

## Research Article

# The Relationship between University Student's Digital Addiction Level and Physical Activity: A Descriptive Study

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## Introduction

It is stated that among digital addictions, the addiction that worries parents and educators the most lately is game addiction. Digital games, which children and young people can easily access in virtual environments, are beginning to be perceived as a threat to the future of societies [7]. The individual who plays games with increased reality in the digital environment stays in front of the screen for long periods of time, cannot quit the game, forgets or does not fulfill his responsibilities in real life, has difficulty in communicating, puts playing games at the center of his life and does not spend time on anything else, feels reluctance to talk, socially isolates himself from the environment he lives in. Many negative consequences are encountered, such as experiencing psychological and sociological disorders [6]. An individual who is constantly busy on the phone and connected to social networks cuts off communication with his/her environment and focuses on the phone screen. This prevents him from being aware of what is going on around him and from establishing healthy communication, causing him to move away from real life [11]. Lack of physical activity increases the frequency of

## Abstract

**Purpose:** The aim of this study is to evaluate the relationship between digital addiction level and physical activity of university students.

**Method:** This study was planned as descriptive and relational. The study was conducted with 231 university students studying at a state university in Konya. In collecting data; A personal information form, International Physical Activity Survey and Digital Addiction Scale, which were prepared by the researchers and questioned the socio-demographic characteristics, were used. Independent samples t test and analysis of variance were used to evaluate the data. The results were evaluated at a 95% confidence interval and a significance level of  $p < 0.05$ .

**Results:** The average age of the students is  $20.79 \pm 1.50$ , 54.5% are male, 45.5% are female, 28.6% have primary school graduates, 47.6% have associate degree fathers. It was determined that 38.5% of the graduates perceived their income as medium and 40.3% perceived their health as medium. The distribution of students' digital addiction and physical activity level average scores is presented in Table 1. It was determined that 55% of the students were in the low group in terms of physical activity, while 45% were in the inactive group in terms of physical activity. The average score of the students on the digital addiction scale is  $68.91 \pm 15.27$ .

**Result:** It was observed that as the students' level of digital addiction increased, their physical activity level decreased.

**Keywords:** Students; Digital addiction; Physical activity

coronary artery disease and other diseases affected by low socioeconomic status. For this reason, many physical activity assessment methods have been developed to determine the level of physical activity required to protect against chronic diseases. It is extremely important to evaluate physical activity accurately and reliably to prove its effects on health [11].

## Purpose and Questions of the Research

The aim of this study is to evaluate the relationship between digital addiction level and physical activity of university students.

1. What are the sociodemographic characteristics of university students?
2. Does the level of digital addiction vary according to the socio-demographic characteristics of university students?
3. Is there a relationship between digital addiction level and physical activity level?

## Method

### Type of Research

This study was planned as descriptive and relational.

### Location and Characteristics of the Research

The study was conducted among students at a state university in Konya.

### Working Group of the Research

The sample size in the research was calculated in the G\*Power 3.1.9.2 analysis program. It was calculated as 231, with an effect size of 0.367441, 90% power, and 5% margin of error, taking into account the average score of the "Digital Addiction Scale" in the Namli and Demir (2020) study.

The inclusion criteria of the research were university students studying in Konya.

### Data Collection Techniques and Tools

The data of the research was collected through Google Forms between 1-15 March 2024. Surveys were delivered to participants via social media; The data collection process was terminated after the sample quorum was reached. In collecting data; A personal information form, International Physical Activity Survey and Digital Addiction Scale, which were prepared by the researchers and questioned the socio-demographic characteristics, were used.

### International Physical Survey (UFAA)

Physical activity levels were determined by the International Physical Activity Questionnaire (UFAA). A validity and reliability study of the survey was conducted in Turkey. In our study, the short form of the questionnaire, which could be self-administered and included the "last seven days", was used to evaluate the physical activity level. This short form consists of seven questions and provides information about sitting, walking, moderate-intensity activities, and time spent in vigorous activities. Calculation of the short form total score includes the sum of duration (minutes) and frequency (days) of walking, moderate-intensity activity, and vigorous activity. Sitting score (sedentary behavior level) is calculated separately. In evaluating all activities, the criterion is that each activity should be done for at least 10 minutes at a time. A score as "MET-minute/week" is obtained by multiplying the minute, day and MET value (multiples of resting oxygen consumption). To calculate the walking score, walking time (minutes) was multiplied by 3.3 METs. In the calculation, a value of 4 METs was taken for moderately intense activity and 8 METs for vigorous activity. Physical activity levels were classified as physically inactive (3000 MET-min/week) (Öztürk 2006).

### Digital Addiction Scale

Digital Addiction Scale: The scale developed by Kesici and Tunç (2018) consists of 19 items. The scale; It has five factors: overuse (5 items), relapse (3 items), obstructing the flow of life (4 items), mood (4 items) and inability to quit (3 items). When we look at the scale items, it is seen that they mostly provide information about the individual's own addiction level. (Item 6. "I cannot control myself about the time I use digital tools.", "Item 9. I feel very happy when spending time with digital tools.") The total reliability of the scale is .87; In this study, it was found to be .88. Among the factors of the scale, reliability; It was deter-

mined that it was .74 in the overuse factor, .79 in the relapse factor, .76 in the obstruction of the flow of life factor, .74 in the mood factor, and .72 in the inability to quit factor. The five-point Likert scale was rated as "Strongly Disagree = 1", "Disagree = 2", "Undecided = 3", "Agree = 4" and "Strongly Agree = 5". The lowest score that can be obtained in case of a negative response to all items of the scale is 19, while the highest score that can be obtained in case of a positive response is 95. In this context, it can be interpreted that as the average score from this scale increases, the student's level of digital addiction will increase, and as it decreases, it will decrease [8].

### Evaluation of Data

The data of the study were evaluated using the SPSS for Windows 22.0 (Statistical Package for Social Science) statistical package program. Number of units (n), percentage (%), mean±standard deviation (mean (SD)) values were used as summary statistics. Normal distribution of the data was evaluated with the Shapiro-Wilk test and Q-Q plot. Independent samples t test and analysis of variance were used to evaluate the data. The results were evaluated at a 95% confidence interval and a significance level of  $p < 0.05$ .

### Ethical Procedure

Ethical approval was obtained from the local ethics committee for the ethical permission of the research (Decision no: 96). Before starting the research, individuals' online permissions were obtained through an informed consent form. The "Informed Consent" principle was fulfilled by briefly explaining the purpose of the research, its duration and the procedures to be carried out during the research in a language they could understand, the "Autonomy" principle by stating that individuals could withdraw from the research at any time, and the "Confidentiality and Protection of Confidentiality" principle by stating that individual information would be protected after being shared with the researcher.

### Results

The average age of the students is  $20.79 \pm 1.50$ , 54.5% are male, 45.5% are female, 28.6% have primary school graduates, 47.6% have associate degree graduates. It was found that 38.5% perceived their income as medium and 40.3% perceived their health as moderate. The distribution of students' digital addiction and physical activity level average scores is presented in Table 1. It was determined that 55% of the students were in the low group in terms of physical activity, while 45% were in the inactive group in terms of physical activity. The average score of the students on the digital addiction scale is  $68.91 \pm 15.27$ .

**Table 1:** Distribution of Participants' Physical Activity Level and Digital Addiction Scale Average Score.

SCALES	Number (n)	Percentage (%)
Physical Activity Questionnaire		
Physically inactive (Inactive) (<600 MET-min/week)	104	45,0
Those with low physical activity level (600-3000 MET-min/week) (Less Active)	127	55,0
	Mean±SD	Min-Max
Physical Activity Level	620,20±35,24	240-1100
Digital Addiction Level	68,91±15,27	42-81

**Table 2:** Distribution of Participants' Digital Addiction Level Average Scores According to Sociodemographic Characteristics.

Variables	Digital Addiction Level Mean±SD	Test value p value
<b>Gender</b>		
Woman	68,28±14,81	t: 2,150 p:0,002*
Male	70,35±15,32	
<b>Mother's Educational Status</b>		
Primary education	65,20±13,98	F: 2,287 p:0,274
High school	73,40±13,32	
Associate degree	67,93±15,70	
University	72,26±15,75	
<b>Father's Educational Status</b>		
High school	69,61±15,48	F:0,963 p:0,03*
Associate degree	68,82±14,68	
University	83,00±12,28	
<b>Perceived Income Level</b>		
Good	68,86±14,64	F: 1,097 p:0,31
Middle	70,86±15,61	
Bad	68,11±14,96	
<b>Perceived Health Level</b>		
Good	68,38±15,25	F: 3,811 p:0,24*
Middle	69,80±14,09	
Bad	70,37±16,67	
<b>Physical Activity Level</b>		
Physically inactive (Inactive) (<600 MET-min/week)	83,10±14,67	t: 0,841 p:0,01*
Those with low physical activity level (600-3000 MET-min/week) (Less Active)	54,79±15,65	

F: One Way Anova, t: t test, \*p<0,05

**Table 3:** Comparison of Students' Physical Activity Level and Digital Addiction Level.

Variables	Digital Addiction Level	Physical Activity Level
Digital Addiction Level	1,00	
Physical Activity Level	r: -0,784 p:0,02*	1,00

r: Pearson correlation analysis, \*p<0,05

When the sociodemographic characteristics of the students and the distribution of their digital addiction levels are examined; It was observed that women had a higher level of digital addiction than men, and the difference was found to be statistically significant ( $p < 0.05$ ). It was observed that there was a statistically significant difference between father's education level and digital addiction level, and the difference was due to fathers having a university degree ( $p < 0.05$ ). It was observed that the digital addiction level of those with inactive physical activity levels and those with low physical activity levels was higher, and the difference was found to be statistically significant ( $p < 0.05$ ). No statistically significant difference was found between maternal education level, perceived income, perceived health status and addiction level ( $p > 0.05$ ) (Table 2). When students' physical activity level and digital addiction level were compared, a high negative relationship was found between physical activity level and digital addiction ( $r: -0.784, p:0.02$ , Table 4). It can be said that as students' digital addiction level increases, their physical activity level decreases.

## Discussion

In this study, when the relationship between students' digital addiction level and physical activity level was evaluated, the

students' digital addiction level was found to be quite high. Alotaibi et al. [3] found that students' level of digital addiction was high. Guo et al. [2] study, the level of digital addiction was again found to be quite high. Alotaibi et al. and Guo et al. The study findings were similar to our current study findings in this respect. When the physical activity level of the students was evaluated, it was found to be quite low and the majority were found to be inactive. Wilson et al. [10] found that students' physical activity level was low. Romero-Blanco et al. [11] study, the physical activity level was again found to be quite low. Wilson et al. and Romero-Blanco et al. The study findings were similar to our current study findings in this respect.

When the sociodemographic characteristics of the students and the distribution of their digital addiction levels are examined; It has been observed that women have a higher level of digital addiction than men. Shi et al. [1] study reported that women have a higher level of digital addiction than men. The study finding was similar to our current study finding in this aspect.

When the relationship between father's education level and digital addiction level was evaluated, it was determined that the digital addiction level was higher in those whose fathers were university graduates. In the study of Namlı and Demir [5], it was reported that those with high father education level had a high level of digital addiction. The study finding was similar to our current study finding in this aspect. It has been found that those with inactive physical activity levels and those with low physical activity levels have higher levels of digital addiction. Shi et al. [1] study reported that those with low physical activity levels had a high level of digital addiction. It has been observed that as students' digital addiction level increases, their physical activity level decreases. The study finding was similar to our current study finding in this aspect.

## Conclusion

As a result, women, those whose fathers are university graduates and those who are inactive in terms of physical activity are in the risk group in terms of digital addiction. It has been observed that as students' digital addiction level increases, their physical activity level decreases. The digital addiction level of the students was found to be quite high. Additionally, the level of physical activity was found to be quite low.

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