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ORIGINAL ARTICLE

Investigation of Digital Game Addiction and Attitudes Towards Sports in Adolescent Individuals

YUSUF BURAK YAMANER[1], ÜMRAN SARIKAN[2]
[1]Uludag University, Institute of Educations Sciences, Bursa, Turkey
[2]Mugla Sıtkı Kocman University, Social Sciences Institute, Mugla, Turkey
Correspondence to: Ümran Sarikan, Email: umransrkn@gmail.com

ABSTRACT

Aim: This study aimed to examine digital game addiction and attitudes towards sports in adolescents.

Method: The screening model was used in our research. After giving preliminary information about the questionnaire to the participants, a total of 191 volunteers, 113 (59.5%) females and 77 (40.5%) males participated in the study voluntarily. In the research, the 'Digital Game Addiction Scale (DGAS-7) and the 'Sports Attitude Scale ' (5-point Likert Type) consisting of 22 items were used as data collection tools. The research data were analyzed with the SPSS 22.0 package program and the margin of error was taken as $p<0.05$.

Results: When the results were examined, it was seen that 59.5% of the participants were women, 40.5% were men, and 45.8% participated in the exercise activity. At the same time, it was understood that the total scores of psychosocial development, mental development and attitude towards sports, which were sub-dimensions of the sports attitude scale, of the participants who exercise had higher scores than the participants who did not exercise. In this context, it can be said that the attitudes of the participants who exercise were more meaningful.

Conclusion: As a result, young adult individuals who were connected to games may have difficulties in fulfilling their daily responsibilities and may cause mental and cognitive disorders as a result of establishing a connection between real life and the virtual world, which can negatively affect their academic achievement levels. Moreover, individuals should be encouraged to participate in sports, because it was thought to have a positive effect on the mental and physical development of young adults.

Keywords: Adolescent, Sports and Digital Game

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INTRODUCTION

One of the most fundamental issues that have been problematic and discussed since the ancient Greek philosophers are where should the individual be positioned both in his/her relationship with himself/herself and others?

Plato explains the concept of moderation as follows: Every individual living at all levels of the society lives in harmony and this harmony is called the measure of harmony [1] Aristotle has stated that moderation can be protected by being moderate [2].

Especially in the last 20 years, there has been a significant increase in the usage of digital technologies, including the internet, computer games, smartphones and new media. Followingly, behavioural dependence on the usage of technologies becomes an important problem.

In the digitalized world, the acceptable form of the individual for capitalism is an individual who uses new media tools and consumes applications every day again and again. In this sense, individuals who play games by using existing places and tools in the outside world in the past have the opportunity to develop their creativity. On the other hand, they tend to sedentary life on the ground that they do not get up from their desk for a long time, and plan their lives for digital games. Besides, the rapid urbanization movement experienced during the industrial revolution and the agglomeration of cities can be seen as one of the reasons that cause the decrease in green nature and park areas.

It can be said that digital game addiction, which is expected as a current issue and evaluated as a sub-title of technology addiction, and game addiction levels of students who play sports every day are lower than those who do not play, and effective methods can direct children to physical activities [3]

The digital game is an individual communication environment that contains the digitality, interactivity, virtuality, variability and modularity features of the new communication environment and adds these features to the act of playing games. These environments can also contain old or traditional concepts and features [4,5]

Today, factors such as rapid urbanization, overcrowding of the population, increasing poverty, increasing crime rates, traffic density, decrease in air quality, inadequacy of parks, walking, sports and recreation areas negatively affect people's physical activity [6,7].

High level of preoccupation with play, withdrawal symptoms, increased tolerance for play, unsuccessful attempts to stop or reduce play, loss of interest in other hobbies or activities, excessive gaming despite negative consequences, cheating on play activities towards others, detracting from play usage as escape or relief and endanger or lose relationships, jobs, or education or career opportunities [8].

In the ICD-11 definition, GD is classified as a disorder resulting from addictive behaviour that can be online (eg, on the Internet) or offline, and is manifested by the following three criteria: (1) impairment of control over gaming (eg, onset, frequency, intensity, duration, ending, context), (2) increased emphasis on a play takes precedence over other life interests and daily activities, and (3) play continues or escalates despite the occurrence of negative consequences. To diagnose gaming disorder, the behavioural pattern must be personal, familial, social, educational, professional or other important [9,10].

MATERIAL AND METHODS

Participants: The screening model was used in our research. After giving preliminary information about the questionnaire to participants, a total of 191 volunteers, 113 (%59,5) females and 77 (%40,5) males participated in the study voluntarily.

Data Collection: In the research, 'The Digital Game Addiction Scale (DGAS-7) developed by Lemmens et al. (2009) and adapted into Turkish by [11], and 'The Sports Attitude Scale' (5-point Likert Type) developed by [12] and consisting of 22 items were used.

Digital Gaming Addiction Scale: The Digital Game Addiction Scale (DGAS-7) was developed by [13] to measure the problematic digital game playing behaviours of 12-18 age group adolescents. It is a 7-item short form of the scale consisting of 21 items and 7 sub-dimensions. To determine whether an adolescent is game addicted, it is evaluated in two ways according to the DGAS-7 scale. If he/she scores 3 or more on all 7 items according to the monothetic format, he/she is defined as a risky game addict, and according to the polythetic format, if at least 4 of the 7 items score 3 or more, it is defined as a high-risk game addict. Thus, it has been suggested that the level of addiction can be determined according to both monothetic and polythetic methods, and it has been shown that the level of addiction can be evaluated according to the total score obtained from the scale [13,11] The Turkish

validity and reliability study of the scale was performed by [11], It was performed in the sample of high school students studying in the 9th, 10th and 11th grades and the Cronbach Alpha coefficient was calculated as .73.

Sports Attitude Scale: A five-point Likert-type scale consisting of 22 items and 3 sub-dimensions developed by [12] was used. There were 12 items in the Psychosocial Development sub-dimension, 6 items in the Physical Development sub-dimension, and 4 items in the Mental Development sub-dimension of the scale. The scale can also be examined over the total score. The lowest total score that can be obtained from the scale was 22, and the highest total score was 110. The higher the scores obtained from the scale, the higher the attitude towards sports. Attitude towards sports was divided into three groups as low attitude (0-36.52), medium attitude (36.74-73.26) and high attitude (73.48-110).

Data Analysis: Research data were analyzed with SPSS 22.0 package program. At the same time, the Kolmogorov-Smirnov test was applied to determine whether the data showed a normal distribution or not, and the skewness and kurtosis values were examined. As a result of the performed tests, it was determined that the data showed a normal distribution. In addition to frequency and percentage tables, the Independent Sample T-Test, which was one of the parametric tests, and Pearson Correlation analysis were applied to the obtained data to determine the relationship between the variables.

RESULTS

Table 1: Demographic Characteristics of the Research Group

	N	Age (year) (Mean±SD)	Height (cm) (Mean±SD)	Weight (kg) (Mean±SD)
N	191	15,98±4,53	165,75±12,88	61,00±12,22

When the demographic and physical characteristics of the research group were examined in Table 1; the mean age of the participants was 15.98±4.53 years old, mean height was: 165.75±12.88 cm, and mean body weight was: 61.00±12.22 kg.

Table 2: Frequency Table for Demographic Characteristics of the Research Group

Variables		N	%
Gender	Female	113	59,5
	Male	77	40,5
	Total	191	100,0
Do You Exercise?	Yes	87	45,8
	No	103	54,2
	Total	191	100,0
Grade	9. Grade	43	22,7
	10. Grade	81	42,6
	11. Grade	49	25,8
	12. Grade	17	8,9
	Total	191	191

In the table, it was seen that 59.5% of the research group was female, 40.5% were male, and 45.8% participated in exercises.

Table 3: Frequency Table of Research Group's Digital Gaming Information

Variables		N	%
How many hours do you play digital games on Mean per day?	1 hour or less	103	54,2
	1-3 hours	63	33,2
	4-7 hours	20	10,5
	8-11 hours	3	1,6
	12-15 hours	1	0,5
	Total	191	100,0
What device do you usually prefer while playing?	PC	28	14,7
	Mobile Phone	141	74,2
	Tablet	8	4,2
	Game console	13	6,8
	Total	191	100,0
What Type of Game Are You Playing?	Adventure	27	14,2
	Sport competition	31	16,3
	War and Strategy	71	37,4
	Puzzle and Intelligence	44	23,2
	Other	17	8,9
	Total	191	100,0

Table 3 showed that 54.2% of the research group played games for less than 1 hour a day, 33.2% played between 1-3 hours, 10.5% played between 4-7 hours, and 74.2% of the participants mostly played digital games on their smartphones, 37.4% preferred war and strategy games, and 23.2% preferred intelligence games.

Table 4: Digital Game Addiction Levels of Participants Regarding Gender

	Gender	N	X	Ss	Sd	t	p
Digital Game Addiction	Female	113	12,33	5,28	188	-5,13	,000**
	Male	77	16,66	6,26			

p<0,01**

When the table was examined, it was determined that there was statistical significance in the digital game addiction levels of the participants according to the gender variable. In other words, it can be said that male participants had a higher level of digital game addiction than females.

Table 5: T-Test Results for Participants' Attitudes Towards Sports Sub-Dimensions and Total Scores According to Gender Variable

Sub-dimension	Gender	N	X	Ss	Sd	t	p
Psychosocial Development	Female	113	43,87	8,00	188	-3,74	,000**
	Male	77	48,19	7,51			
Physical Development	Female	113	25,04	3,90	188	,034	,973
	Male	77	25,02	3,22			
Mental Development	Female	113	13,46	4,16	188	-2,31	,022*
	Male	77	14,84	3,87			
Sports Attitudes total scores	Female	113	82,38	13,55	188	-2,90	,004**
	Male	77	88,06	12,73			

p<0,01**,p<0,05*

According to Table 5; The differences between the sub-dimensions of attitudes towards sports and the total scores of the participants according to the gender variable were examined. It was understood from the table that; It can be said that the total scores of the psychosocial development sub-dimension, mental development sub-dimension and attitude towards sports of male participants were higher than female participants and this result was statistically significant.

Table 6: T-Test Results for Digital Game Addiction of Participants Regarding Exercising Status Variable

	Exercise status	N	X	Ss	Sd	t	p
Digital Game Addiction	Yes	87	15,03	6,72	188	1,98	,048*
	No	103	13,29	5,36			

p<0,05*

When Table 6 was examined; Digital game addictions were analysed according to the exercise status of the participants. According to obtained results, it was understood that the mean scores of the participants who exercise were higher than those who did not, and this situation was statistically significant.

Table 7: T-Test Results for Participants' Attitude Toward Sports Sub-Dimensions and Total Scores According to the Variable of Exercising Status

Sub-dimension	Exercise status	N	X	Ss	Sd	t	p
Psychosocial Development	Yes	87	47,17	6,90	188	2,45	,000**
	No	103	44,32	8,76			
Physical Development	Yes	87	25,39	3,23	188	1,23	,973
	No	103	24,73	3,92			
Mental Development	Yes	87	14,63	3,69	188	1,90	,022*
	No	103	13,50	4,36			
Sports Attitudes total scores	Yes	87	87,19	11,58	188	2,38	,004**
	No	103	82,56	14,62			

p<0,01**, p<0,05*

In Table 7, the differences in the exercise status of the participants, the sub-dimensions of attitude towards sports and their total scores were examined. As a result, it was understood that the participants who exercise had higher scores in the total scores of psychosocial development, mental development, and attitude towards sports, which were sub-dimensions of attitude towards sports, than the participants who did not exercise. In this

context, it can be said that the attitudes of the participants who exercised towards sports were more meaningful.

Table 8: Correlation Table for the Relationship between Participants' Exercise Status and Gender Variables and Sub-Dimensions of Attitudes towards Sports

Variables		Exercise status	Gender	Digital Game addiction total score	Psychosocial Development	Physical Development	Mental Development	Sports Attitudes total scores
Exercise status	R	1						
	P							
	N	190						
Gender	R	-,167*	1					
	P	,022						
	N	190	190					
Digital Game addiction total score	R	-,143*	,351**	1				
	P	,048	,000					
	N	190	190	190				
Psychosocial Development	R	-,176*	,263**	-,059	1			
	P	,015	,000	,419				
	N	190	190	190	190			
Physical Development	R	-,090	-,002	-,219**	,525**	1		
	P	,218	,973	,002	,000			
	N	190	190	190	190	190		
Mental Development	R	-,137	,166*	-,097	,643**	,448**	1	
	P	,059	,022	,183	,000	,000		
	N	190	190	190	190	190	190	
Sports Attitudes total scores	R	-,172*	,207**	-,124	,936**	,720**	,810**	1
	P	,018	,004	,089	,000	,000	,000	
	N	190	190	190	190	190	190	190

p<0,01**,p<0,05*

In the table, the gender and exercise status of the participants and the sub-dimensions of attitude toward sports (Physical Development, Psychological Development and Mental Development) were examined. There was a low negative correlation between gender variables and exercise status (r =-.181; p<0.05); and a positive low-level relationship between gender and digital game addiction was found (r =-.181; p<0.05)

DISCUSSION

In the study, the digital game addiction of adolescents, their participation in physical activity and their attitudes towards sports were determined and the study was discussed with the relevant literature. In the obtained results according to the gender of the adolescent individuals participating in the study, it was understood that the mean scores of the participants who exercise were higher than those who did not, and this situation was statistically significant. When the literature was examined, it was obvious that digital game addiction had many negative consequences both mentally and physically. When the subject was evaluated on this ground, in the study called "Digital Game Addiction in Adolescents and Young Adults: A Current Perspective", it was determined that digital game addiction threatens the mental health of uncontrolled violent digital games [14] In this sense, the findings of the study show parallelism with our study.

In the study on "examination of the computer game addiction levels of primary school students according to various variables" conducted by [15] it was concluded that the addiction levels of male students were significantly higher. It was seen that similar results were obtained in many studies [16,17] It was believed that this was because digital games were designed to attract the attention of mostly boys and that boys have easier access to areas such as internet cafes.

[18] conducted a study with the participation of 583 adolescent individuals to determine the factors affecting digital game addiction and physical activity attitudes and behaviours of adolescents, it was concluded that digital game addictions differed according to gender, place of residence, having a digital tool, having a game, playing constantly, using the devices and having any sport they are interested in [19], found in their study that there was a statistically significant difference between their attitudes towards playing digital games and gender, duration of playing digital games and duration of physical activity, and no significant difference was observed according to department and class variables.

In the research conducted by [20], it was determined that men spend more time on games and that the preferred games were an adventure, fighting, racing and sports, which were the areas that men were more interested in. When our study results were examined, we can see that war and strategy games were generally preferred. In another study, it was stated that the fact that games were in the field of interest of men reduces women's attitudes toward playing digital games, and it was stated as the reason that leads men to play games more than women [21,22,23]

CONCLUSION

As a result, the game activities that adolescents played on the street or in the parks in the traditional social structure before urbanization were turning into virtual activities, spent hours in front of the computer in today's 21st-century world, at home or in-game rooms, which ultimately led to young adult individuals taking part in a sedentary life. In this context, sports activities should be prioritized for young adults, while parents should set norms that can create awareness of digital games for young adults. Followingly, young adult individuals who were connected to games may have difficulties in fulfilling their daily responsibilities and may cause mental and cognitive disorders because of linking real life with the virtual world, which can negatively affect their academic achievement levels. In addition to all these, individuals should be encouraged to participate in sports, because it was thought to have a positive effect on the mental and physical development of young adults.

Conflicts of interest: No potential conflict of interest relevant to this article was reported.

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