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**ADÖLESANLARDA FİZİKSEL AKTİVİTE SEVİYESİ İLE
BESLENME-EGZERSİZ DAVRANIŞI VE ZAMAN YÖNETİMİ
ARASINDAKİ İLİŞKİ**

Öz

Bu çalışmada, adölesanların fiziksel aktivite seviyeleri ile beslenme-egzersiz davranışları ve zaman yönetimleri arasındaki ilişkinin incelenmesi amaçlanmıştır. Araştırmaya 14-17 yaş grubu 1182 kişi katılmıştır. Araştırmada veri toplama araçları olarak Kişisel Bilgi Formu, Fiziksel Aktivite Soru Formu, Zaman Yönetimi Ölçeği ve Beslenme Egzersiz Davranış Ölçeği kullanılmıştır. Araştırmaya katılanların fiziksel aktivite düzeyleri ile zaman planlaması alt boyutunda pozitif yönde, zaman tutumları alt boyutunda pozitif yönde, zaman harcattırıcılar boyutunda negatif yönde, toplam zaman yönetimi ile arasında pozitif yönde ilişki bulunmuştur. Beslenme-egzersiz davranışı incelendiğinde, katılımcıların psikolojik/bağımlı yeme davranışının orta düzeyde, sağlıklı beslenme ve egzersiz davranışının orta düzeyde, sağlıklı beslenme ve egzersiz davranışlarının orta düzeyde, öğün düzeni ile ilgili davranışlarının ise yüksek düzeyde olduğu belirlenmiştir. Sonuç olarak; adölesanların fiziksel aktivite seviyelerinin düşük, zaman yönetiminin ve beslenme-egzersiz davranışlarının orta seviyede olduğu söylenebilir. Ayrıca fiziksel olarak aktif olma durumu zaman yönetimini ve beslenme-egzersiz davranışlarını olumlu yönde etkileyebilmektedir.

Anahtar kelimeler: Adölesan, Fiziksel Aktivite, Zaman Yönetimi, Beslenme

RELATIONSHIP BETWEEN PHYSICAL ACTIVITY LEVEL AND NUTRITION-EXERCISE BEHAVIOR AND TIME MANAGEMENT IN ADOLESCENTS

Abstract

The aim of this study was to examine the relationship between physical activity levels and nutrition-exercise behaviors and time management of adolescents. 1182 people aged 14-17 participated in the study. Personal Information Form, Physical Activity Questionnaire, Time Management Questionnaire and Nutrition Exercise Behavior Scale were used as data collection tools in the study. The relation between subjects' physical activity levels and subdimension of time planning was positive, subdimension of time planning attitudes was positive, dimension of time wasters was negative, total time management was positive. When nutrition-exercise behavior was analysed, it was observed that subjects' psychological/addicted eating attitude is at the medium level, healthy nutrition and exercise behavior level is at the medium level, too and unhealthy nutrition and exercise level is at the medium level, and behaviors about meal order is at the high level. As a result, adolescents' physical activity levels, time management and nutrition-exercise behaviors are at medium level. Also, being physically active can positively affect time management and nutrition-exercise behaviors.

Keywords: Adolescent, Physical Activity, Time management, Nutrition

INTRODUCTION

Physical activity, which includes daily activities as well as sports activities, is expressed as physical movements that occur as a result of muscle contraction (Ardıç, 2014). Today, children's sedentary lifestyle increases while their physical activity levels fall (Yüksel and Akıl, 2019). In order to prevent this decline, adolescents should perform physical activity for 60 Minutes a day and at least 3 days a week (Top et al., 2020). Chronic or acute physical activities or sportive activities, as well as physiological changes in the organism (Akıl, 2012) have many physical or (Top et al., 2018; Çagri et al., 2015; Akıl et al., 2016) psychological (Top and Akıl, 2018) benefits. For this reason, the level of physical activity should be researched well and the factors that have a negative impact on the level of physical activity should be determined and necessary measures must be taken (Bellows et al., 2016).

Today, time is considered as an ever-usable and easily expendable commodity. However, the way to achieve success is through the effective management and planning of time (Macan et al., 2000). Time management plays a vital role in one's success. Performance, talent and motivation are better revealed by time management (Brigitte et al., 2007). Failure to plan time correctly leads to insufficient time for personal activities, increases the level of stress and can reduce the ability to access positive personal characteristics, such as decision-making (Ebrahimi et al., 2014). Therefore, it should be known well whether time is managed correctly and it affects our health-related physical activity.

Feeding behavior can vary depending on the lifestyle of people (Mielgo-Ayuso et al., 2015). While people who act with health awareness give importance to exercise and nutrition (Mai ve Hoffmann 2012) they may change their nutrition behaviors due to reasons such as performance,

competition, etc (Smart and Bisogni 2001). Although there is a lot of information about food intake, people who engage in physical activity still do not have regular food intake (Spronk et al., 2014). Lack of time is among the reasons for this (Heaney et al., 2008). However, the evaluation of the nutritional behaviors of people in the field of physical activity is also significant in terms of health (Deliens et al.,2014).

Regular physical activity is considered important in terms of community health. In order to develop the right policies in this area, first of all, the factors that prevent physical activity should be known correctly (Dishman and Sallis 1994). Finding answers to these questions is important for individuals in society to lead a more active and healthier life. Therefore, the aim of this study is to determine the level of physical activity in adolescents, whether it contributes to healthy eating-exercise behavior and it is affected by time management.

MATERIAL AND METHOD

Study Group

1182 people participated in the study. 478 (40.4%) of the respondents were boys and 704 (59.6%) were girls. There were 79 (16.5 %) boys aged 14, 130 (27.2 %) aged 15, 138 (28.9 %) aged 16 and 131 (27.4 %) aged 17. Also there were 118 girls (16.8 %) aged 14, 224 (31.8 %) aged 15, 164 (23.3 %) aged 16 and 198 (28.1 %) aged 17. The data were collected in a classroom setting by three interviewers using a face-to-face interview technique. Personal Information Form, Physical Activity Questionnaire, Time Management Questionnaire and Nutrition Exercise Behavior Scale were used as data collection tools in the study. The necessary permissions have been taken for the application of the forms. Subjects were informed about the study before filling out the related forms and their oral approval was received. The study was approved by Uşak University Social and Human Sciences, Scientific Research and Publication Ethics Committee (Decision No. 2018-66 dated 07.11.2018).

Scales

Time Management Questionnaire (TMQ)

Time Management Questionnaire was developed by Britton and Tesser in 1991. Turkish validity and reliability study of the scale was conducted by Alay and Koçak (2002). The Time Management Questionnaire adapted to Turkish is 27 items. Dimension 1: Time Planning, (Short and Long Term Planning) Dimension 2: Time Attitudes and Dimension 3: Time Wasters. Total score on Time Management Questionnaire adapted into Turkish ranged from 47 to 123. High score from the questionnaire means that time is managed better. Low score means that time is mismanaged.

Physical Activity Questionnaire (FAQ)

Physical Activity Questionnaire was developed (1997) by Kowalski et al. It was adapted into Turkish by (2013) Sert and Temel. It is 10-item questionnaire developed by Sert and Temel (2013). But only one question is different. After taking 1 question out, same items are used. Questionnaire has 5-point Likert scale. Minimum score for each item is 1, maximum score is 5. Total minimum score is 8, maximum score is 40. If physical activity level is close to 8, it is low but if it is close to 40, it is high. Item 9 of the FAQ is not included in scoring.

Nutrition Exercise Behavior Scale (NEBS)

Nutrition Exercise Behavior Scale (2016) was developed by Yurt et al. in order to determine nutrition behaviors of adolescents. It is 45-item scale. It has 5-point Likert scale. Also it has 4 factors: 'Psychological/Addicted Eating Behavior', 'Healthy Nutrition-Exercise Behavior', 'Unhealthy Nutrition-Exercise Behavior', 'Meal Order'. Some items are scored reversely (7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 22, 30, 31, 32, 34, 35, 36, 37, 38, 39, 42, 43). High total score from the scale indicates that there are positive behaviors related to nutrition-exercise, while the low score means that there are negative behaviors related to nutrition-exercise. It is similar in subscales.

Cronbach Alpha Coefficient for the Study

Cronbach Alpha Coefficient values of the scales used in the study were analysed. Cronbach α for 27-item TMQ used in the study was 0,744. Cronbach α for FAQ was 0,818 and Cronbach α for 4-item NEBS was 0,886. The results show that the reliability of the scales is at acceptable level.

Statistical Analysis

SPSS 21.0 program was used for data analyses. In order to determine whether parametric analyses should be performed, it was examined whether data showed normal distribution. Pearson Correlation Coefficient Test was implemented to determine the association between factors in the scales. Defining terms in statistics such as number, percentage, average and standard deviation were used. Significance level is accepted as $p < 0.05$.

RESULT

Table 1. Subjects' Total and Average Scores for Physical Activity

	N	MIN. SCORE	MAX. SCORE	AVERAGE ±SS
Physical Activity Total Score	1182	8.00	40.00	18.85±6.65
Physical Activity Average Score	1182	1.00	5.00	2.36±0.83

Subjects' total score for physical activity level is $x=18.85\pm6.65$. Average score for physical activity is $x=2.36\pm0.83$ (Table 1).

Table 2. Subjects' Total and Average Scores for Time Management Questionnaire

	N	Number of Ques- tions	Total Scores			Average Scores
			MIN. SCORE	MAX. SCORE	Score±SD	Average±SD
Time Management Total Score	1182	27	39.00	114.00	77.46±12.14	3.12±0.40
Time Planning Subdi- mension	1182	16	17.00	76.00	44.48±11.18	2.78±0.70

Time Attitudes Subdi- mension	1182	7	8.00	35.00	23.23±3.74	3.32±0.53
Time Wasters Subdimen- sion	1182	4	3.00	15.00	9.75±2.70	3.25±0.90

Subjects' total score from Time Management Questionnaire is $x=77.46\pm12.14$. Average score is $x=3.12\pm0.40$. Score for time planning subdimension is $x=44.48\pm11.18$, time attitudes score is $x=23.23\pm3.74$, and time wasters score is $x=9.75\pm2.70$. (Table 2)

Table 3. Subjects' Total and Average Score for Nutrition Exercise Behavior Scale

	N	Number of Ques- tions	Total Scores			Average Scores
			MIN. SCORE	MAX. SCORE	Score±SD	Average±SD
Total Score	1182	45	45.00	225.00	138.86±25.79	3.18±0.56
Psychological/Addicted Eating Behavior	1182	11	11.00	55.00	32.13±9.92	2.92±0.90
Healthy Nutrition- Exercise Behavior	1182	16	16.00	80.00	49.06±11.18	3.07±0.70
Unhealthy Nutrition- Exercise Behavior	1182	12	12.00	60.00	34.47±8.67	2.87±0.72
Meal Order	1182	6	6.00	30.00	23.19±5.26	3.87±0.88

Subjects' total score from Nutrition Exercise Behavior Scale is $x=138.86\pm25.79$. Average score is $x=3.18\pm0.56$. Score for Psychological/Addicted Eating Behavior is $x=32.13\pm9.92$, Healthy Nutrition-Exercise Behavior score is $x=49.06\pm11.18$, Unhealthy Nutrition-Exercise Eating Behavior score is $x=34.47\pm8.67$, and Meal Order score is $x=23.19\pm5.26$. (Table 3)

Table 4. Correlation Between Physical Activity Levels and Time Management

		TP	TA	TW	TMT
Physical Activity	r	0.215**	0.107**	-0.117**	0.085**
	p	0.000	0.000	0.000	0.004
	N	1182	1182	1182	1182

** Correlation is two sided, significant level is 0.01. TP: Time Planning; TA: Time Attitudes; TW; Time Wasters; TMT; Time Management Total

Correlation between subjects' level of physical activity and time planning is positive, it is also positive in subdimension ($r=0,215$ $p=0,000$) and time attitudes subdimension ($r=0,107$ $p=0,000$)

but the correlation with time wasters is negative ($r = -0,117$ $p=0,000$). It is positive with time management ($r = -0,085$ $p=0,004$). (Table 4)

Table 5. Correlation Between Physical Activity Levels and Nutrition-Exercise Behaviors

		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	r	.055	.349**	.082**	.049	.175**
Physical Activity	p	.060	.000	.005	.089	.000
	n	1182	1182	1182	1182	1182

** Correlation is two sided, significant level is 0.01. Factor 1: Psychological/Addicted Eating Behavior, Factor 2: Healthy Nutrition-Exercise Behavior, Factor 3: Unhealthy Nutrition-Exercise Behavior, Factor 4: Meal Order, Factor 5: Nutrition-Exercise Behavior

Correlation between subjects' level of physical activity and healthy nutrition-exercise behavior is positive ($r=0,349$ $p=0,000$), it is also positive between unhealthy nutrition-exercise behavior ($r=0,082$ $p=0,005$). The correlation between subjects' level of physical activity and total healthy nutrition-exercise behavior is positive, too ($r=0,175$ $p=0,000$). (Table 5)

DISCUSSION

When the findings were analysed in the study, subjects get $x=18.85\pm6.65$ score from physical activity. The score equals to infrequently in 5-point Likert scale, which means their physical activity level is low (Table 1. Similar results have been obtained from recent studies and it is reported that their physical activity level is low (Yüksel and Akıl, 2019). Urbanization reduces physical activity (Bosdriesz et al., 2012). Physical activity levels decrease every day, especially in developed (Katzmarzyk and Mason, 2009) and developing countries (Monda et al., 2007). This is due to lack of facilities and (Simons-Morton et al., 1994) unsafe sports environments (Thompson et al., 2001). In addition, factors affecting the level of physical activity in adolescents include the attitude of the family, the physical condition of schools, and educational policies (Bower et al., 2008). With the proper implementation of these policies, there has been an increase in physical activity across European countries (Gelius et al., 2020). Therefore, appropriate environments where physical activity can be increased should be provided, investments should be made and physical activity strategies for children should be developed.

Subjects' score for total time management scale is $x=77.46\pm12.14$. This indicates that the subjects were moderately able to manage time. (Table 2) Correlation between subjects' physical activity level and time planning, time attitudes, total time management is positive; however, it is negative between their physical activity level and time wasters. (Table 4) When all the data are analysed together, it is possible to say that subjects who are physically active plan time accurately and they waste time less. Developing time management directly influences the efficiency and overall success of the individual (Timpe, 1987). It is not possible to talk about success if time is not used well and managed correctly. In order to improve the quality of life, reduce stress, ensure a balanced life and facilitate the achievement of goals it is necessary to manage time well (Mackenzie, 1990). Result of the study carried out by Kiran et al. (2019) is important in terms of supporting our study since it determines that time attitude and planning of the students doing physical exercises is good and their doing physical activities is not effective in terms of time wasters subdimension.

When total and sub-factors of the subjects' nutrition-exercise behavior are analysed, it is observed that their level of psychological/addicted eating behaviors, healthy nutrition- exercise level and unhealthy nutrition- exercise level are at moderate level, but their level of meal order behaviors is at high level. (Table 3) Correlation between subjects' level of psychological/addicted eating behaviors and healthy nutrition- exercise level, unhealthy nutrition-exercise level, nutrition-exercise behavior total score is positive. (Table 5) Physical activity level of adolescents affect healthy nutrition –exercise behaviors positively. Athletes can't have the freedom to eat whatever they want when they're focused on success. This can lead them to a different and more controlled nutrition (Lamont and Kennelly, 2011) Success in sports can affect motivation, healthy and regular nutrition of athletes (Birkenhead and Slater, 2015) Adolescent athletes maintain healthier eating habits than their non-sporting peers. For this, programs containing nutrition information should be implemented (Cavadini et al.,2000). People who are physically active may be feeding healthier and more controlled. The results show that the presence of adolescents who eat healthy and pay attention to their meal patterns is excessive. But it should also not be neglected that unhealthy eating and exercise behaviors exist among the general population.

Although results show that adolescents ' time management and nutrition behaviors are moderate, physical activity, which is important in terms of community health, is below moderate level. Urbanization increases, while the level of physical activity decreases. The level of physical activity is low, especially in developed and developing countries. The situation in Turkey appears to be the same. Therefore, community-based strategies should be developed to increase physical activity, how to plan time and teach healthy eating. These precautions should not be delayed in terms of public health.

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