Yuceant, M., and Unlu, H. (2017).** The analysis of social appearance anxiety levels of physical education teacher candidates in terms of different variables. *Turkish Journal of Sport and Exercise*, 19(1): 102–108.

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