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Research Article

The Relationship Between Physical Activity Levels and Behavioral Addiction Awareness Levels Among University Students

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Abstract

This study aimed to examine the relationship between physical activity levels and behavioral addiction awareness among university students. A descriptive relational research design was employed, and the study was conducted at a public university in Konya, Turkey. The sample size was calculated using G*Power software and determined to be 200 participants. Data were collected through face-to-face interviews and social media distribution. Physical activity levels were assessed using the International Physical Activity Questionnaire (IPAQ), and behavioral addiction awareness was measured with the Behavioral Addiction Awareness Scale. Results indicated that the average physical activity score of the students was 493.66 ± 49.62 MET-minutes/week, classifying all participants as physically inactive. The mean behavioral addiction awareness score was 34.63 ± 5.01. Female students had significantly lower behavioral addiction awareness scores compared to males ($p < 0.05$). Sociodemographic factors such as parents' education levels, family structure, perceived health status, and income level showed significant effects on physical activity scores ($p < 0.05$). A strong positive correlation was found between behavioral addiction awareness and physical activity levels ($r = 0.766$, $p < 0.001$), suggesting that higher awareness of behavioral addictions is associated with increased physical activity. In conclusion, enhancing behavioral addiction awareness may play a crucial role in promoting physical activity among university students. These findings highlight the importance of incorporating behavioral addiction awareness into health promotion and physical activity interventions to support healthier lifestyles in this population.

Keywords: university students; physical activity; behavioral addiction awareness

Introduction

University students face academic, social, and individual challenges during this critical period of their lives. The widespread use of technology and digital engagement, particularly in areas such as social media, digital gaming, and internet usage, has led to an increase in behavioral addictions. Concurrently, the sedentary lifestyle associated with contemporary living has caused a decline in physical activity levels, especially among students (Çar & Ahraz, 2022). This situation negatively affects both individuals' physical and mental health. Behavioral addictions pose serious problems that can harm academic success, social interactions, and overall well-being. Awareness of these addictions can enhance individuals' ability to self-regulate and make healthy lifestyle choices. However, the relationship between physical activity levels and behavioral addiction awareness among university students remains an under-researched area (Alagöz & Keskinkılıç, 2022). This study aims to understand the interaction between physical activity and awareness of behavioral addictions. Physical activity is an important factor not only for improving physical health but also for supporting psychological well-being. Exercise offers positive effects such as stress reduction, mental clarity, and increased overall happiness. Conversely, a decrease in physical activity levels may increase the risk of depression, anxiety, and the emergence of behavioral addictions. Behavioral addictions arise from individuals' inability to control their engagement with technology and digital platforms, forming a core issue behind social dependencies and academic performance decline. Addiction awareness plays a critical role in coping with these problems (Yang et al., 2021). Nevertheless, efforts to increase awareness should be based on understanding the interaction between lifestyle factors and individual behaviors. In this context, the extent to which physical activity levels influence university students' capacity to recognize and manage behavioral addictions represents a scientific gap that needs to be addressed (Alagöz & Keskinkılıç, 2022). This study has the potential to provide concrete data guiding individuals toward adopting a more balanced and healthy lifestyle. Additionally, the university period is a critical stage in which individuals develop long-term life habits. Therefore, understanding the impact of physical activity on behavioral addictions is crucial for improving student well-being and contributing to future public health. The aim of this study is to determine the physical activity levels of university students and to examine the relationship between physical activity and behavioral addiction awareness levels.

Research Questions

1. What are the sociodemographic characteristics of the students?

2. Does the level of awareness of behavioral addiction change according to the sociodemographic characteristics of the students?
3Is there a relationship between the level of awareness of behavioral addiction and the level of physical activity of the students?

Methods

Type of Research
This study was designed as a descriptive relational study.
Research Setting and Characteristics
The study was conducted at a public university in Konya, Turkey.
Study Population
The sample size was calculated using the G*Power 3.1.9.2 analysis program. Based on an effect size of 0.3121734, with 95% power and 5% margin of error, and considering the mean total physical activity score from the study by Elmas et al. (2021), the required sample size was determined as 200.

Data Collection Methods and Instruments

Data were collected through face-to-face interviews. Surveys were distributed to participants via social media, and data collection was terminated once the required sample size was reached. The instruments used included a personal information form prepared by the researchers to assess socio-demographic characteristics, the International Physical Activity Questionnaire (IPAQ), and the Behavioral Addiction Awareness Scale.

International Physical Activity Questionnaire

Physical activity levels were determined using the International Physical Activity Questionnaire (IPAQ) (Öztürk, 2005). Validity and reliability studies of the questionnaire have been conducted in Turkey (Sağlam et al., 2010). In this study, the self-administered short form assessing physical activity over the "last seven days" was used. This short form consists of seven items and provides information about time spent sitting, walking, moderate-intensity activities, and vigorous-intensity activities. The total score is calculated by summing the duration (minutes) and frequency (days) of walking, moderate, and vigorous activities. Sitting time (sedentary behavior) is calculated separately. For all activities, a minimum duration of 10 consecutive minutes per session is considered. The total score is expressed as MET-minutes/week, calculated by multiplying minutes, days, and MET values (multiples of resting oxygen consumption). Walking time is multiplied by 3.3 METs; moderate activities by 4 METs; and vigorous activities by 8 METs. Physical activity levels are classified, with physically inactive defined as below 3000 MET-minutes/week (Öztürk, 2005).

Short Video Addiction Scale

Developed by Kanat (2023) to measure individual awareness of behavioral addictions including gambling addiction, sex and pornography addiction, food addiction, exercise and sports addiction, love and interpersonal addiction. The Behavioral Addiction Awareness Scale consists of 17 items. The internal consistency coefficients of its subdimensions are .659 for the cognitive dimension, .461 for the emotional dimension, -.256 for the social dimension, .408 for the coping dimension, and .532 for the cost-benefit dimension. The overall scale reliability coefficient was reported as .666. Factor analysis with Varimax rotation revealed five subdimensions: cognitive (items 24, 18, 17, 15, 9, and 1), emotional (items 11, 22, 19, 8, and 14), social (items 12 and 10), coping (items 6 and 16), and cost-benefit (items 21 and 20). These five factors explained 51.484% of the total variance. The scale scores range from a minimum of 17 to a maximum of 85 (Kanat, 2023).

Data Analysis

Data were analyzed using SPSS for Windows 22.0 (Statistical Package for Social Sciences). Descriptive statistics included frequency (n), percentage (%), and mean ± standard deviation (mean (SD)). Normality of data was assessed by the Kolmogorov–Smirnov test and Q-Q plots. For normally distributed data, independent samples t-test and One-Way ANOVA/Duncan tests were used. Results were evaluated within a 95% confidence interval and at a significance level of $p < 0.05$.

Ethical Considerations

Ethical approval was obtained from the Ethics Committee of a university (Decision no: 152). Prior to participation, informed consent was obtained from the participants. The study's purpose, duration, and procedures were briefly explained in understandable language in accordance with the principle of "Informed Consent." Participants were informed that they could withdraw from the study at any time, ensuring the principle of "Autonomy." Confidentiality and privacy were guaranteed by assuring participants that personal data shared with the researchers would be protected, in line with the principles of "Confidentiality and Privacy Protection."

Results

The average age of the participants was 21.35±1.72, 65.0% were female, 56.0% had a high school graduate mother, 61.0% had a high school graduate father, 60.0% had a nuclear family structure, 42.0% perceived their health to be good, and 38.0% had a good perceived income level. The students' total physical activity score average was found to be 493.66±49.62, and all of the students were found to be inactive. The students' behavioral addiction awareness scale score average was found to be 34.63±5.01 (Table 1).

Scales	Meant±SD	Min-Max
Physical Activity Total Score	493,66±49,62	102-803
Behavioral Addiction Awareness Scale Total Score	34,63±5,01	10-50

Table 1: Distribution of Students' Physical Activity Level and Behavioral Addiction Awareness Scale Mean Scores

When the students' sociodemographic variables and physical activity scale total score averages were examined, it was seen that the women's behavioral addiction awareness scale total score averages were lower than the men's and the difference was found to be statistically significant ($p<0.05$). A significant difference was found between the mother's education status and the physical activity scale total score averages and it was determined that the difference was due to those who were primary school graduates ($p<0.05$). A significant difference was found between the father's education status and the physical activity scale total score averages and it was determined that the difference was due to those who were primary school graduates ($p<0.05$). A significant difference was found between the family structure and the physical activity scale total score averages and it was determined that the difference was due to those who had a broken family structure ($p<0.05$). A significant difference was found between the perceived health status and the physical activity scale total score averages and it was determined that the difference was due to those who perceived their health as poor ($p<0.05$). A significant difference was found between the perceived income status and the total mean scores of the physical activity scale, and it was determined that the difference was due to those who perceived their income poorly ($p<0.05$) (Table 2).

Variables	Average Physical Activity Score	Test value P value
Gender		
Female	420,36±20,85	t:-0,946
Male	566,59±36,14	p:0,21*
Mother's Education Status		
Primary School	**453,89±16,66**	
High School	500,33±22,45	F:6,845
University and above	525,29±24,30	p:0,037*
Father's Education Status		
Primary School	**389,19±25,51**	F:0,743
High School	512,60±44,20	p:0,037*
University and above	578,20±11,26	
Family Structure		
Nuclear Family	543,60±17,88	F:5,612
Extended Family	508,28±60,14	p:0,014*
Broken Family	**428,22±41,25**	
Perceived Health Status		
Good	583,27±7,56	F:2,412
Moderate	504,28±16,25	p:0,027
Poor	**392,77±42,30**	
Perceived Income Status		
Good	526,68±24,63	F:19,378
Moderate	496,29±16,24	P:0,022*
Poor	**457,62±41,18**	

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

Table 2: Distribution of Students' Physical Activity Scale Mean Scores According to Sociodemographic Characteristics

The relationship between the students' behavioral addiction awareness level and physical activity level is evaluated in Table 3. A very strong positive relationship was found between behavioral addiction awareness and physical activity level (r:0.766, p<0.001) (Table 3). It can be said that as the students' behavioral addiction awareness level decreases, their physical activity level also decreases.

Varieblles	Behavioral Addiction Awareness	Physical Activity
Behavioral Addiction Awareness	1,00	
Physical Activity	r:0,766 p:0,001*	1,00

r:Pearson Correlation Analysis, *p<0,001

Table 3: Comparison of Students' Behavioral Addiction Awareness and Physical Activity Level

Discussion

The findings obtained in this study provide important clues in terms of understanding the relationship between the physical activity levels of university students and their awareness of behavioral addictions. When each finding is evaluated in terms of its compatibility or contradiction with the literature, the multidimensional nature of this relationship is better understood. The fact that women's total behavioral addiction awareness scale mean scores are lower than men can be explained by gender roles and perceptions. Women's different strategies in expressing or realizing their awareness of behavioral addictions may affect this result. Shi et al. (2021) stated that behavioral addictions can be shaped according to social perceptions. In addition, it should be considered that social norms and expectations may play an indirect role in determining awareness levels. The significant difference between the mother's education status and the total physical activity scale mean scores shows the effect of the mother's education level on children's physical activity habits. A study conducted by Wayoi et al. (2024) supports the effect of parents' education level on children's health behaviors. The low knowledge and awareness levels of mothers, especially those who are primary school graduates, regarding physical activity may contribute to this result. The significant difference between the father's education status and the total scores of the physical activity scale indicates that the father's education level encourages physical activity in the family and has an effect on a healthy lifestyle. Previous studies also support the fact that children's physical activity levels can be affected by their parents' health behaviors. Caydı and Batmaz (2023) showed that parental behaviors that support physical activity can increase children's mobility levels. It was determined that the difference between the family structure and the total mean scores of the physical activity scale was due to fragmented family structures. Alimoradi et al. (2022) stated that individuals with fragmented family structures generally have low physical activity levels. Fragmented family structures may cause individuals to have limited social and emotional support resources, which may reduce participation in physical activity. The significant difference between the perceived health status and the total mean scores of the physical activity scale emphasizes the effect of individuals' own health perceptions on physical activity behaviors. Van Sluijs et al. (2007) emphasize the critical effect of health perception on physical activity habits. Individuals who perceive their health as poor may participate less in physical activity. Finally, the difference between perceived income status and physical activity scores stems from individuals who perceive income poorly, indicating the impact of economic factors on access to physical activity. Low income levels can create barriers to accessing the resources needed for physical activity. This finding reveals the importance of economic support in encouraging physical activity. Alimoradi et al. (2013) report that low income levels can limit physical activity participation. It has been supported by various studies that physical activity positively affects individuals' cognitive processes, self-regulation abilities, and psychological well-being (Yang et al. 2021). This may explain the positive impact of physical activity on behavioral addiction awareness. Physical activity can increase individuals' ability to recognize the negative effects of digital addictions by reducing their stress levels and supporting mental health.

Conclusion

These findings may guide future studies to better understand the relationship between physical activity and behavioral addiction awareness among university students. The study showed that sociodemographic factors affect physical activity and behavioral addiction awareness; women

have lower awareness levels, and parental education levels and family structure affect physical activity. In addition, a strong positive relationship was found between physical activity and addiction awareness. Accordingly, it is recommended that programs to increase physical activity and digital addiction awareness training be integrated in universities. Supportive interventions should be developed especially for women and students with disadvantaged family structures. The generalizability of the findings can be increased with future studies conducted on different groups.

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