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Original article

THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND SELF-EFFICIENCY LEVEL IN PROTECTION FROM SUBSTANCE ADDICTION IN ADOLESCENTS

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Abstract

Objective: In this study, the relationship between the level of self-efficacy and physical activity in the prevention of substance addiction in adolescents was examined.

Methods: This study was planned as descriptive relational. The study was carried out in a Youth Center located in Selçuklu district of Konya province. A total of 136 adolescents were included in the sample. The data of the research were collected through Google Forms. The questionnaires were delivered to the participants via social media; After the sample quorum was reached, the data collection process was terminated. In data collection; Personal information form prepared by the researchers and questioning socio-demographic characteristics, International Physical Activity Questionnaire and Self-Efficacy Scale for Protection from Substance Addiction were used.

Results: The mean age of the adolescents was 16.35±0.73, 54.4% of them were girls, 36.8% of their mothers were high school graduates, 41.9% of them had high school graduates, 37.5% of them had no mothers, 58% were It was determined that the fathers of 0.8 of them worked in the private sector and 35.3% of them evaluated their income as good. Adolescents' total physical activity score average was 796.66±599.62, and 36.0% were found to be inactive and 64.0% active. Adolescents' self-efficacy in the prevention of substance abuse sub-dimension mean score of abstinence from drugs/stimulants 21.43±4.22, average score of abstinence from drugs/stimulants under pressure 9.38±3.01, Help with drugs/stimulants The mean score of the search sub-dimension was 12.11±2.09 and the total mean score of the self-efficacy scale in prevention from substance addiction was 52.69±5.60. A very strong positive correlation was found between self-efficacy and physical activity level in preventing substance abuse.

Conclusions: It can be said that as the mean scores of adolescents' self-efficacy from substance addiction increase, the level of physical activity also increases.

Keywords. Adolescent, physical activity level, substance abuse.

Introduction

Adolescence is an important period in the life of an individual in which cognitive, social, physical and emotional changes are very rapid. In this period, risk-taking behavior against situations that can be considered dangerous, and the dilemma of belonging to a group and being an individual seem to be a common feature of adolescence-specific experiences (Mutlu 2013). Undoubtedly, one of the biggest risks in adolescence is substance use (Rice and Dolgin 2005). Self-efficacy is the individual's judgment and belief about himself/herself regarding how successful he/she will be in overcoming difficult situations that he/she may encounter in the future. It is the self-confidence of the individual and it is a belief that develops over time and experience (Andersan 2019). In addition, individuals develop self-efficacy beliefs as a result of observing other individuals or listening to others' comments. Self-efficacy beliefs are effective on adolescents' substance initiation and maintenance behaviors (Schulenberg et al. 2019). Physical activity is an important determinant of body weight. The risk of gaining weight, being overweight and obesity is very low in those who do regular physical activity (Orhan 2019). There is strong evidence that high activity levels reduce the risk of cardiovascular disease and all-cause mortality and that these benefits can be seen at all body mass index (BMI) levels (Cüceler et al. 2022). It has been shown that aerobic exercise has a positive effect on regulating blood pressure and the risk of metabolic syndrome, increases bone mineral density, and reduces BMI, total fat ratio and abdominal fat, which indicate obesity risk (Arabacı et al. 2017). Exercise-based physical activities and games applied in schools; It provides benefits such as physical development, skill development, self-confidence, disciplined life, development of reasoning ability and spiritual development in children (Hekim 2015).

In this study, the relationship between the level of self-efficacy and physical activity in the prevention of substance addiction in adolescents will be examined.

Research Questions

1. What are the sociodemographic characteristics of adolescents?

2. Does the level of self-efficacy in protection from substance addiction change according to the socio-demographic characteristics of the adolescents?

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3. Is there a relationship between the level of self-efficacy and physical activity level of adolescents in preventing substance addiction?

Methods

Type of Research

This study was planned as descriptive relational.

Location and Features of the Research

The study was carried out in a Youth Center located in Selçuklu district of Konya province.

Study Group of the Research

The sample size in the study was calculated in the G*Power 3.1.9.2 analysis program. In Uzun and Kelleci's (2018) study, with an effect size of 0.3117234, a power of 95%, and a margin of error of 5%, the total substance addiction was calculated as 136, taking into account the self-efficacy scale.

The inclusion criteria of the study are individuals between the ages of 15-18 and individuals who do not have any chronic mental illness.

Data Collection Technique and Tools

The data of the research will be collected through Google Forms. The survey was designed in accordance with the Internet E-Survey Results Reporting Checklist (CHERRIES) guidelines. The survey was designed in accordance with Checklist for Reporting Results of Internet E-Surveys (CHERRIES) guidelines (Eysenbach, 2004). Before delivering the questionnaires to the individuals, the forms were tested in terms of usability and technical functionality. The questionnaires were delivered to the participants via social media and the data collection process was terminated after the sample quorum was reached. The questionnaires were delivered to the participants via social media; After the sample quorum was reached, the data collection process was terminated. In data collection; Personal information form (Appendix 1), International Physical Activity Questionnaire (Appendix 2), and Self-Efficacy in Prevention from Substance Addiction Scale (Appendix 3), which questioned socio-demographic characteristics and prepared by the researchers, were used.

International Physical Survey (UFAA) (Appendix 2)

Physical activity levels will be determined by the International Physical Activity Questionnaire (UFAA) (Craig et al. 2003). The validity and reliability study of the questionnaire was conducted in Turkey (Sağlam ver ak 2010). In our study, the self-administered short form of the questionnaire was used to evaluate the physical activity level, including the "last seven days". 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 total score of the short form includes the sum of time (minutes) and frequency (days) of walking, moderate-intensity activity, and vigorous activity. The sitting score (level of sedentary behavior) is calculated separately. In the evaluation of all activities, the criterion is that each activity is done for at least 10 minutes at a time. A score is obtained as "MET-minutes/week" by multiplying the minute, day and MET value (multiples of resting oxygen consumption). Walking time (minutes) was multiplied by 3.3 METs to calculate the walking score. In the calculation, 4 METs for moderate-intensity activity and 8 METs for vigorous activity were taken. Physical activity levels were classified as physically inactive (3000 MET-min/week) (Saglam et al 2010).

Self-Efficacy Scale for Protection from Substance Addiction:

The validity and reliability studies of the scale developed by Eker, Akkuş and Kapısız in 2013 were carried out with the participation of 1100 students (526 girls, 574 boys). In the scale development study, item discrimination was determined by applying content analysis and exploratory factor analysis, and the Cronbach Alpha reliability number was calculated. At the end of the study, a scale consisting of 24 items, four sub-dimensions and a control item, which explained 50.3 of the total variance, was obtained. The sub-dimensions are staying away from drugs/stimulants based on expert opinion (12 items), staying away from drugs/stimulants under pressure (4 items), seeking help with drugs/stimulants (4 items), - supporting a friend with drugs/stimulants It was named as being (3 items). The scale consists of 23 items. A score between 23 and 115 is taken from the scale. The high score obtained indicates the high self-efficacy in protection from substance addiction. The total internal consistency coefficient (Cronbach's) of the scale was 0.81, and the internal consistency coefficients of the sub-dimensions ranged from 0.45 to 0.87. Test-retest correlation was found to be positively and significantly correlated ($p<0.001$) (Eker et al. 2013).

Evaluation of Data

The data of the study were evaluated using the statistical package program SPSS for Windows 22.0 (Statistical Package for Social Science). Number of units (n), percentage (%), mean±standard deviation (mean (SD)) values were used as summary statistics. The normal distribution of the data was evaluated with the Kolmogorov–Smirnov test and the Q-Q plot. Independent two-sample t-test and one-way anova were used for normally distributed data, and Mann-Whitney U and Kruskal Wallis tests were used for non-normally distributed data. The results were evaluated at 95% confidence interval and $p<0.05$ significance level.

Ethical Dimension

Ethics was obtained from the Ethics Committee of the Faculty of Sport Sciences for the ethical approval of the research (Decision no: 33). Before starting the study, informed consent form was obtained from the adolescents and

their parents. The purpose of the research, its duration and the procedures to be carried out during the research were briefly explained in a language they could understand, the principle of "Informed Consent", the principle of "Autonomy" by stating that individuals could withdraw from the research at any time, and the principle of "Confidentiality and Confidentiality" by stating that individual information would be protected after sharing it with the researcher.

Results

The mean age of the adolescents was 16.35±0.73, 54.4% of them were girls, 36.8% of their mothers were high school graduates, 41.9% of them had high school graduates, 37.5% of them had no mothers, 58% were It was determined that the fathers of 0.8 of them worked in the private sector and 35.3% of them evaluated their income as good.

Adolescents' total physical activity score average was 796.66±599.62, and 36.0% were found to be inactive and 64.0% active. Adolescents' self-efficacy in the prevention of substance abuse sub-dimension mean score of abstinence from drugs/stimulants 21.43±4.22, average score of abstinence from drugs/stimulants under pressure 9.38±3.01, Help with drugs/stimulants the mean score of the search sub-dimension was 12.11±2.09 and the total mean score of the self-efficacy scale in preventing substance addiction was 52.69±5.60 (Table 1).

Table 1. Distribution of Adolescents' Physical Activity Level and Mobile Phone Addiction Scale Mean Scores

Scales	**Number (n)**	**Percent (%)**
Physical Activity Questionnaire		
Physically inactive (Inactive) (<600 MET-min/week)	49	36,0
Low physical activity level (600-3000 MET-min/week) (Active)	87	64,0
	Ort±SS	**Min-Max**
Physical Activity Total Score	796,66±599,62	55-2600
Self-Efficacy Scale in Preventing Substance Abuse Total Score	52,69±5,60	38-64
Sub-dimension of abstinence from drugs/stimulants	21,43±4,22	13-30
Sub-Dimension of staying away from drugs/stimulants under pressure	9,38±3,01	4-15
Seeking help on drugs/stimulants Sub-Dimension	12,11±2,09	9-18
Supporting a friend about drugs/stimulants Sub-dimension	9,46±1,95	4-14

When the sociodemographic variables of the adolescents and the total mean scores of the substance addiction self-efficacy scale were examined, it was seen that the total mean score of the substance addiction self-efficacy scale of the girls was higher than that of the boys, and the difference was found to be statistically significant ($p<0.05$). A significant difference was found between the educational status of the parents and the total mean score of the substance addiction self-efficacy scale, and it was determined that the difference was due to those whose mothers and fathers were university graduates ($p<0.05$). Substance addiction self-efficacy scale total score averages of those whose mothers worked in any job were found to be higher than those whose mothers did not work, and the difference was found to be statistically significant ($p<0.05$). Substance addiction self-efficacy scale total score averages of the adolescents in the active group in terms of physical activity were higher than the adolescents who were physically inactive, and the difference was statistically significant ($p<0.05$). It was found that there was no statistically significant difference between the father's working and perceived income status and the total averages of the substance addiction self-efficacy scale ($p>0.05$). (Table 2).

Table 2. Distribution of Adolescents' Self-Efficacy Scores in Preventing Substance Addiction According to Sociodemographic Characteristics

Scales	**Substance Addiction Self-Efficacy Score Average**	**Test value p**
Gender		
Girl	56,58±6,05	t:0,398
Male	48,82±5,04	p:0,001*
Mother Education Status		

Primary education	48,20±6,57	
High school	52,96±5,02	F:0,841
University	**57,00±4,96**	p:0,02*
Father Educational Status		
Primary education	47,69±5,66	F:1,378
High school	52,94±6,02	p:0,01*
University	**57,42±5,20**	
Mother Working Status		
working	55,45±4,86	t:0,706
Not working	53,30±5,93	p:0,02*
Father Working Status		
Officer	52,30±5,93	t:1,289
Private sector	52,96±5,38	p:0,29
Perceived Income		
Good	51,10±5,56	F:0,894
Middle	54,58±5,77	P:0,04
Bad	52,65±5,06	
Physical Activity Level		
Physically inactive (Inactive) (<600 MET-min/week)	48,24±5,77	t:0,168 p:0,01*
Low physical activity level (600-3000 MET-min/week) (Active)	57,37±5,50	

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

The relationship between self-efficacy and physical activity level in protecting adolescents from substance addiction is evaluated in Table 3. A very strong positive correlation was found between self-efficacy and physical activity level in preventing substance abuse (r:0.945, p<0.001). It can be said that as the mean scores of adolescents' self-efficacy from substance addiction increase, the level of physical activity also increases.

Table 3. Comparison of Self-Efficacy and Physical Activity Levels in Protecting Adolescents from Substance Addiction

Variables	**Self-Efficacy in Protection from Substance Abuse**	**Physical Activity**
Self-Efficacy in Protection from Substance Abuse	1,00	
Physical Activity	r:0,945 p:0,001*	1,00

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

Discussions

In our study, which examined the relationship between the physical activity level of adolescents and the level of self-efficacy in protection from substance addiction, it was observed that adolescents were active in terms of physical activity. In their study, in which they evaluated the physical activity levels of adolescents and the variables that may be related to their physical activity levels, they reported that the physical activity level of adolescents was at a good level, similar to our study finding (Mayer et al. 2023). In the study in which they evaluated the physical activity levels of adolescents and the variables that may be associated with physical activity levels, it was reported that adolescents were inactive in terms of physical activity, different from our study finding (Rossi et al. 2021). In a meta-analysis study on the physical activity levels of adolescents, similar to our study finding, it was reported that the physical activity level of adolescents was sufficient (Rodriguez et al. 2019). In their study, in which they evaluated the physical activity levels of adolescents and the variables that may be related to their physical activity levels, they reported that the physical activity level of adolescents was good, similar to our study finding (van Sluijs et al. 2021). This situation can be interpreted as giving importance to sports activities in schools during adolescence, the country's sports policies encouraging students to do sports, and their parents supporting their children in this situation.

The self-efficacy scale of adolescents in prevention of substance addiction, staying away from drugs/stimulants, staying away from drugs/stimulants under pressure, seeking help for drugs/stimulants and protection from substance addiction were evaluated as good. Kavunane (2023) evaluated the relationship between adolescents' self-efficacy in prevention of substance addiction and depression and psychosocial support, and found that adolescents' self-efficacy levels in protection from substance addiction were low. In their study evaluating adolescents' self-efficacy in prevention

of substance addiction and related factors, they found that adolescents' self-efficacy levels in protection from substance addiction were at a good level. (Yung et al. 2019). While our current study finding differs with the Kavunane (2023) study finding, it is similar to the study finding of Yung et al.

In the current study, it was observed that as the self-efficacy of adolescents from substance addiction increased, the level of physical activity also increased. In a study evaluating the relationship between adolescents' self-efficacy in preventing substance addiction and physical activity, a significant relationship was found between physical activity and self-efficacy in preventing substance addiction. It has been emphasized that as the physical activity level of adolescents decreases, their self-efficacy in protection from substance addiction decreases (Chaffee et al. 2021). In a study evaluating the relationship between adolescents' self-efficacy in preventing substance addiction and physical activity, a significant relationship was found between physical activity and self-efficacy in preventing substance addiction. It has been reported that as the physical activity level of adolescents increases, their self-efficacy in protection from substance addiction increases (Chauhan et al., 2021). In a study evaluating the relationship between adolescents' self-efficacy in preventing substance addiction and physical activity, a significant relationship was found between physical activity and self-efficacy in preventing substance addiction. It has been emphasized that as the physical activity level of adolescents decreases, their self-efficacy in protection from substance addiction decreases (Moral-Garcia et al. 2020). In this case, as the physical activity level of adolescents increases, it also contributes to their protection from substance addiction.

Conclusions

In our study, in which we evaluated the relationship between the self-efficacy level of adolescents in prevention of substance addiction and physical activity, males, those with low educational level of parents, those whose mothers did not work in any job, those who perceived their income as good and those who were inactive in terms of physical activity were included in the risk group. It was observed that the self-efficacy of adolescents in protection from substance addiction was at a moderate level. They were also found to be in the risky group in terms of physical activity. In addition, it was observed that as the mean scores of adolescents' self-efficacy from substance addiction increased, the level of physical activity also increased.

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