Eksplorium *p*-ISSN 0854-1418
Volume 46 No. 1, May 2025: 1058–1067 *e*-ISSN 2503-426X

Examination of the Motivation to Participate in Physical Activity and Digital Game Addiction of Students Participating in Talent Screening

Burcu Güvendi[1], Yavuz Öntürk[2], Hayrettin Erdinç[3], Bilal Karakoç[4]

1-Yalova University, Faculty of Sports Sciences, Türkiye Email: burcu.guvendi@yalova.edu.tr

ORCİD: 0000-0002-6170-9107

2-Yalova University, Faculty of Sports Sciences, Türkiye Email: yavuz.onturk@yalova.edu.tr

ORCİD: 0000-0001-5472-8652

3-Yalova University, Graduate Education Institute, Physical Education and Sports Department, Türkiye

Email: hayrettin.erdinc@gsb.gov.tr ORCİD: 0009-0008-8248-9378

4-Yalova University, Faculty of Sports Sciences, Türkiye Email: bilal.karakoc@yalova.edu.tr

ORCİD: 0000-0002-6688-7914

Article Received: 24 Feb 2025, Revised: 25 April 2025, Accepted: 05 May 2025

Abstract: The aim of this study is to examine the motivation to participate in physical activity and digital game addiction of students participating in talent screening. A total of 260 students, 139 female and 121 male, with an average age of 9.97±3.81 and playing digital games for an average of 2.17±1.13 hours, participated in the study. The Digital Game Addiction in Children Scale, developed by Hazar and Hazar (2017), and the Motivation to Participate in Physical Activity Scale, whose validity and reliability were determined by Tekkurşun Demir and Cicioğlu (2018), were used as data collection tools in the study. In the analysis of the data, the normality test was first examined and after determining that the data showed a normal distribution, descriptive statistics, t-test and Anova tests were applied. According to the findings obtained in the study, it was determined that there was a negative low-level significant relationship between motivation to participate in physical activity and digital game addiction. In the study, it was observed that there was a significant difference in the digital game addiction scale against men according to gender. In the study, no significant difference was found in both scale scores according to age and branch. It was determined that students who passed the talent screening had higher digital game addictions. It was concluded that children who used their own devices had high addiction and that their addiction increased as the playing hours increased. It was also determined that students without siblings had high participation in physical activities while students with siblings had high digital game addiction. As a result, it was observed that as students' motivation to participate in physical activity increased, their digital game addiction decreased.

Keywords: Talent screening, Digital Game, Addiction, Physical activity.

INTRODUCTION

Throughout the historical process of humankind, technology has been one of the main factors determining lifestyles and ways of life; over time, it has become an integral part of many activities that individuals carry out in their daily lives (Yiğit et al., 2013). Today, with the acceleration of technological advances, the number of users interacting in virtual environments has increased significantly. This has led to the emergence of various needs that are met through digital platforms. One of the prominent elements among these needs is digital games, which attract attention with their large user base and increasing usage time. Digital games have become a leisure activity that is heavily preferred by a large segment of society, especially the young population (Taylan, Kara, & Durgun, 2017). Digital games are virtual game types

developed using different technologies and offer players an interactive, visual environment. Digital game users can directly communicate with the game by giving voice and tactile commands through various devices (Çetin, 2013). Computers and the internet are used more and more each day for entertainment purposes as well as making daily life easier. Digital games, which appeal to a wide range of users, are of great interest to children and young people in particular. In recent years, due to reasons such as rapidly developing technology, increasing urbanization and decreasing playgrounds, digital games have replaced traditional games. This situation leads to an increase in the time individuals spend with digital games (Gentile 2009, Rideout et al. 2010). The increasing interest in digital games has led to the diversification of gaming tools. Today, digital games are not limited to desktop or laptop computers, but have also become accessible through portable devices such as smartphones and tablets thanks to developing mobile technologies. This allows the digital gaming experience to be continued regardless of space and time limitations (Whitton, 2010).

Today, the rapid development of technology and the spread of digital game culture throughout society are causing a significant decrease in the level of participation of individuals, especially children, in physical activity. However, the most critical and effective period for physical activity is childhood. During this developmental stage, regular physical activity supports children's physical growth and motor development processes, as well as making significant contributions to social interaction and psychosocial adaptation (Saygın & Mengütay, 2004). Physical activity is considered a basic necessity for individual health at all stages of life. Especially for primary school children, regular exercise is one of the most critical factors that support growth and development processes. Physical activities in early childhood contribute not only to physical development but also to the healthy progression of psychomotor skills, cognitive functions and psychosocial adaptation (Eriş et al., 2018; Hills et al., 2007).

METHOD

Research Group

A total of 260 students, 139 female and 121 male, studying in Yalova province, with an average age of 9.97±3.81, playing digital games for an average of 2.17±1.13 hours, participated in the study.

Data Collection Tools

The Digital Game Addiction in Children Scale and the Motivation to Participate in Physical Activity Scale were used as data collection tools in the study.

Digital Game Addiction Scale in Children: The scale developed by Hazar and Hazar (2017) was prepared as a 5-point Likert-type scale *(1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree).* The lowest score that can be obtained from the scale is 24, the highest score is 120. The scale scoring is evaluated as follows; "1-24: Normal group, 25-48: Low risk group, 49-72 Risky group, 73-96 Dependent group, 97-120 Highly dependent group".

Motivation to Participate in Physical Activity Scale: The lowest score that can be obtained from the scale, whose validity and reliability study was conducted by Demir and Cicioğlu

(2018), is 16 and the highest score is 80. Participants' high scores on the scale indicate that they have positive motivation to participate in physical activity. In this context, participants' scores from FAKMÖ indicate that they have a very low motivation to participate in physical activity (1-16 very low, 17-32 low, 33-48 medium, 49-64 high, and 65-80 very high). The 3rd, 9th, 13th, 14th, 15th and 16th items of the scale are reverse items.

Analysis of Data

In the study, the data were analyzed using the statistical program (SPSS). The skewness and kurtosis test results were examined to determine whether the data showed a normal distribution, and when the obtained values were examined, it was seen that the data were normally distributed ($p<0.05$). After determining that the data showed normal distribution, descriptive statistics, t-test and Anova tests were applied.

FINDINGS

Table 1. T-Test Analysis Results of the Physical Activity Participation Motivation Scale and the Digital Game Addiction Scale in Children, According to the Gender of the Participants

Scales	Gender	N	Avg./Std. D.	t	p
Motivation to Participate in Physical Activity Scale	Male	121	65,60±9,4291	,102	,919
	Female	139	65,47±10,759		
Digital Game Addiction Scale in Children	Male	121	50,66±18,877	2,961	,003
	Female	139	43,82±18,316		

When Table 1 was examined, it was observed that there was no significant difference in the total score of the physical activity participation motivation scale according to gender ($p>0.05$), while a statistically significant difference was found in the total score of the digital game addiction scale according to gender ($p<0.05$).

Table 2. T-Test Analysis Results of the Physical Activity Participation Motivation Scale and the Digital Game Addiction Scale in Children, According to the Participants' Passing the Ability Screening

Scales	Ability Screening	N	Avg./Std. D.	t	p
Motivation to Participate in Physical Activity Scale	Yes	92	64,70±11,071	,974	,331
	No	168	65,98±9,6010		
	Yes	92	50,40±22,254	-2,166	,031

Digital Game Addiction Scale in Children	No	168	45,14±16,483		

When Table 2 was examined, it was determined that there was no significant difference in the total score of the physical activity participation motivation scale according to the participants' passing the talent screening ($p>0.05$), while there was a significant difference in the total score of the digital game addiction scale ($p<0.05$).

Table 3. T-Test Analysis Results of the Physical Activity Participation Motivation Scale and the Digital Game Addiction Scale in Children, Based on the Participants' Sibling Status

Scales	Do you have a sibling?	N	Avg./Std. D.	t	p
Motivation to Participate in Physical Activity Scale	Yes	188	64,20±10,298	3,496	,001
	No	72	69,01±8,8866		
Digital Game Addiction Scale in Children	Yes	188	48,44±18,694	-1,998	,047
	No	72	43,25±18,890		

When Table 3 was examined, it was determined that there was a significant difference in the total score of the physical activity participation motivation scale and the digital game addiction scale according to the participants' sibling status ($p<0.05$).

Table 4. T-Test Analysis Results of the Physical Activity Participation Motivation Scale and the Digital Game Addiction Scale in Children, Based on the Ownership Status of the Devices Used by the Participants

Scales	Do you own the device?	N	Avg./Std. D.	t	p
Motivation to Participate in Physical Activity Scale	Yes	183	65,12±10,536	1,016	,311
	No	77	66,51±9,1300		
Digital Game Addiction Scale in Children	Yes	183	48,59±19,444	-1,998	,036
	No	77	43,23±16,907		

When Table 4 was examined, it was determined that there was no significant difference in the total score of the motivation to participate in physical activity scale according to the

participants' device ownership status (p>0.05), while there was a significant difference in the total score of the digital game addiction scale (p<0.05).

Table 5. ANOVA Test Analysis Results of the Physical Activity Participation Motivation Scale and the Digital Game Addiction Scale in Children, According to the Ages of the Participants

Scales	Age	N	X	Std. Sp.	F	p
Motivation to Participate in Physical Activity Scale	9	23	66,00	7,33	,481	,618
	10	222	65,65	10,40		
	11	15	63,06	10,12		
Digital Game Addiction Scale in Children	9	23	43,30	15,64	,491	,613
	10	222	47,32	19,45		
	11	15	47,93	13,84		

When Table 5 was examined, no statistically significant difference was found in the total score of the physical activity participation motivation scale and the digital game addiction scale according to the age of the participants (p>0.05).

Table 6. Correlation Analysis Results of the Physical Activity Participation Motivation Scale and the Digital Game Addiction Scale in Children, According to the Playing Hours of the Participants

Variable		Motivation to Participate in Physical Activity Scale	Digital Game Addiction Scale in Children
Game Hours	r	-,088	-,269**
	p	,157	,000
	N	260	260

**p<0.01

When Table 6 is examined, it is seen that there is no statistically significant relationship between the participants' game hours and the total score of the physical activity participation scale (p>0.05), while a low-level negative significant relationship was found between the game hours and the total score of the digital game addiction scale (p<0.05).

Table 7. Correlation Analysis Results of the Physical Activity Participation Motivation Scale and the Digital Game Addiction Scale in Children

Scales		Motivation to Participate in Physical Activity Scale
Digital Game Addiction Scale in Children	r	-,269**
	p	,000

	N	260

**p<0.01

When Table 7 was examined, a low-level negative significant relationship was found between the physical activity participation motivation scale and the digital game addiction scale in children (p<0.01).

DISCUSSION and CONCLUSION

In this study, which was conducted to examine the motivation to participate in physical activity and digital game addiction of students participating in talent screening, it was determined that there was a negative and low-level significant relationship between the motivation to participate in physical activity and digital game addiction. Accordingly, it was observed that as the motivation to participate in physical activity increased, students' digital game addiction decreased. Demir and Cicioğlu (2019) stated that as the motivation to participate in physical activity increased, individuals' desire to play digital games and their motivation to have fun through digital games decreased. As a result of the study conducted by Gülbetekin, Güven, and Tuncel (2021), it was determined that there was a negative significant relationship between digital game addiction and physical activity attitudes. Hazar and Hazar (2018) stated that thanks to games that involve physical activity, there was a decrease in the addiction levels of students with digital game addiction. In the study of Alagöz and Keskinkılıç (2022), no significant relationship was found between physical activity level and internet and game addiction. Similarly, in İlhan's (2024) study, it was observed that there was no significant relationship between physical activity levels and digital game addiction. Asefi, Dehghani, and Shafieeyan (2024) revealed that adolescents who prefer digital games to physical activity games do so for various reasons such as the features of digital games, digital playground, digital game results, peer pressure, and accessibility. Ektirici (2023) concluded that as the motivation to participate in physical activity increases, the attitude towards playing digital games decreases; as the attitude towards playing digital games increases, the problem-solving levels decrease, and as the motivation to participate in physical activity increases, the problem-solving levels also increase. Çar and Ahraz (2022) stated that as students' awareness of digital game addiction increases, their motivation to participate in physical activity also increases. Gülü et al. (2023) similarly stated that there is a negative relationship between digital game addiction and physical activity level. In the study conducted by Uçar (2025), it was concluded that there is a low-level positive relationship between digital game addiction and motivation to participate in physical activity.

While it was observed that there was no significant difference in the total score of motivation to participate in physical activity according to gender in the study, a statistically significant difference was found in the total score of the digital game addiction scale. Accordingly, it was observed that male students had higher digital game addiction. When girls and boys were compared by Gülü and Yapıcı (2022), boys' motivation to participate in physical activity was found to be higher than girls. Demir and Cicioğlu (2019) concluded that male and female participants' motivation to participate in physical activity was similar. In the study conducted by Ulukan (2020), it was observed that male students had higher motivation to

participate in physical activity. In the study conducted by Bozdağ and Özbek (2020), it was concluded that there was no difference in the total score of high school students' motivation to participate in physical activity according to gender. Gülbetekin et al., (2021) found that the average scores of boys were higher than girls in the total score of the cognitive behavioral physical activity scale and the digital game addiction scale. İlhan (2024) concluded in his study that male students' digital game addiction levels were higher than female students, and there was no significant difference in terms of physical activity levels based on gender. The study conducted by Bilgin and Çavuşoğlu (2025) shows that male high school students are more motivated to play digital games than female high school students. Uçar (2025) concluded that male students' digital game addiction and physical activity participation motivation levels are higher than female students. İlhan (2024) found that male students had higher levels of digital game addiction than female students, and no significant difference was found based on gender in terms of physical activity levels.

While there was no significant difference in the total score of motivation to participate in physical activity according to whether the athletes who participated in the talent screening passed the talent screening or not, it was determined that the digital game addiction of the students who passed the talent screening was higher. As a result of the study conducted by Gülbetekin et al., (2021), it was found that students who do sports have higher total digital game addiction scores. Uçar (2025) found that students who do sports have lower digital game addiction and higher motivation to participate in physical activity in terms of individual and environmental reasons.

While no difference was observed in the motivation of the students participating in the study based on who owned the device they used, a significant difference was found in their digital game addiction. Accordingly, it was determined that those who used their own devices had higher digital game addictions. This can be explained by the fact that having their own devices weakens control for the family and allows them to act more freely.

While no significant difference was found in the motivation of the students participating in the study to participate in physical activity based on the duration of playing digital games, a significant difference was found in the total score of the digital game addiction scale. Accordingly, it was concluded that as the students' gaming hours increased, their addiction also increased. Demir and Cicioğlu (2019) reported that as the participants' daily digital game playing time increased, their motivation to participate in physical activity decreased. Ulukan (2020) found that students who used the internet for less than 2 hours had higher motivation to participate in physical activity. In the study conducted by Gülbetekin et al. (2021), digital game addictions of children who played digital games for more than 5 hours were found to be higher than those who played digital games for less than 5 hours. Männikkö, Billieux, and Kääriäinen (2015) found that weekly gaming time, depression level, and online social interaction preferences significantly predicted problematic gaming symptoms. Eser, Başer, and Uslu (2023) found that there is a positive relationship between digital game playing time and digital game addiction. Accordingly, as the playing time increases, the addiction level also increases. Uçar (2025) emphasized that students who use smartphones, tablets or computers for 7 hours or more per day have high levels of digital game addiction.

A significant difference was observed in the total score of the physical activity participation motivation scale and the total score of the digital game addiction scale according to whether the students participating in the study had siblings or not. According to the results, it was determined that students without siblings had higher motivation to participate in physical activity, while students with siblings had higher digital game addiction. According to this result, it was seen that children from families with one child were more willing to participate in physical activities in order to socialize or move, but children with siblings were more likely to want to spend time playing games with their siblings rather than participating in physical activities.

No significant difference was found in the total score of the physical activity participation motivation scale and the digital game addiction scale according to the ages of the students participating in the study. This situation can be explained as the closeness of the ages of the students participating in the study. Demir and Cicioğlu (2019) found no significant relationship between FAKMÖ and DOOMÖ according to the age variable.

Aziz et al. (2021) concluded that digital game addiction among Malaysian adolescents can cause various physical health problems such as obesity, back and neck pain, orthopedic/joint-muscle problems, vision problems, hearing problems and physical inactivity. As a result, it was observed that as the motivation of students participating in talent screening increased, their digital game addiction decreased. In the study, males' digital game addiction was found to be high. According to this result, environments should be created that will keep male students away from digital devices and allow them to participate in different activities. In order to reduce addiction, students should be given play time by their families and control should be provided. Increasing dependency means increasing inactivity. In such a case, health problems are inevitable and may negatively affect physical development. In this respect, it is important for families to provide opportunities for their children to participate in physical activity as much as possible.

RESOURCES

[1] Alagoz, N., & Keskinkilic, A. U. (2022). The relationship between internet and game addiction and the levels of physical activity of the secondary education students. *Medicine Science*, *11*(1).

[2] Asefi, A., Dehghani, H., & Shafieeyan, M. (2024). Exploring the reasons for preferring digital games over physical activity games in adolescents: A qualitative study. *Journal of Adolescent Health*, *75*(1), 133-139. https://doi.org/10.1016/j.jadohealth.2024.02.031

[3] Aziz, N., Nordin, M. J., Abdulkadir, S. J., & Salih, M. M. M. (2021). Digital addiction: systematic review of computer game addiction impact on adolescent physical health. *Electronics*, *10*(9), 996.

[4] Bilgin, Ş. Ş. & Çavuşoğlu, B. (2025). Lise öğrencilerinin dijital oyun oynama motivasyonunun incelenmesi. *Uluslararası Bozok Spor Bilimleri Dergisi, 6*(1), 166-179.

[5] Bozdağ, B., & Özbek, S. (2020). Lise öğrencilerinin fiziksel aktiviteye katılım motivasyonlarının incelenmesi. *Akdeniz Spor Bilimleri Dergisi*, *3*(2), 395-406.

[6] Çar, B., & Ahraz, A. O. (2022). A Study on the Relationship between Secondary School Students' Digital Game Addiction Awareness and Participation Motivation to Physical Activity. *International Journal of Progressive Education*, *18*(4), 175-190.

[7] Çetin, E. (2013). *Tanımlar ve Temel Kavramlar, Eğitsel Dijital Oyunlar*. Ocak, M.A. (Ed.), Ankara: Pegem Akademi.

[8] Demir, G. T., & Cicioğlu, H. İ. (2019). Fiziksel aktiviteye katilim motivasyonu ile dijital oyun oynama motivasyonu arasindaki ilişkinin incelenmesi. *Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi*, *17*(3), 23-34.

[9] Ektirici, A. (2023). The Relationship Between University Students' Physical Activity Participation Motivation, Digital Gaming Attitudes, and Problem-Solving Skills. *E-International Journal of Educational Research*, *14*(3), 92-104. DOI: https://doi.org/10.19160/e-ijer.1257874

[10] Eriş, F., Sargin, K., & Çakir, E. (2018). The effect of fitness on socializ̧ation. European Journal of Physical Education and Sport Science, 5(2), 230–238.

[11] Esen, S., Baser, S., & Uslu, T. (2023). Üniversite öğrencilerinin dijital oyun bağımlılıkları ile fiziksel aktivite düzeyleri ve MET değerleri arasındaki ilişkinin betimlenmesi. *Journal of ROL Sport Sciences*, 301-326.

[12] Gentile, D. A. (2009) Pathological video game use among youth 8 to 18: A national study. Psychol Sci 20, 594-602.

[13] Gülbetekin, E., Güven, E., & Tuncel, O. (2021). Adolesanların dijital oyun bağımlılığı ile fiziksel aktivite tutum ve davranışlarını etkileyen faktörler. *Bağımlılık Dergisi*, *22*(2), 148-160.

[14] Gülü, M., & Yapıcı, H. (2022). Adölesanlarin fiziksel aktivite motive edicilerine ilişkin bakiş açilari: kesitsel bir çalişma. *Kırıkkale Üniversitesi Tıp Fakültesi Dergisi*, *24*(2), 388- 396.

[15] Hazar, Z., & Hazar, M. (2017). Digital game addiction scale for children çocuklar için dijital oyun bağımlılığı ölçeği. *Journal of Human Sciences*, *14*(1), 203-216.

[16] Hazar, Z., & Hazar, M. (2018). Effect of Games Including Physical Activity on Digital Game Addiction of 11-14 Age Group Middle-School Students. *Journal of Education and Training Studies*, *6*(11), 243-253.

[17] Hills, A. P., King, N. A., & Byrne, N. M. (2007). Children, obesity&exercise: A practical approach to prevention, treatment and management of childhooh adolescent obesity (pp. 50-57). 1st ed. Routledge, Taylor & Francis Group.

[18] Ilhan, A. (2024). The Relationship between Physical Activity Level, Digital Game Addiction, and Academic Success Levels of University Students. *Journal of Global Education and Research*, *8*(2), 132-143.

[19] Männikkö, N., Billieux, J., & Kääriäinen, M. (2015). Problematic digital gaming behavior and its relation to the psychological, social and physical health of Finnish adolescents and young adults. *Journal of behavioral addictions*, *4*(4), 281-288.

[20] Saygın, Ö., & Mengütay, S. (2004). Kız ve erkek çocukların fiziksel aktivite düzeyleri ve fiziksel aktivite yoğunluklarının değerlendirilmesi. Spor ve Tıp Dergisi, 12(1), 13–16.

[21] Taylan, H. H., Kara, H. Z., & Durğun, A. (2017). Ortaokul ve lise öğrencilerinin bilgisayar oyunu oynama alışkanlıkları ve oyun tercihleri üzerine bir araştırma. PESA Uluslararası Sosyal Araştırmalar Dergisi, 3(1), 78–87.

[22] Uçar, M. (2025). Lise Öğrencilerinde Dijital Oyun Bağımlılığı ile Fiziksel Aktiviteye Katılım Motivasyonu Arasındaki İlişkisinin Araştırılması. Yüksek Lisans Tezi. Bingöl Üniversitesi Sağlık Bilimler Enstitüsü, Bingöl.

[23] Ulukan, M. (2020). Ortaöğretim öğrencilerinin fiziksel aktiviteye katılım motivasyonları ve sürekli umut düzeylerinin incelenmesi. *Akdeniz Spor Bilimleri Dergisi*, *3*(1), 202-218.

[24] Whitton, N. (2010). Learning with digital games. A practical guide to engaging student in higher Education (1st ed.). Routledge, Taylor & Francis Group.

[25] Yiğit, Ö. E., Çengelci, T., & Karaduman, H. (2013). Teknolojinin değerlere yansıması konusunda sosyal bilgiler öğretmen adaylarının görüşleri. Sosyal Bilgiler Eğitim Araştırmaları Dergisi, 4(1), 73-109.