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Investigation of the Effect of Exercise Addiction Levels of Physical Education and Sports School Students on Problem Solving Skills: Kilis Province Example

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Abstract

This study was conducted to examine the effect of exercise addiction levels on problem solving skills of students studying at the School of Physical Education and Sports, and to examine whether exercise addiction and problem solving skills differ depending on gender, department of study, licensed athlete status and weekly exercise frequency. The population of the study consists of Kilis 7 December University students. Among quantitative research methods and techniques, descriptive survey model was used on the basis of voluntary participation. The sample of the study consists of 90 female and 54 male students studying at Kilis 7 December University School of Physical Education and Sports. Personal information form, Exercise Addiction Scale developed by Tekkurşun, Demir et al. (2018) and Problem Solving Skill Scale developed by Causey and Dubow (1992) and adapted into Turkish by Oğuz et al. (2015) were applied as data collection tools. The data obtained as a result of the research were analyzed using SPSS 25.0 program. Frequency analysis was used to determine the percentage distribution of personal information. Independent Samples T test was used to analyze the scale scores and One Way ANOVA analysis was used to compare the scale scores according to demographic variables with more than two categories, and the significance level was determined as $p<0.05$ in the analyzes used. As a result of the research; the relationship between exercise addiction and problem solving skills of students studying in physical education and sports college was statistically significant in a positive direction. It may be recommended to conduct this research with different age groups and sedentary students and to examine different dimensions. Physical education and sports colleges should include more research-examination and problem-solving methods in their teaching strategies. In order to make a general judgment, it may be recommended to conduct more comprehensive research.

Keywords: Student, Exercise Addiction, Problem Solving Skills

Beden Eğitimi ve Spor Yüksekokulu Öğrencilerinin Egzersiz Bağımlılık Düzeylerinin Problem Çözme Becerilerine olan Etkisinin İncelenmesi: Kilis İli Örneği

Özet

Bu araştırma, Beden Eğitimi ve Spor Yüksekokulunda öğrenim görmekte olan öğrencilerin egzersiz bağımlılık düzeylerinin problem çözme becerilerine olan etkisini incelemek; egzersiz bağımlılığı ve problem çözme becerilerinin cinsiyet, öğrenim gördükleri bölüm, lisanslı sporcu olma durumu ve haftalık egzersiz sıklıklarına bağlı olarak farklılaşıp

farklılaşmadığını inceleme amacı ile yapılmış bir çalışmadır. Araştırmanın evrenini Kilis 7 Aralık Üniversitesi öğrencileri oluşturmaktadır. Nicel araştırma yöntem ve tekniklerinden gönüllülük esasına dayalı olarak betimsel tarama modeli kullanılmıştır. Araştırmanın örneklemini ise Kilis 7 Aralık Üniversitesi Beden Eğitimi ve Spor Yüksekokulunda okuyan 90 Kadın 54 Erkek öğrencileri oluşturmaktadır. Araştırmada veri toplama aracı olarak kişisel bilgi formu, Tekkurşun, Demir ve ark. (2018) tarafından geliştirilen Egzersiz Bağımlılık Ölçeği ve Causey ve Dubow (1992) tarafından geliştirilen ve Türkçeye uyarlaması Oğuz ve ark. (2015) tarafından yapılan Problem Çözme Beceri Ölçeği uygulanmıştır. Araştırma sonucunda elde edilen veriler SPSS 25.0 programı kullanılarak analiz edilmiştir. Kişisel bilgilerin yüzdelik dağılımının belirlenmesinde frekans analizinden faydalanılmıştır. Ölçek puanlarını analiz etmede ise Independent Samples T test kullanılmıştır ikiden fazla olan kategorili demografik değişkenlere göre ölçek puanlarının karşılaştırılmasında One Way ANOVA analizi yapılmıştır, kullanılan analizlerde anlamlılık düzeyi $p<0,05$ olarak belirlenmiştir. Araştırma sonucunda; Beden eğitimi ve spor yüksekokulunda okuyan öğrencilerin egzersiz bağımlılığı ile problem çözme becerileri arasındaki ilişki istatiksel olarak pozitif yönde anlamlı bulunmuştur. Bu araştırmanın farklı yaş grupları ve hareketsiz öğrencilerle yapılması ve farklı boyutlarının incelenmesi önerilebilir. Beden eğitimi ve spor yüksekokulları öğretim stratejilerinde daha fazla araştırma-inceleme ve problem çözme yöntemlerine yer vermelidir. Genel bir yargıya varabilmek için daha kapsamlı araştırmalar yapılması önerilebilir.

Anahtar Kelimeler: Öğrenci, Egzersiz Bağımlılığı, Problem Çözme Becerileri.

INTRODUCTION

In general, exercise can be defined as activities that are performed in a certain repetition within a plan in order to create an improvement in terms of physiological mobility and health (Ersoy 2004). Exercise is a continuous behavior that is prepared in a planned manner, depending on the individual's will, aiming to improve at least one of the physical fitness (Özer 2001). Addiction, which has negative consequences on the brain and movements, is the inability of people to continue their lives without the substance they use by losing the control to act consciously in any substance or behavior they take (Dinç 2017). It is also an observed fact that people who are interested in sports tend to face more problems (Barut, 2000). One of the important tasks of society is to support the development of generations with better physical and mental health. In society, people vary in terms of their attitudes, physical skills and behaviors as well as their physical appearance. Events, situations and the actions, emotions and thoughts that people exhibit are various elements that show their differences (Eren, 2000).

Educators have classified the stages of problem solving in different ways. When these classifications are examined in detail, it can be noticed that there are many common features. We can classify the stages of problem solving as follows (Tay, 2002);

A problem exists (naturally or artificially),

Defining the problem, determining its boundaries and conducting preliminary studies for solution,

Developing and testing solutions,

Reaching conclusions and making inferences about the results.

Although behaviors that are indicative of addiction have been limited to substance use such as drugs and alcohol for many years, it can be said that today its scope has expanded to include many behaviors such as exercise, gambling, sexuality, internet use (Demir et al., 2018). In addition to the sociological and psychological status of athletes, high levels of exercise adaptation can cause a decrease in physiological parameters and most importantly in competitive performance (Çetin et al., 2020). In line with other addictions defined today, exercise addiction is also recognized as a disorder due to the criteria in question (Vardar, 2012).

Movements that are planned to protect and improve physical health are defined as exercise (Yıldırım, 2017). Exercise addiction is defined as the desire to exercise in people's free time as a strong emotional state (Fox & Boutcher, 2004). The extinguishing of conscious movement, increasing the frequency, intensity and duration of exercise by neglecting the existing order of the individual in a regular way (Smith et al. 2010), perceiving the life that disrupts daily life, including family members, for exercise and adjusting the whole order according to exercise are very clear indicators of exercise addiction (Zmijewski and Howar 2000, Adams and Kirkby 2002). For all these reasons, exercise is stated to be the main element of a healthy life and it is said

that at least half an hour of physical activity should be provided daily (Pinro et al. 2005). While defining the negative aspects of exercise, one of the main topics is exercise addiction. Exercise addiction, which we can express as the "dark side" of exercise, has negative consequences on the health of individuals and has therefore recently become the subject of studies (Tekkurşun et al. 2019).

Moreover, exercise addiction can be analyzed in four ways: First, the person continues to exercise for the sole purpose of having fun and staying fit. Secondly: When the individual realizes that he/she feels good during exercise, the individual turns to exercise to get away from the problems in his/her life. Third: The individual now adjusts his/her lifestyle to exercise, which can lead to injuries and social problems. In the fourth case, the individual has become completely dependent and his/her life is shaped according to exercise and continues to exercise uncontrollably despite all the negative consequences of exercise (Szabo et al. 2015). Exercise has an important effect on reducing the problems and anxieties that individuals face in daily life. Therefore, it can be said that exercise provides physical and mental benefits to individuals (Demir & Türkeli, 2019). Exercise is of great importance in the development and maintenance of interest in sports and leaves permanent traces in people's lives (Turkay et al., 2019). Failure is inevitable unless regular and optimal levels of exercise are performed in a conscious and disciplined manner. The most striking point is to keep the level of exercise at an optimal level. Because excessively intense exercise can cause an athlete to fail as well as succeed (Çetin et al., 2020).

When we examine the literature, there are many studies on team cohesion. Since it was conducted to examine the team cohesion of hockey athletes, it constitutes the originality of our study and is of great importance in terms of leading the studies to be conducted on this subject.

METHOD

This study was conducted to examine the relationship between exercise addiction and problem solving skills of students studying at Kilis 7 Aralık University School of Physical Education and Sports. Among the research models, quantitative and descriptive screening model was applied; descriptive screening method aims to determine the existence of a relationship between two or more variables (Karasar, 2015).

The research sought answers to the following questions;

Is there a difference in exercise addiction and problem solving skills of the participants in terms of department variable?

Is there a difference in exercise addiction and problem solving skills of the participants in terms of gender?

Is there a difference in exercise addiction and problem solving skills of the participants in terms of being a licensed athlete?

Is there a difference in exercise addiction and problem solving skills of the participants in terms of weekly exercise frequency?

Population and Sample

The population of the study consists of students studying at Kilis 7 Aralık University School of Physical Education and Sports in the 2023-2024 academic year. The sample of the research consists of students of Physical Education and Sports Teaching Department and Coaching Education Department. The sample group of the research was determined by simple random method. G*power v3.1.9.7 package program was used to determine the number of samples in the study.

To determine the necessary sample size for the study, a power analysis was conducted with the following parameters: significance level (sig.level) = 0.05, Cohen's d effect size = 0.50, and power = 0.80 Among quantitative research methods and techniques, descriptive screening model was used on the basis of volunteerism. A total of 144 students, 90 female and 54 male, participated in the study.

Data Collection Tool

Personal Information Form: In the personal information form created by the researchers, there are questions about the participants' department, gender, weekly exercise frequency and sports participation status. This form is used to collect information about the independent variables of the study.

Exercise Addiction Scale: The scale developed by Tekkurşun Demir et al. (2018) to reveal the exercise addiction levels of the participants consisted of 17 items and 3 sub- dimensions. The scale sub-variables consist of "excessive focus and emotional change", "postponement of individual social needs and conflict", "tolerance development and passion". The Cronbach's Alpha value of the scale was found to be 0.88 by the researchers. In our research, Cronbach's Alpha value was 0.87. Items 1 to 7 of the scale represent the focus and emotion change sub-dimensions, items 8 to 13 of the scale represent the postponement of individual-social needs and conflict sub-dimension, items 13 and 17 of the scale represent the development of tolerance and passion sub-dimension is created.

Problem solving skills scale: The Cronbach's Alpha value of the Problem Solving Skills Scale developed by Causey and Dubow (1992) was found to be 0.84. The scale consists of two sub-dimensions: avoidance and approach. Items 3, 6, 9, 12, 15 and 18 belong to the avoidance sub-dimension. Items 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 14, 16, 17, 19, 20, 21, 22 belong to the approach sub-dimension. In the Turkish adaptation of the scale adapted into Turkish by Oğuz et al. Cronbach's Alpha value was found to be 0.86. In our study, the Cronbach's Alpha value was 0.74.

Data Analysis

The data obtained in the study were analyzed using frequency analysis with the SPSS 25.0 program. In this analysis, the percentage distribution of the participants' personal information was determined. In the analysis of the obtained data, univariate normality distribution was examined with skewness and kurtosis values (between ±1). While analyzing the scale scores, Independent Samples T test method was used for the comparison of binary variables. One-way ANOVA analysis was used to compare demographic variables with more than two categories. In multiple comparisons, Bonferroni, one of the post-hoc tests, was used to analyze significant differences between two groups. Homogeneity of variances between groups was checked by Levene's test. The significance level in the analysis was determined as $p<0.05$.

FINDINGS

Table 1. Frequency and Percentage Distributions of Participants' Demographic Information.

Variable	Sub Variable	f	%
Gender	Female	90	62,5
	Male	54	37,5
Section	Coaching	103	71,5
	Teaching	41	28,5
	Grade 1	58	40,3
Class	Grade 2	42	29,2
	Grade 3	14	9,7
	Grade 4	30	20,8
Licensed Athlete	Yes	86	59,7
	No	58	40,3
	1-2 Days	50	34,7
Weekly Exercise Status	3-4 Days	48	33,3
	5-6 Days	35	24,3
	Never	11	7,7

Table 1 provides information about the participants. It is seen that most of the participants are female (62.5%), and in terms of the department variable, the majority of the participants are students of the coaching department (71.5%). It is seen that 58 (40,3%) of the participants are 1st grade, 42 (29,2%) are 2nd grade, 14 (9,7%) are 3rd grade and 30 (20,8%) are 4th grade. Most of the participants (59.7%) stated that they were licensed sportsmen (59.7%). While 50 (34.07%) of the participants stated that they exercised 1-2 days a week, 48 (33.03%) 3-4 days a week, 35 (24.03%) 5-6 days a week, 11 (7.07%) stated that they did not exercise at all.

Table 2. Correlation Analysis Results Related to Exercise Addiction and Problem Solving Skills Total Score

		Problem Solving Skills
Exercise Addiction	r	,366
	p	,000*

(*) p≤0.05

When the relationship between exercise addiction and problem-solving skills was examined, the correlation coefficients in Table 2 were found. According to the data in Table 2, there was a moderately positive relationship between exercise addiction and problem-solving skills. This relationship was statistically significant (r= ,366; p≤0.05).

Table 3. Correlation Analysis Results Related to Exercise Addiction and Problem-Solving Skills Subdimensions.

		1	2	3	4	5
Exercise Addiction Subdimensions						
1. Excessive Focus and Change of Emotion	r	-				
	p					
2. Individual-Social Postponing Needs	r	,394	-			
	p	,000*				
3. Tolerance Development and Passion	r	,586	,552	-		
	p	,000*	,000*			
Problem Solving Skills Subdimensions						
4. Avoidance	r	-,156	,108	-,024	-	
	p	,062	,200	,779		
5. Approach	r	,386	,247	,338	-,158	-
	p	,000*	,003*	,000*	,059	

(*) p≤0.05

Correlation analysis was conducted to determine the relationship between exercise addiction and problem solving skills sub-dimensions. Information about this analysis table is given in Table 3. According to the relevant table, it was seen that there was a positive moderate relationship between the sub-dimensions of exercise addiction, while there was a positive moderate relationship between the problem solving approach sub-dimension and the sub-dimensions of exercise addiction.

Table 4. Independent T Test Analysis of Exercise Addiction and Problem Solving Skills Scale Scores in Terms of Gender Variables.

					***t* Test**	
Variable	**Groups**	*N*	$\bar{x}$	*SD*	*t*	*p*
Exercise Addiction Subdimensions						
Excessive Focus and Change of Emotion	Female	90	3,86	0,685	-1,076	0,284
	Male	54	3,98	0,677		
Individual-Social Postponing Needs	Female	90	2,82	0,765	-1,697	0,092
	Male	54	3,07	1,027		
Tolerance Development and Passion	Female	90	3,32	0,828	-1,716	0,088
	Male	54	3,58	0,970		
Problem Solving Skills Subdimensions						
Avoidance	Female	90	2,19	0,752	-0,607	0,545
	Male	54	2,28	0,921		
Approach	Female	90	3,36	0,500	-0,221	0,825
	Male	54	3,38	0,549		

*(p< 0.05)

Table 4 shows that when the mean scores of exercise addiction and problem solving skills of the participants are examined, there is no statistically significant difference in scale scores according to gender variable (p>0.05).

Table 5. Independent T Test Analysis of Exercise Addiction and Problem Solving Skills Scale Scores in terms of the Department of Study Variables.

***t* Test**						
Variable	**Groups**	*N*	$\bar{x}$	*SD*	*t*	*p*
Exercise Addiction Subdimensions						
Excessive Focus and Change of Emotion	Coaching	103	3,98	0,667	2,091	0,038*
	Teaching	41	3,72	0,693		
Individual-Social Postponing Needs	Coaching	103	3,01	0,875	2,047	0,042*
	Teaching	41	2,68	0,850		
Tolerance Development and Passion	Coaching	103	3,46	0,884	0,981	0,328
	Teaching	41	3,30	0,904		
Problem Solving Skills Subdimensions						
Avoidance	Coaching	103	2,22	0,788	-0,029	0,977
	Teaching	41	2,22	0,897		
Approach	Coaching	103	3,39	0,482	0,824	0,412
	Teaching	41	3,31	0,600		

* ($p< 0.05$)

When the problem solving skills scores of the participants were examined according to the variables of the department they were studying in Table 5, no significant difference was found in the sub-dimensions of problem solving skills ($p> 0.05$), while a significant difference was found in the exercise addiction scale excessive focus and change of emotion and individual social postponing needs sub-dimensions ($p< 0.05$).

Table 6. Independent T Test Analysis of Exercise Addiction and Problem Solving Skills Scale Scores in Terms of Being a Licensed Athlete

***t* Test**						
Variable	**Groups**	*N*	$\bar{x}$	*SD*	*t*	*p*
Exercise Addiction Subdimensions						
Excessive Focus and Change of Emotion	Yes	86	2,14	0,833	3,478	0,001*
	No.	58	2,34	0,785		
Individual-Social Postponing Needs	Yes	86	3,42	0,535	2,492	0,014*
	No.	58	3,29	0,482		
Tolerance Development and Passion	Yes	86	4,06	0,669	0,981	0,328
	No.	58	3,67	0,641		
Problem Solving Skills Subdimensions						
Avoidance	Yes	86	3,06	0,899	-1,472	0,143
	No.	58	2,70	0,806		
Approach	Yes	86	3,63	0,916	3,800	0,000*
	No	58	3,10	0,750		

* ($p< 0.05$)

When the problem solving skills scores of the participants according to the variables of being a licensed athlete were examined in Table 6, A significant difference was found in the approach sub- dimension of problem solving skills ($p< 0.05$). A significant difference was found in the exercise addiction scale excessive focus and change of emotion and individual social postponing needs sub-dimension scores ($p< 0.05$).

Table 7. One-Way Analysis of Variance (ANOVA) Results of Exercise Addiction and Problem Solving Skills Scale Scores in Terms of Weekly Exercise Frequency Variable

Variable	Groups	*N*	$\bar{x}$	SD	*F*	*P*	*Significant Difference*
Exercise Addiction Subdimensions							
Excessive Focus and Change of Emotion	1-2 Days (1)	50	3,68	0,63	15,777	0,000*	3-1 3-4
	3-4 Days (2)	48	4,03	0,58			
	5-6 Days (3)	35	4,31	0,47			
	Never (4)	11	3,07	0,78			
Individual-Social Postponing Needs	1-2 Days (1)	50	2,61	0,71	8,140	0,000*	3-4
	3-4 Days (2)	48	3,03	0,79			
	5-6 Days (3)	35	3,37	0,97			
	Never (4)	11	2,31	0,82			
Tolerance Development and Passion	1-2 Days (1)	50	3,16	0,76	12,501	0,000*	3-1 3-4
	3-4 Days (2)	48	3,43	0,82			
	5-6 Days (3)	35	4,02	0,79			
	Never (4)	11	2,59	0,83			
Problem Solving Skills Subdimensions							
Avoidance	1-2 Days (1)	50	2,30	0,76	1,721	0,165	-
	3-4 Days (2)	48	2,01	0,73			
	5-6 Days (3)	35	2,31	0,94			
	Never (4)	11	2,48	0,86			
Approach	1-2 Days (1)	50	3,29	0,47	3,848	0,011*	3-4
	3-4 Days (2)	48	3,41	0,58			
	5-6 Days (3)	35	3,54	0,43			
	Never (4)	11	3,00	0,43			

* ($p< 0.05$)

When the problem solving skills scores of the participants according to the weekly exercise frequency variables were examined in Table 7, a significant difference was found in the approach sub- dimension of problem solving skills ($p< 0.05$). A significant difference was found in all sub- dimensions of exercise addiction scale ($p< 0.05$).

DISCUSSION AND CONCLUSION

This study aimed to examine the relationship between exercise addiction and problem solving skills of students studying at the School of Physical Education and Sports, and to examine the levels of problem solving skills and exercise addiction in terms of the department they study, licensed athlete status, exercise frequency and gender variables. When the demographic variables of the students participating in the study were analyzed, 90 (62.05%) were female and 54 (37.05%) were male. According to the department variable, 103 (71.05%) of them stated that they were studying in the coaching department and 41 (28.5%) in the teaching department. According to the grade variable, it was seen that there were 58 (40.03%) 1st grade, 42 (29.2%) 2nd grade, 14 (09.07%) 3rd grade and 30 (20.08%) 4th grade students. Licensed sportsmen constitute the majority with 86 people (59.7%). According to the weekly exercise status variable, it was seen that there were 50 people (34.07%) 1-2 days, 48 people (33.3%) 3-4 days, 35 people (24.03%) 5-6 days and 11 people (07.06%) who said they never do sports.

The relationship between exercise addiction and problem-solving skills of the students participating in the study was found to be statistically positive and moderately significant ($p\leq0.05$). In the study conducted by Güzel (2021), it was found that there was a positive and moderately significant relationship between mental endurance and exercise addiction of students studying at the Faculty of Sports Sciences. Accordingly, it can be considered that as the exercise addiction symptoms of the participants increase, their problem-solving skills increase. In the literature, no study was found to examine the effect of exercise addiction on problem solving skills.

When the exercise addiction and problem solving skills scores of the students participating in the study were analyzed in terms of gender variable; no statistically significant difference was found in all of the scale sub-dimensions ($p>0.05$). As a result of the research conducted by İnce and Şen (2006), it was aimed to determine the problem solving skills of basketball players competing in the away league. According to the findings, problem solving skills of female athletes were found to be better than male athletes and a significant difference was found between them. Due to the fact that female athletes play in the 1st league and gain experience during competitions and trainings, it can be thought that they are superior to the athletes playing in the 2nd league in problem solving skills and this situation leads to a significant difference. In the study conducted by Tümkaya and İflazoğlu (2000), no significant difference was found between the problem solving skills of teachers and their gender. In Taylan's (1990) study, it was stated that there was no significant difference between the problem solving skills of university students and their genders. In the study examining the problem solving skills of physical education and sports college students, a significant difference was found between the total problem solving skills scores of the students and their gender. In the study conducted by Türkçapar (2009), problem solving skills of males were found to be significantly greater than females. In the study conducted by Bilge and Aslan (1999), it was revealed that there was no significant difference between students' gender and problem-solving skills. The study conducted by Brems and Johnson, as reported by Ferah (2000), found that males were more successful in problem solving. In the study conducted by Paksoy (2021), it was determined that there was a statistically significant difference between gender variable and tolerance development and passion sub-dimension regarding exercise addiction of BESYO students. It was understood that this difference was in favor of men. In the study conducted by Demir and Türkeli (2019), in the study titled 'Investigation of Exercise Addiction and Mental Endurance Levels of Physical Education and Sports School Students', it was determined that there was a statistically significant difference in the level of exercise addiction according to the gender of the students of the Faculty of Sports Sciences. Especially in the sub-dimensions of tolerance development and passion, postponement of individual-social needs and conflict, a significant difference was observed on the side of men. Cicioğlu et al. (2019) concluded that the exercise addiction levels of male students studying in sports sciences were significantly positively higher than female individuals. In the study conducted by Uzun (2019), it was determined that there was no significant relationship between the gender variable and exercise addiction of BESYO students. In the study conducted by Gadak and Pulur (2021), in the study titled "Investigation of Exercise Addiction of Individuals Going to Fitness Centers", it was concluded that there was no significant difference according to gender variable.

According to the results of the study on exercise addiction and self-esteem in individuals who exercise, no statistically significant difference was found between exercise addictions according to gender variable. This may be due to the fact that the number of participants was not balanced according to gender. In a study conducted by Zmijewski and Howard (2003), it was stated that women were higher in exercise addiction than men. In a study conducted by Cicioğlu et al. (2019), it was reported that male athletes had higher levels of exercise addiction compared to female athletes. In a study conducted by Costa et al. (2013), it was reported that the exercise addiction level of men was higher than that of women. When we examine the literature, it is seen that there are results parallel to the results of our study as well as results that do not support the results of our study. We can say that the reason for this difference is due to the differences in the groups studied.

When the problem solving skills scores of the students participating in the study were examined according to the departments they were studying, no significant difference was found in the sub-dimensions of problem solving skills ($p>0.05$). However, a significant difference was found in the sub-dimensions of exercise addiction in the scores of over- focusing and emotion change and postponement of individual-social needs ($p<0.05$). Depending on the branches of education of the participants, no significant difference was found between exercise addiction and mental endurance levels of doing sports. The reason for this result may be that the students of the faculty of sports sciences participate in exercise at a close level, think about exercise at a close level during the day, and their recovery times and mental processes are close (Demir and Türkeli, 2019). In the study, when the exercise addiction levels of the participating students were examined according to the departments they studied, no significant difference was found in the sub-dimension of "excessive focus and emotional change" (Güzel, 2021). According to the study, the scores of coaching students in the sub-

dimensions of the exercise addiction scale are significantly higher than those of students in sports management education. Based on these results, it can be thought that students studying in the coaching department are more willing to exercise and postpone their basic needs compared to other departments.

In the study, when the exercise dependence levels of the participants were analyzed according to their departments of study, it was determined that students studying in the departments of teaching, coaching and management were in the dependent group. In the study conducted by Paksoy (2021), it was determined that there was a significant difference between the sub-dimensions of the Exercise Addiction scale in terms of the department variable of the participants in the sub-dimension of "postponement of individual-social needs and conflict". However, in the study conducted by Demir and Türkeli (2019) on the students of the Faculty of Sports Sciences, no significant difference was found between the levels of exercise addiction according to the department variable. This is thought to be due to the fact that the distribution of the students regarding the department variable they are studying is different. In the study conducted by Demir and Türkeli (2019) on the students of the Faculty of Sports Sciences, no significant difference was found between the exercise addiction levels according to the department variable. In this case, the difference in the exercise addiction levels of the students may be due to the different distributions of the departments they study.

When the problem-solving skills scores of the students participating in the study were examined according to the variable of being a licensed athlete, a significant difference was found in the "approach" sub-dimension of problem solving skills ($p<0.05$). A significant difference was found between the scores of "postponement of individual-social needs with emotional change" and "excessive focusing" in the sub-dimension of exercise addiction ($p<0.05$). In Uzun's (2019) study, no statistically significant relationship was found between the sports branches and exercise addiction of higher education students studying sports sciences. Yıldız (2017) concluded that there was a significant difference in the self-efficacy level of active sports individuals according to their participation in licensed sports activities. Costa et al. (2012), in their study on exercise addiction in individuals, stated that the frequency and daily duration of exercise may be effective in the formation of exercise addiction. In the study conducted by Paksoy (2021), statistically significant differences were found in the postponement of individual-social needs and conflict, tolerance development and passion sub-dimension of the exercise addiction scale depending on the weekly exercise frequency variable of the students of the School of Physical Education and Sports.

Kovacsik et al. (2019) concluded that there is a relationship between exercise addiction and exercise intensity in their study. These studies support our research. Gadak and Pulur (2021) concluded that there was no significant difference between exercise addiction and exercise frequency. When the studies were examined, it was concluded that there are similar results to our study, but there are differences.

When the problem solving skill scores of the students participating in the study were examined according to the weekly exercise frequency variables, a difference was found in the approach sub-dimension of problem-solving skills ($p< 0.05$). A significant difference was found in all sub-dimensions of exercise addiction ($p< 0.05$). In the study conducted by Tekkurşun Demir and Türkeli (2019), no significant difference was found between the exercise addiction and mental endurance levels of the students of the Faculty of Sports Sciences depending on the age variable. (2018) concluded that regular exercise is effective for exercise addiction in kickboxing, taekwondo and muay thai athletes. In another study conducted by Costa et al. (2012), it was concluded that daily exercise duration, exercise frequency and sport age may be effective in the emergence of exercise addiction. In a study conducted by Kızmaz (2004), the relationship between personality and sportive actions between young performance athletes and non-athletes was examined and it was determined that people who do sports are more lively, more hardworking, better adaptation to the environment in difficult situations, and always ready to establish relationships. In the study conducted by Yıldız Cicek (2019), it was found that regular exercise in the fitness center of people over the age of 30 had a positive effect on exercise addiction. In the study conducted by Demir and Türkeli (2019) on sports sciences faculty students, it was stated that there was a significant difference in exercise addiction levels according to the frequency of doing sports. In the study conducted by Batuhan and Aydın (2020), no significant relationship was found between the frequency of weekly training and exercise addiction sub-dimensions. In the study conducted by Yıldız Cicek (2019), it was concluded that regular exercise in the fitness center of people over the age of 30 was effective on exercise addiction. In another study conducted by Costa (2012), it

was concluded that exercise frequency may be a cause of exercise addiction. In the study conducted by Demir and Türkeli (2018) on the students of the faculty of sport sciences, differences were found in exercise addiction levels according to the frequency of doing sports.

In the study conducted by Büyüköztürk et al. (2017), no relationship was found between exercise addiction and training frequency in elite swimming athletes who trained regularly. However, it was stated in the study that there were indications that elite athletes may become addicted to exercise over time. The findings of the study show that there is a statistically significant and positive relationship between weekly exercise days and exercise addiction score of individuals who exercise. In the study conducted by Katra (2021), it was determined that there was a relationship between the number of exercise days per week and the increase in exercise addiction. In addition, it was determined that there was a significant positive correlation between the weekly exercise days of the participants and the sub-dimensions of exercise addiction such as hyperfocus and emotional change. According to these findings, it can be stated that as the number of exercise days per week increases, the level of hyperfocus on exercise increases and they enjoy exercising. In a study conducted by Bavlı et al. (2011), the weekly exercise frequency of the participants was found to be statistically significantly higher in the dependent group compared to the other groups. Costa et al. (2012) emphasized that exercise frequency may be effective in the formation of exercise addiction. In the study conducted by Bootan (2018) and Sadıq (2018), it was stated that there was no significant difference between the exercise addiction levels of athletes in different branches and athlete age. In the study conducted by Güzel (2021), the exercise addiction and mental endurance levels of the students of the Faculty of Sports Sciences were examined and the level of exercise addiction was analyzed according to the exercise frequency variable. The findings showed that there were significant differences in all sub-dimensions and total scores

of the exercise addiction scale. In contrast to our study, Güler (2020) found no significant difference in the relationship between basic psychological needs and exercise addiction according to the exercise frequency variable. In the study of Arslanoğlu et al. (2021), it was determined that the level of exercise addiction did not differ significantly according to exercise frequency. This result may be due to the difference in the sample group.

As a result, the relationship between exercise addiction and problem solving skills of the students studying at the School of Physical Education and Sports was statistically significant in a positive direction. This supports the prediction that these students have positive problem solving skills due to their athletic background and being involved in a sportive lifestyle. We can hypothesize that students who exercise are more skillful in solving the problems they face. While there was no difference in the exercise addiction scores in terms of gender variables, when examined in terms of the department variables they studied; a significant difference was found in the scores of over-focusing and emotion change and postponement of individual-social needs in the sub-dimension of exercise addiction. According to the variable of being a licensed athlete, a significant difference was found in the scores of over-focusing and emotion change and postponement of individual-social needs in the sub-dimensions of exercise addiction. According to the weekly exercise frequency variables, a significant difference was found in all sub-dimensions of exercise addiction. When the problem solving skills scores were examined according to the variables of gender and the department of study, no significant difference was found in the sub-dimensions of problem solving skills, but when the problem solving skills scores were examined according to the variables of being a licensed athlete, a difference was found in the approach sub- dimension of problem solving skills. When problem solving skills scores were examined according to weekly exercise frequency variables, a difference was found in the approach sub- dimension of problem solving skills. It may be recommended to give trainings to students studying at physical education and sports colleges about the benefits of regular exercise. The results obtained can be shared with relevant organizations and planning can be made according to the results. It may be recommended to conduct this research with different age groups and sedentary students and to examine different dimensions.

Physical education and sports colleges should include more research-examination and problem-solving methods in their teaching strategies. In order to make a general judgment, it may be recommended to conduct more comprehensive research.

REFERENCES

1. Arslanoğlu, C., Acar, K., Mor, A., ve Arslanoğlu, E. Geleceğin antrenorlerinde egzersiz bağımlılığı. Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi. 2021; 19 (1), 137-146. https://doi.org/10.33689/spormetre.758693.
2. Barut, Y., Yılmaz M. "Beden Eğitimi ve Spor Bölümüne ve Eğitim Fakültesine Devam Eden Öğrencilerin Problem Çözme Becerilerinin Çeşitli Değişkenler Açısından İncelenmesi". Uluslararası I. Spor Bilimleri Kongresi Bildirileri. Ankara: Gazi Üniversitesi. 2000; 290-297.
3. Batuhan, B. A. T. U., & AYDIN, A. D. Elit yüzme sporcularının egzersiz bağımlılığı düzeylerinin incelenmesi. Gaziantep Üniversitesi Spor Bilimleri Dergisi. 2020; 5(4), 399-412.
4. Bavlı, Ö., Kozanoğlu, ME., Doğanay, A. Düzenli egzersize katılımın egzersiz bağımlılığı üzerine etkisi. Selçuk Üniversitesi Beden Eğitimi ve Spor Bilim Dergisi. 2011; 13(2): 150-153.
5. Bilge. J., Aslan., A. Akılcı Olmayan Düşünce Düzeyleri Farklı Üniversite Öğrencilerinin Problem Çözme Becerilerini Değerlendirmeleri. Psikolojik Danışma ve Rehberlik Dergisi. 1999; Sayı 13, s. 18.
6. Bootan, J. S. Kickboks, Taekwondo ve Muay Thai Sporcularının Egzersiz Bağımlılığının Araştırılması,Yüksek Lisans Tezi, Fırat Üniversitesi, Sağlık Bilimleri Enstitüsü, Beden Eğitimi ve Spor Anabilim Dalı, Elazığ. 2018.
7. Büyüköztürk Ş, Çakmak EK, Akgün ÖE, Karadeniz Ş, Demirel F. Bilimsel Araştırma Yöntemleri, Ankara, Pegem Atıf İndeksi. 2017; 301.
8. Causey DL, Dubow, EF. Development of a self-report coping measure for elementary school children. Journal of Clinical Child and Adolescent Psychology. 1992; 21 (1), 47-59.
9. Çetin, E., Bulğay, C., Demir, G. T., Cicioğlu, H. İ., Bayraktar, I., ve Orhan, Ö. The Examination of the Relationship Between Exercise Addiction and Performance Enhancement in Elite Athletes. International Journal of Mental Health and Addiction. 2020; 1-12.
10. Cicioğlu, Hİ., Demir, GT., Bulğay, C. Çetin, E. Elit düzeyde sporcular ile spor bilimleri fakültesi öğrencilerinin egzersiz bağımlılığı düzeyleri. Bağımlılık Dergisi. 2019; 20(1), 12-20
11. Costa S, Cuzzocrea F, Hausenblas HA, Larcan R, Oliva P. Psychometric examination and factorial validity of the Exercise Dependence Scale-Revised in Italian exercisers. J Behav Addict. 2012; 1(4), 186-190.
12. Costa, S., Hausenblas, AH., Oliva, P., Cuzzocrea, F., Larcan, R. The role of age, gender, mood states and exercise frequency on exercise dependence. J Behav Addict. 2013; 2(4): 216-223.
13. Demir, G. T., Hazar, Z. ve Cicioğlu, H. İ. Exercise Addiction Scale (EAS): A Study of Validity and Reliability. Kastamonu Education Journal. 2018; 26(3), 865-874.
14. Demir, G. T., ve Türkeli, A. Spor Bilimleri Fakültesi Öğrencilerinin Egzersiz Bağımlılığı ve Zihinsel Dayanıklılık Düzeylerinin İncelenmesi. Spor Bilimleri Araştırma Dergisi. 2019; 4(1), 10-24. https://doi.org/10.25307/jssr.505941
15. Dinç M, 2017. Teknoloji bağımlılığı ve biz. 1. Baskı. İstanbul, Yeşilay Yayınları, s. 1-56.
16. Eren, E. Örgütsel Davranış ve Yönetim Psikolojisi. İstanbul: Beta Basın Yayım Dağıtım. 2000.
17. Ersoy G, 2004. Egzersiz ve spor yapanlar için beslenme. 3. Baskı. Ankara, Nobel Yayınları, s. 104.
18. Ferah, D. Kara Harp Okulu Öğrencilerinin Problem Çözme Becerilerini Algılamalarının ve Problem Çözme Yaklaşım Biçimlerinin Cinsiyet, Sınıf, Akademik Başarı ve Liderlik Yapma Açısından İncelenmesi. Hacettepe Üniversitesi Sosyal Bilimleri Enstitüsü, (Yayınlanmamış Yüksek Lisans Tezi). 2000.
19. Fox, K., Boutcher, S. Physical Activity and Psychological Well-Being, Chapter 7. London:Routledge. 2004; 130-153.
20. Gadak, A., Pulur, A. Fitness merkezine giden bireylerin egzersiz bağımlılıklarının incelenmesi. Sportive. 2021; 4(2), 12-23.
21. Güzel, M.C. Spor Bilimleri Fakültesi Öğrencilerinin Egzersiz Bağımlılığı ve Zihinsel Dayanıklılık Düzeylerinin İncelenmesi (Balıkesir İli Örneği). Yüksek Lisans Tezi. Balıkesir Üniversitesi. Sağlık Bilimleri Enstitüsü. 2021.
22. İnce, G., Şen, C. Adana İlinde Deplasmanlı Ligde Basketbol Oynayan Sporcuların Problem Çözme Becerilerinin Belirlenmesi. Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi. 2006; IV (1) 5-10.
23. Karasar, N. (2015). Bilimsel araştirma yöntemi. 28. Baskı, Ankara: Nobel Yayıncılık.
24. Katra, H. Egzersiz yapan bireylerde egzersiz bağımlılığı ve benlik saygısı. Bağımlılık Dergisi. 2021; 22(4), 370-378.
25. Kızmaz, M. Bireysel ve Takım Sporu Yapan Sporcuların Kişilik Özelliklerinin Karşılaştırılması. Marmara Üniversitesi Sağlık Bilimleri Enstitüsü. İstanbul. (Yayınlanmamış Yüksek Lisans Tezi). 2004.
26. Kovacsik, R., Griffiths, MD., Pontes, HM., Soos, I, De la Vega R, Ruiz, R. The role of passion in exercise addiction, exercise volume, exercise intensity in long-term exercisers. Int J Ment Health Addict. 2019; 1–12.
27. Namlı, S. Demir, GT., Cicioğlu, Hİ. Spor Bilimleri Fakültesi Öğrencilerinin Akademik Odaklanma Düzeyleri. Beden Eğitimi ve Spor Bilimleri Dergisi. 2018; 20 (4) :43-51.
28. Oğuz, V., Akyol, A. K. (2015). Problem Çözme Becerisi Ölçeği (PÇBÖ) Geçerlik ve Güvenirlik Çalışması. Cukurova University Faculty of Education Journal, 44(1).
29. Özer K, 2001. Fiziksel uygunluk. Ankara, 1. Baskı. Nobel Yayın Dağıtım, s. 61.
30. Paksoy, S. M. Spor bilimleri alanında öğrenim gören üniversite öğrencilerinin egzersiz bağımlılığı düzeylerinin incelenmesi (Kahramanmaraş ili örneği). Yüksek Lisans Tezi, Kahramanmaraş Sütçü İmam Üniversitesi. 2021.
31. Pinro, BM., Goldstein, MG., Ashba, J. Randomized controlled trial of physical activity counseling forolder. Primary Care Patients. 2005; 29(4), 247-255.
32. Smith, D., Wright, C., Winrow, D., Exercise dependence and social physique anxiety in competitive and non-competitive runners. International. International Journal of Exercise Psychology. 2010; 8(1), 61-69.

33. Szabo, A., Griffiths, MD., Marcos, RDLV., Mervó, B., Demetrovics, Z., Focus: Addiction: Methodological and conceptual limitations in exercise addiction research. The Yale Journal of Biology and Medicine. 2015; 88(3), 303.
34. Tay, Betül. İlköğretim 4. ve 5. sınıf Sosyal Bilgiler Dersinde Öğrencilerin Problem Çözme Becerilerini Geliştirmede İşbirliğine Dayalı Öğretmenin Etkisi Konusunda Öğretmen, Müfettiş ve Uzman Görüşleri. Ankara: Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü (Yayınlanmamış Yüksek Lisans Tezi). 2002.
35. Taylan, S. "Heppner'in Problem Çözme Envanteri'nin Uyarlama, Geçerlik ve Güvenirlik Çalışmaları", Master tezi, Ankara Üniversitesi Sosyal Bilimler Enstitüsü. Ankara. 1990;. s:4,
36. Tekkurşun Demir, G., Hazar, Z., ve Cicioğlu, H.İ. Egzersiz bağımlılığı ölçeği (EBÖ): Geçerlik ve güvenirlik çalışması, Kastamonu. 2018.
37. Tekkurşun, Demir G., Türkeli, A. Spor bilimleri fakültesi öğrencilerinin egzersiz bağımlılığı ve zihinsel dayanıklılık düzeylerinin incelenmesi. Spor Bilimleri Araştırmaları Dergisi. 2019; 4(1), 9-24.
38. Tümkaya, S., İflazoğlu, A. "Çukurova Üniversitesi Sınıf Öğretmenliği Öğrencilerinin Otomatik Düşünce ve Problem Çözme Düzeylerinin Bazı Sosyo-Demografik Değişkenlere Göre İncelenmesi, Enstitü Dergisi. 2000; Cilt:6, Sayı:6,
39. Türkay, H., Mumcu, H.E., Çeviker, A., Güngöz, E., ve Özlü, K. Beden eğitiminde temel psikolojik ihtiyaçlar ölçeğinin Türkçe'ye uyarlanması. Gazi Üniversitesi Eğitim Fakültesi Dergisi. 2019; 39(2), 1135-1155.
40. Türkçapar, Ü. Beden Eğitimi Spor Yüksek Okulu Öğrencilerinin Farklı Değişkenler Açısından Problem Çözme Becerileri. Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi. 2009; 10(1), 129-139.
41. Uzun, U. Spor Bilimleri Eğitimi Alan Yükseköğretim Öğrencilerinin Egzersiz Bağımlılığının İncelenmesi. Yüksek Lisans Tezi, Trakya Üniversitesi Sosyal Bilimler Enstitüsü, Edirne. 2019.
42. Vardar, E. Egzersiz Bağımlılığı. Arşiv Kaynak Tarama Dergisi. 2012; 163-173.
43. Yıldırım İY. Egzersiz Bağımlılığı, Yeme Tutum ve Davranışları İlişkisi. CBÜ Beden Eğitimi ve Spor Bilimleri Dergisi. 2017; 12 (1), 43-54.
44. Yıldızçiçek, C. Psikolojik Bir Rahatsızlık Olan Egzersiz Bağımlılığının Öz Yeterlilik İle İlişkisinin İncelenmesi, Yayımlanmış Yüksek Lisans Tezi, Kütahya Dumlupınar Üniversitesi Sosyal Bilimler Enstitüsü. 2019.
45. Zmijewski, CF., Howard, MO. Exercise dependence and attitudes toward eating among young adults. Eating Behaviors, 4(2), 181-195 Adams J, Kirkby RJ, 2002. Excessive exercise as an addiction: A review. Addiction Research and Theory. 2000; 10(5), 415-437.
46. Zmijewski, CF., Howard, MO. Exercise dependence and attitudes toward eating among young adults. Eat Behav. 2003; 4(2): 181-19