Journal of Health Sciences Institute, 8(3): 385-392, 2023
DOI: 10.51754/cusbed.1287299

Journal of Health Sciences Institute

| cusbed.cumhuriyet.edu.tr Founded: 2016 Available online, ISSN: 2587-0874 Publisher: Sivas Cumhuriyet Üniversitesi

Physical Activity Levels and Healthy Lifestyle Behaviors of High School Students

Reyhan Yalçın[a], Emine Altun Yılmaz[b,*]

Department of Nursing, Faculty of Health Sciences,Sivas Cumhuriyet University, Sivas, Türkiye
**Corresponding author*

Research Article

History

Received: 25/04/2023
Accepted: 05/10/2023

ABSTRACT

This study aimed to evaluate the relationship between physical activity levels and healthy lifestyle behaviors of high school students. The study data were collected by the use of personal information form, the Health-Promoting Lifestyle Profile-II, and the Physical Activity Questionnaire for Adolescents. Socio-demographic characteristics such as age, gender, height, weight, parents' education levels, parents' occupations, monthly household income level, and family type were all recorded and evaluated with the scale scores comparatively. A total of 371 high school students were included in the study. The students' mean score from the Health-Promoting Lifestyle Profile-II were 113.29±20.86 points. Male gender, holding healthcare insurance, having health issues, being at the tenth grade of the high school, having occupied mothers, and living with their families were found to be associated with higher scores at the Health-Promoting Lifestyle Profile-II. Besides, a statistically significant positive correlation between physical activity and healthy lifestyle behaviors was identified. Adolescence is an important period of life in which acquired behaviors build the future's adult life. Based on the results of this study, enhanced physical activity is one of the positive factors to develop a healthy lifestyle. Therefore, authors conclude that promoting optimal physical activity among adolescent population is cruel to improve both today's and the future's public health.

Keywords: High School Students, Physical Activity, Healthy Lifestyle, Nursing

[a] *reyhannyigit@hotmail.com* *https://orcid.org/0000-0002-9734-180X* | [b] *dremineraltunyilmaz@gmail.com* *https://orcid.org/0000-0003-2843-3249*

How to Cite: Yalcin R, Yilmaz Altun E (2023) Physical Activity Levels and Healthy Lifestyle Behaviors of High School Students, Journal of Health Sciences Institute, 8(3): 385-392

Introduction

Healthy lifestyle behaviors pertain to the individuals' evaluation of all behaviors affecting their physical and mental health, their adoption of responsibilities for their health, and the arrangement of their daily activities (EsraÇiçek, 2017). These are the behaviors through which individuals assume responsibilities for a sufficient and balanced diet, stress management, regular physical activity, self-fulfillment, interpersonal relations, and the protection and development of health (Aksoy & Aydın Özkan, 2016).

Among these behaviors, physical activity, which is key to a healthy life, is defined as a body movement that is generated by skeletal muscles and causes the individual to spend energy (Mburu-Matiba, 2015; Tavazar, 2014). This definition covers all body movements from hobbies to daily life activities, all sports branches, free time activities, housework, walking, and cycling (Miles, 2007).

Regular physical activity has a large effect on health across the lifetime. The major effects of regular physical activity are the maintenance of the energy balance along with the rising metabolic rate, protection of bone health, and reduction of incidence rates of chronic diseases including cardiovascular diseases, metabolic syndrome, hypertension, and type-2 diabetes. Additionally, regular physical activity has positive effects on psychological health by the reduction of the risk of having anxiety and depression, enhancing self-esteem and self-confidence, promoting academic success, the improvement of the quality of life, and the enhancement of life satisfaction (FitzGerald, 2015; Mburu-Matiba, 2015; Ojiambo, 2013). In light of the above, moderate-intensity physical activities are recommended for adolescents for a minimum of 60 minutes every day. Strength activities to be performed at least twice a week to empower the muscles and bones should be among the activity preferences (Miles, 2007).

All across the world, physical immobility ranks fourth among risk factors that are likely to lead to death. Physical immobility is estimated to be the root cause of approximately 21%-25% of the cases of breast cancer and colorectal cancer, 27% of the cases of diabetes, and 30% of the cases of ischemic heart disease (T.C. Sağlık Bakanlığı Türkiye Halk Sağlığı Kurumu-Turkish Republic Ministry of Health Turkiye Public Health Agency, 2014). Factors affecting this situation, such as age, gender, and genetics, cannot be altered whereas several risk factors related to chronic diseases can be changed (Tagoe & Dake, 2011). If physical activity, as one of the significant factors that can be changed, is performed regularly, this will provide individuals the opportunity to develop a healthy lifestyle by helping them enhance physical fitness and endurance (Turkmen et al., 2013).

Adolescence is a period, which covers 10-19 years of age and during which big changes in social interactions and relations take place besides physical and psychological changes (World Health Organization (WHO), 2019). The most general feature of this period is that adolescence is a process during which adolescents' behaviors and attitudes develop, and also, adolescents can adopt unhealthy lifestyle behaviors likely to harm themselves or others while they can acquire positive healthy lifestyle behaviors as well (EsraÇiçek, 2017; NilüferTuğut, 2010).

As of the end of 2020, the total number of the child population was 22,750,657 in Turkey. Male children made up 51.3% of the child population while female children formed 48.7% of the child population in Turkey. As per the United Nations definition, the percentage of the child population formed by children aged 0-17 years was found as 27.2% of the general population in Turkey in 2020 (Turkish Statistical Institute, 2021). Analyzing the health behaviors of students in adolescence period, making efforts to eliminate negative health behaviors and promote positive health behaviors, reducing barriers to physical activity, advocating physical activity, and making physical activity a regular habit are important to the health of the individual, family, and society because behaviors and habits adopted in this period can be continued during adulthood mostly, and directly affect the health, safety, peace, and success of society(Çavuş et al., 2017).

A recent research study in Turkey found that 41.4% of the males aged 12-14 years and 44.6% of the males aged 15-18 years never did exercise whilst these percentages were 69.8% and 72.5% for females aged 12-14 years and females aged 15-18 years, respectively. Besides, it was identified that 26.2% of the males and 7.0% of the females aged 12-14 years did regular exercise whilst 14.6% of the males and 9.9% of the females aged 15-18 years did (Hacettepe University Faculty of Health Sciences Department of Nutrition and Dietetics, 2019).

The developing and changing societal structure, technology, and needs caused nurses' roles to change as well. Nurses who are constantly in interaction with individuals in several settings such as primary healthcare services, hospitals, schools, and workplaces have an enormous advantage in having easy access to adolescents (NilüferTuğut, 2010). Accessing adolescents is of paramount importance as health-related permanent behaviors are adopted in the adolescence period and adolescents will form the building blocks of the future society (Ozakgul et al., 2016). Therefore, nurses should target the young population in their health-supporting efforts to promote health and develop behaviors and raise the welfare of the community (Lee & Loke, 2005). Nurses' initiatives to develop adolescent health and equip the adolescent with healthy lifestyle behaviors are of utmost importance. Identifying adolescents' negative health behaviors and attitudes, equipping them with healthy life awareness, and supporting them on topics intended for positive health behaviors, such as regular physical activity, nutrition, and the establishment of effective interpersonal communication can be cited as examples of these initiatives (Aksoy & Aydın Özkan, 2016; HaticeTambağ, 2011).

This research was planned to analyze the relationship between physical activity levels and healthy lifestyle behaviors of high school students. In the context of the analysis of the relationship between physical activity levels and healthy lifestyle behaviors of high school students, offering guidance to interventions to be implemented to increase adolescent physical activity, encouraging adolescents, who will represent the majority of the future population, to adopt healthy life and regular physical activity habits, and contributing to the nursing literature and the prospective studies on the topic were targeted in this research.

Material and Methods

The research population comprised a total of 396 students in the ninth, tenth, eleventh, and twelfth grades at the two high schools located in the district of Tortum of Erzurum province of Turkey. The entire population was reached in the study sample; however, the research was completed with 371 students, excluding 25 students who did not agree to participate in the research or did not attend the school when the research was carried out. After the receipt of permissions from school administrations and approvals from students' and parents, data collection forms were administered to students in the fall semester of the 2017-2018 academic year.

Data Collection Tools

The research data were collected with the Personal Information Form, the Physical Activity Questionnaire for Adolescents, and the Health-Promoting Lifestyle Profile-II.

The Personal Information Form

Personal information form was designed to identify each high school student's socio-demographic characteristics including age, gender, height, weight, parents' education levels, parents' occupations, monthly household income level, and family type.

The Physical Activity Questionnaire for Adolescents (PAQ-A)

Crocker et al. developed the PAQ-A and performed its validity and reliability study (CROCKER et al., 1997). The Turkish version of the PAQ-A created by Tanır was used in this study (HalilTanır, 2014). Cronbach's alpha coefficient was calculated as 0.76 for the PAQ-A. In this study, Cronbach's alpha coefficient was found as 0.87 for the PAQ-A.

The PAQ-A comprised nine questions rated from 1 to 5, and a score of 5 points shows the highest level of physical activity whilst a score of 1-point points to the

lowest level of physical activity. The mean of scores obtained by a participant from all PAQ-A questions is the total physical activity score of the individual participant. Participant adolescents are categorized as inactive, moderately active, and active according to the reference PAQ-A scores (Uçar, 2014).

The Health-Promoting Lifestyle Profile-II (HPLP-II)

The scale that was originally developed by Walker et al. (1987) was revised in 1996 as the HPLP-II, and Bahar et al. performed the validity and reliability study for the HPLP-II in Turkey(Bahar et al., 2008). The HPLP-II has 52 questions and 6 sub-scales, that is, Spiritual Development, Health Responsibility, Physical Activity, Nutrition, Interpersonal Relations, and Stress Management. All HPLP-II questions are rated as per a four-point Likert-type scale (Never: 1, Sometimes: 2, Frequently: 3, Regularly: 4). Minimum and maximum scores to be obtained from the overall HPLP-II are consecutively 52 and 208 points (Aksoydan & Çakır, 2011). Cronbach's alpha coefficient for the HPLP-II was 0.92, and thus the HPLP-II had high-level reliability (Aksoydan & Çakır, 2011; Bahtiyar, 2017). In this study, Cronbach's alpha coefficient was found as 0.91 for the HPLP-II.

Ethical Aspect of the Research

Each phase of the study was carried out in full compliance with ethical principles. This study approved by first from the Ethics Committee of Cumhuriyet University (No: 30182376-044). Besides, each student included in the sample consented in written format and verbally to participate in the research, and likewise, the informed consent for the participation was received from the parents.

Statistical Analysis

The Statistical Package for Social Science version 22.0 was used for the statistical analysis of the study data. In this respect, descriptive statistics were calculated, and the Kolmogorov-Smirnov test was utilized to check whether the research data were normally distributed. Next, the student's t-test and the one-way analysis of variance (ANOVA) were used for the normally distributed data whilst the chi-squared test was used for data without normal distribution. Besides, correlation analysis was utilized to find out the relationship between the two variables. Statistical significance was identified if the p-value was below 0.05.

Results

A total of 371 high school students were included in the study. Results were addressed in light of the students' certain personal characteristics and the breakdown of scores obtained by students from scales used in the study. Of all students, 32.9% were in the ninth grade, 38.5% had four or more siblings, 65% stayed at the boarding school, 65% had a normal weight, 88.7% had no health problem, 84.6% had no obstacle preventing them from performing physical activity in the last week, and 46.4% were moderately active (Table 1).

Table 1. Descriptive characteristics of the participants (n=371)

		N	%
Gender	Female	241	65.0
	Male	130	35.0
BMI	Underweight	117	31.5
	Normal weight	241	65.0
	Overweight	13	3.5
School grade	Ninth grade	122	32.9
	Tenth grade	74	19.9
	Eleventh grade	98	26.4
	Twelfth grade	77	20.8
Number of siblings	1	45	12.1
	2	83	22.4
	3	100	27.0
	4 or above	143	38.5
Place of residence	With the family	122	32.9
	At the boarding school	41	65.0
	Other (with relatives, at the dormitory)	8	2.2
Existing health problem	Yes	42	11.3
	No	329	88.7
Performing a physical activity during the previous week	Yes	314	84.6
	No	57	15.4
Physical activity level	Inactive	144	38.8
	Moderately active	172	46.4
	Active	55	14.8

Although the physical activity levels of the students were found to be in positive correlation with gender and the place of residence ($p<0.001$, 0.031, respectively), these levels had no significant correlation with the other variables (Table 2). Of all students, 35.0% walked for exercise once or twice, 35.6% jogged once or twice, and 41.8% played volleyball once or twice, however, for the most part, students did not perform other types of physical activities during the last seven days (Table 3). Mean HPLP-II score of students' was found to be 113.29±20.86 points, thus, the students obtained a medium-level mean score from the HPLP-II (Table 4). There was a statistically significant weak positive relationship between physical activity and healthy lifestyle behaviors ($p<0.05$) ($r:0.466$) (Table 5). Hence, an increase in healthy lifestyle behaviors was found to be accompanied by an elevation of the physical activity level and vice versa.

Table 2. Students' physical activity levels as per their certain descriptive characteristics (n=371)

		Physical Activity Levels								
		Inactive		Moderately Active		Active		X2	Sd	P
		N	%	N	%	N	%			
Gender	Male	77	32.0	115	47.7	49	20.3	22.692	2	<0.001
	Female	67	51.5	57	43.8	6	4.6			
BMI	Underweight	43	36.8	59	50.4	15	12.8	3.955	4	0.412
	Normal weight	95	39.4	106	44.0	40	16.6			
	Overweight	6	46.2	7	53.8	-	-			
School grade	Ninth grade	45	36.9	63	51.6	14	11.5	8.895	6	0.180
	Tenth grade	28	37.8	35	47.3	11	14.9			
	Eleventh grade	33	33.7	49	50.0	16	16.3			
	Twelfth grade	38	49.4	25	32.5	14	18.2			
Place of residence	With the family	58	47.5	43	35.2	21	17.2	10.665	4	0.031
	At the boarding school	82	34.0	125	51.9	34	14.1			
	Other (with relatives, at the dormitory)	4	50.0	4	50.0	-	-			

Table 3. Frequencies of physical activities performed by students in their free time during the last seven days in the context of the PAQ-A (n=371)

	No		1-2 Times		3-4 Times		5-6 Times		7 Times or More	
	N	%	N	%	N	%	N	%	N	%
Skipping	154	41.5	113	30.5	36	9.7	20	5.4	48	12.9
In-line skating	362	97.8	7	1.9			1	0.3		
Tag	139	37.6	120	32.4	38	10.3	7	7.3	46	12.4
Walking for exercise	122	32.9	130	35	48	12.9	26	7	45	12.1
Bicycling	268	72.2	53	14.3	20	5.4	9	2.4	21	5.7
Jogging	96	25.9	312	35.6	60	16.2	21	5.7	62	16.7
Aerobics	330	89.2	15	4.1	12	3.2	7	1.9	6	1.6
Swimming	334	90.3	19	5.1	5	1.4	4	1.1	8	2.2
Dance-folk dancing	317	85.4	30	8.1	13	3.5	2	0.5	9	2.4
Badminton	330	89.2	27	7.3	5	1.4	2	0.5	6	1.6
Skateboarding	354	95.7	7	1.9	5	1.4			4	1.1
Soccer	154	41.5	85	22.9	56	15.1	26	7	50	13.5
Volleyball	111	29.9	155	41.8	60	16.2	20	5.4	25	6.7
Basketball	177	47.7	131	35.3	32	8.6	9	2.4	22	5.9
Ice skating	360	97.3	4	1.1	4	1.1	2	0.5		
Skiing	358	96.8	4	1.1	3	0.8	2	0.5	3	0.8
Ice hockey	366	98.9	1	0.3	2	0.5	1	0.3		
Other (taekwondo, weight lifting, running)	212	76.8	26	9.4	11	4	8	2.9	19	6.9

Table 4. Mean HPLP-II scores of the students (n=371)

HPLP-II Sub-Scales	$\overline{X}$±SD	Minimum-Maximum
Health Responsibility	16.14±4.75	9-32
Physical Activity	16.25±4.80	8-30
Nutrition	17.82±4.00	9-31
Spiritual Development	22.92±5.03	9-34
Interpersonal Relations	22.13±4.76	9-36
Stress Management	18.04±4.09	8-30
Overall HPLP-II	**113.29±20.86**	**52-177**

Table 5. The correlation analysis between students' HPLP-II and PAQ-A scores

		1	2	3	4	5	6	7	8
Health Responsibility (1)	**R**	**1.000**	**.616****	**.535****	**.398****	**.288****	**.491****	**.730****	**.378****
	P		0.000	0.000	0.000	0,000	0.000	0.000	0.000
Physical Activity (2)	R		1.000	.569**	.530**	.388**	.600**	.813**	.565**
	P			0.000	0.000	0.000	0.000	0.000	0.000
Nutrition (3)	R			1.000	.434**	.366**	.516**	.734**	.340**
	P				0.000	0.000	0.000	0.000	0.000
Spiritual Development (4)	R				1.000	.587**	.619**	.792**	.288**
	P					0.000	0.000	0.000	0.000
Interpersonal Relations (5)	R					1.000	.481**	.689**	.227**
	P						0.000	0,000	0,000
Stress Management (6)	R						1.000	.804**	.321**
	P							0.000	0.000
HPLP-II (7)	R							1,000	.466**
	P								0.000
Physical Activity (8)	R								1.000
	P								

**Pearson's correlation analysis*

Discussion

This study revealed a positive correlation between the healthy lifestyle behaviors and physical activity of high school students. A similar study showed that 70.7% of the male and 86.4% of the female adolescents were inactive (Aksoydan & Çakır, 2011). Present study found that 47.7% of the male students were moderately active and 51.5% of the female students were inactive. Hence females were found to be more immobile than males, and having a large number of sports places conducive to physical activity at the school in comparison to home and having a large number of physical activities and team sports in the physical training course affected the physical activity levels of students who stayed at the boarding school.

Vast majority of the students performed no physical activity in their free time during the last seven days, only 35.0% of the students walked for exercise once or twice, 35.6% of them jogged once or twice, and 41.8% of them played volleyball once or twice (Table 3). Tavazar et al. reported that 38.2% of the high school students were not involved in any sports branch at all, and the branches of sports played most by students were successively soccer (19.9%), volleyball (13.0%), and basketball (11.5%) (Tavazar, 2014). The reasons for the gradual increase in physical immobility is considered as the factors such as the students' limited financial opportunities, restricted free time due to the examinations and courses, the insufficiency of spaces where students would perform different sports activities, the allocation of time to smartphones and internet. Besides since the majority of the students stayed at the boarding school this can be another restrictive point.

The HPLP-II measures health-promoting behaviors in connection with students' healthy lifestyles. Thus, high scores of HPLP-II shows that young individuals have high intention levels of having and acquiring health-promoting behaviors (Bahar et al., 2008; Bebiş et al., 2015). Recent studies with HPLP-II reported the mean HPLP-II scores 118.25±15.48 - 128.51±26.30 points between the high school students (Bahtiyar, 2017; EsraÇiçek, 2017; Karadamar et al., 2014; Kefeli Çol & Altay, 2021; Ozakgul et al., 2016; ŞenayAras Doğan, 2018). In accordance with the literature mean HPLP-II scores of 113.29±20.86 points (Table 4) in this study showed a medium-level HPLP-II score. The slight difference can be attributed to the geographic features of the study location which had limited facilities due to the seasonal and physical conditions.

Health responsibility is defined as the responsibility felt actively by individuals for their well-being and health state (Bahar et al., 2008). In our study, the mean HPLP-II Health Responsibility Sub-Scale scores was found 16.14±4.75 points which is classified as low level (Table 4). Students obtained the lowest mean score from the HPLP-II Health Responsibility Sub-Scale. This situation is thought to be stemmed by the small number of courses on health education in school curriculum. The mean HPLP-II Health Responsibility Sub-Scale scores were revealed 16.5±3.9 - 18.3±4.9 points in similar studies (EsraÇiçek, 2017; Karadamar et al., 2014; Ozakgul et al., 2016). Therefore, adolescents need support to complete their cognitive development processes in order to take the responsibility for their health. In our study, having a low-level health responsibility is an expected result, and it may have stemmed from the increase in the feeling of independence, inner conflicts, and the search for identity triggered by the adolescence period and the fact that students did not yet complete their cognitive development processes (Marconcin et al., 2021).

The HPLP-II Physical Activity Sub-Scale evaluates at which level the individuals perform exercises and physical activities regularly (Marconcin et al., 2021). In the adolescence period during which rapid growth and development occur, performing and advocating physical activities are of paramount importance to the acquirement of the habit of regular physical activity throughout the lifetime (Kefeli Çol & Altay, 2021). In our

study, the mean of high school students' HPLP-II Physical Activity Sub-Scale scores was found as 16.25±4.80 points (Table 4). This score was lower than the one obtained in the study performed on high school students by Karadamar et al. (17.7±4.8 points) whereas it was higher than the other similar researches (Akoğuz Yazici, 2022; EsraÇiçek, 2017; Karadamar et al., 2014; Ozakgul et al., 2016; ŞenayAras Doğan, 2018). In the relevant literature, it is discerned that physical activity health behaviors were generally at low levels. It is expected that students will become dynamic and energetic in this period and students in the middle and late adolescence periods will obtain a high mean score from the Physical Activity Sub-Scale (Marconcin et al., 2021). Finding a mean Physical Activity Sub-Scale score that is lower than expected in our study can be explained by the fact that students spent most of their time at school, sports spaces at the school and in its surroundings were insufficient, and students preferred technological tools such as computer, internet, and mobile phone to the regular physical activity.

Healthy eating habits play a key role in the promotion of growth and development, the renewal of cells and the continuation of their functions, and the development of healthy behaviors. Eating well can help protect against chronic diseases, which can emerge in adolescence and continue in adulthood, such as diabetes, hypertension, cardiovascular diseases, and certain types of cancer (Değerli & Yiğit, 2020; Musavian et al., 2014). In our study, the mean of high school students' HPLP-II Nutrition Sub-Scale scores was identified as 17.82±4.00 points (Table 4). This finding is parallel to those in the relevant literature. Upon the review of other studies performed on high school students, it is discerned that the finding of our study is similar to the one in the study by Çiçek (17.7±3.7 points) and is lower than those obtained in the study by Karadamar et al. (20.2±3.9 points) and the study by Bahtiyar (23.10±4.12 points) (EsraÇiçek, 2017; Karadamar et al., 2014; Kefeli Çol & Altay, 2021). Considering that the eating habit is a behavior adopted in early periods, it can be alleged that the above finding may have resulted from the failure to continue the regular eating habit in the family, which is the first place to acquire this habit, and later at schools. Also, the above finding can be obtained as the education system offered at schools did not focus adequately on healthy eating and students could not comprehend the importance of eating well.

Spiritual development is a unifying power beyond the individual's self-existence, which is also affected by physical development of the body (Bahtiyar, 2017). In our study, the mean of high school students' HPLP-II Spiritual Development Sub-Scale scores was found as 22.92±5.03 points (Table 4). This figure is lower than those obtained in relevant studies performed on high school students (Bahtiyar, 2017; Kefeli Çol & Altay, 2021; Ozakgul et al., 2016). On the other hand, in this study, high school students obtained the highest mean score from the Spiritual Development Sub-Scale. The spiritual development process begins earlier in life and is affected by several societal constructs such as family and school (Kefeli Çol & Altay, 2021). It can be considered that the finding of our study was affected by factors such as beliefs and value judgments of the family and society of high school students, strong family ties, positive life perspective, and the level of satisfaction.

The Interpersonal Relations Sub-Scale evaluates individuals' relations with family, friends, and inner circle and the level of continuity of these relations (Bahtiyar, 2017). In our study, the mean of high school students' HPLP-II Interpersonal Relations Sub-Scale scores was 22.13±4.76 points (Table 4), and as per this finding, students had high-level interpersonal relations. This can be explained by the fact that relations with friendship groups came forward and increased in adolescence period. The finding of our study is lower than most of the similar studies on high school students (Bahtiyar, 2017; Bebiş et al., 2015; Karadamar et al., 2014; Ozakgul et al., 2016). However, this result is higher than the one obtained in the study performed on high school students by Çiçek (17.3±3.4 points) (EsraÇiçek, 2017).

Stress management is the way of the individual identifies physiological and psychological resources and takes action to reduce tension or control it effectively (30). In our study, the mean of high school students' HPLP-II Stress Management Sub-Scale scores was found as 18.04±4.09 points (Table 4). This figure is similar to those found in the study performed on high school students by Özakgül et al. (18.69±3.89 points) but it is lower than those obtained in the study performed on high school students by Karadamar et al. (20.5±3.7 points) and the study conducted on adolescents by Bebiş et al. (19.54±5.23 points) (BEBİŞ et al., 2015; Karadamar et al., 2014; Ozakgul et al., 2016). The individual in the adolescence period is exposed to intense stress due to physical, phycological, and social changes and developmental duties, identity confusion, the growing importance of relations with the family and peers, and the increase of anxiety and problems stemming from school and examinations (Parikh et al., 2019). Therefore, empowering adolescents to cope with stress positively can enable them to solve existing problems better and look toward the future healthier.

A weak positive relationship between physical activity and healthy lifestyle behaviors was demonstrated in this work ($p<0,001$, Table 5). In this regard, when there is an increase in the physical activity level, healthy lifestyle behaviors also increase. Hence, regular physical activity that is inhabited as earlier as in adolescence, has a significant place in the development of healthy lifestyle behaviors (ÖzlemDuran, 2014).

Limitations

This study has the limitation of including a particular geographic location of Türkiye. Although the sample size of the study is quite high, due to the local characteristics of the location, further research effort with larger number of participants from different geographic areas is required for a better understanding of the overall condition.

Conclusion

Adolescence is an important period of life in which acquired behaviors build the future's adult life. Depending on the results of this study, enhanced physical activity is one of the positive factors to develop a healthy lifestyle. Therefore, authors conclude that promoting optimal physical activity among adolescent population is cruel to improve both today's and the future's public health.

Sources of Financial Assistance

None.

Conflict of Interest Statement

None of the authors have a financial relationship with a commercial entity that has an interest in the subject matter of this manuscript.

References

Akoğuz Yazici, N. (2022). Lise Öğrencilerinin Sağlıklı Yaşam Biçimi Davranışlarının Araştırılması. *Akdeniz Spor Bilimleri Dergisi*. https://doi.org/10.38021/asbid.1195596

Aksoy, T. & Aydın Özkan, S. (2016). Evaluation of healty lifestyle behaviours scale which consist of nursing students and nurses as sample in studies: A review study<p>Örneklemini hemşirelik öğrencileri ve hemşirelerin oluşturduğu sağlıklı yaşam biçimi davranışları ölçeği kullanılarak yapılan çalışmaların incelemesi: Bir literatür çalışması. *Journal of Human Sciences*, *13*(2), 3588. https://doi.org/10.14687/jhs.v13i2.3869

Aksoydan, E. & Çakır, N. (2011). Adölesanların beslenme alışkanlıkları, fiziksel aktivite düzeyleri ve vücut kitle indekslerinin değerlendirilmesi. *Gulhane Medical Journal*, *53*(4), 264–270.

Bahar, Z., Beşer, A., Gördeş, N., Ersin, F. & Kıssal, A. (2008). Sağlıklı Yaşam Biçimi Davranışları Ölçeği II'nin Geçerlik ve Güvenirlik Çalışması-Validity and Reliability Study of the Healthy Lifestyle Behaviors Scale II. *CÜ Hemşirelik Yüksekokulu Dergisi*, *12*(1), 1–13.

Bahtiyar, T. (2017). *Hipertansiyon tanısı ile izlenen adölesanların sağlıklı yaşam biçimi davranışları / Healthy lifestyle behaviors of the adolescents with the diagnosis of hypertension* [Okan University]. https://tez.yok.gov.tr/UlusalTezMerkezi/tezDetay.jsp?id=9Tn2E7ByBdX-Wa9DG7knCQ&no=XKD_K2jVY97pj8vmV1TwNg

Bebiş, H., Özdemir, S., Akpunar, D. & Kiliç, S. (2015). Bir ortaöğretim okulundaki adölesanların sağlığı geliştirme davranışlarının incelenmesi. *Gülhane Tıp Dergisi*, *57*(2). http://search/yayin/detay/193937

Çavuş, F. Ö., Çavuş, U. Y. & Görpelioğlu, S. (2017). Prevalence, distribution and influencing factors of risky behaviour in Ankara. *Türk Aile Hekimliği Dergisi*, *21*(1), 2–16. https://doi.org/10.15511/tahd.17.00102

Crocker, P. R. E., Bailey, D. A., Faulkner, R. A., Kowalski, K. C. & Mcgrath, R. (1997). Measuring general levels of physical activity: preliminary evidence for the Physical Activity Questionnaire for Older Children. *Medicine &amp Science in Sports &amp Exercise*, *29*(10), 1344–1349. https://doi.org/10.1097/00005768-199710000-00011

Değerli, H. & Yiğit, A. (2020). Sağliğin Korunmasi ve Geliştirilmesinde Bireylerin Sağlikli Yaşam Biçimi Davranis Düzeyinin Belirlenmesi. *Süleyman Demirel Üniversitesi Vizyoner Dergisi*, 573–586. https://doi.org/10.21076/vizyoner.656563

EsraÇiçek, F. (2017). Seçilmiş İlçe Merkezindeki Lise Öğrencilerinin Sağlikli Yaşam Biçimi Davranişlari. *Journal*, *26*(1), 29–38.

FitzGerald, L. Z. (2015). Categorization and determinants of physical activity among nursing students. *Journal of Nursing Education and Practice*, *5*(5). https://doi.org/10.5430/jnep.v5n5p10

Hacettepe University Faculty of Health Sciences Department of Nutrition and Dietetics. (2019). *Turkey Nutrition and Health Survey 2010: Evaluation of Nutritional Status and Habits Final Report*. Ministry of Health General Directorate of Health Research. https://hsgm.saglik.gov.tr/depo/birimler/saglikli-beslenme-hareketli-hayat-db/Yayinlar/kitaplar/diger-kitaplar/TBSA-Beslenme-Yayini.pdf

HalilTanır, O. (2014). İlköğretim 8. Sinif Öğrencilerinde Fiziksel Aktivite Düzeyi ve Bazi Antropometrik Özelliklerin Akademik Başari ile İlişkisi. *Journal*, *8*(1), 1–10.

HaticeTambağ, Yard. Doç. Dr. (2011). Hatay Sağlık Yüksekokulu Öğrencilerinin Sağlıklı Yaşam Biçimi Davranışları ve Etkileyen Faktörler. *Journal*, *18*(2), 47–58.

Karadamar, M., Yiğit, R. & Sungur, M. A. (2014). Ergenlerin Sağlikli Yaşam Biçimi Davranişlarinin Değerlendirilmesi. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*, *17*(3), 131–139. http://search/yayin/detay/477223

Kefeli Çol, B. & Altay, B. (2021). The Effect of Family Characteristics of the Adolescents Upon Their Healthy Lifestyle Behaviors. *Turkiye Klinikleri Journal of Nursing Sciences*, *13*(3), 564–571. https://doi.org/10.5336/nurses.2020-78549

Lee, R. L. T. & Loke, A. J. T. Y. (2005). Health-Promoting Behaviors and Psychosocial Well-Being of University Students in Hong Kong. *Public Health Nursing*, *22*(3), 209–220. https://doi.org/10.1111/j.0737-1209.2005.220304.x

Marconcin, P., Matos, M. G., Ihle, A., Ferrari, G., Gouveia, É. R., López-Flores, M., Peralta, M. & Marques, A. (2021). Trends of Healthy Lifestyles Among Adolescents: An Analysis of More Than Half a Million Participants From 32 Countries Between 2006 and 2014. *Frontiers in Pediatrics*, *9*. https://doi.org/10.3389/fped.2021.645074

Mburu-Matiba, L. (2015). *The Impact Of Exercise (Physical Activity) And Healthy Lifestyle (Eating) Among The Youth: A Literature Review*.

Miles, L. (2007). Physical activity and health. *Nutrition Bulletin*, *32*(4), 314–363. https://doi.org/10.1111/j.1467-3010.2007.00668.x

Musavian, A. S., Pasha, A., Rahebi, S.-M., Atrkar Roushan, Z. & Ghanbari, A. (2014). Health promoting Behaviors Among Adolescents: A Cross-sectional Study. *Nursing and Midwifery Studies*, *3*(1), e14560. https://doi.org/10.17795/nmsjournal14560

NilüferTuğut, M. (2010). Üniversite Öğrencilerinin Sağliği Algilama Durumlari ile Sağlikli Yaşam Biçimi Davranişlari Arasindaki İlişki. *Journal*, *11*(3), 17–26.

Ojiambo, R. M. E. (2013). Physical activity and well-being: a review of the health benefits of physical activity on health outcomes. *Journal of Applied Medical Sciences*, *2*(2), 69–78.

Ozakgul, A., AŞTI, T., Ataç, M. & Mercan, K. (2016). Lise Son Sınıf Öğrencileri Sağlıklı Yaşam Biçimi Davranışlarına Sahipler mi? *Florence Nightingale Hemşirelik Dergisi*, *24*, 16. https://doi.org/10.17672/fnhd.20903

ÖzlemDuran, H. (2014). Ebelik Öğrencilerinin Sağlikli Yaşam Biçimi Davranişlari ve Etkileyen Faktörler. *Journal*, *17*(1), 40–49.

Parikh, R., Sapru, M., Krishna, M., Cuijpers, P., Patel, V. & Michelson, D. (2019). "It is like a mind attack": stress and coping among urban school-going adolescents in India. *BMC Psychology*, *7*(1), 31. https://doi.org/10.1186/s40359-019-0306-z

ŞenayAras Doğan, E. Y. (2018). Adolescent's Healthy Lifestyle Behaviours Who Diagnosed With Epilepsy and the Factors that Influence Their Behaviours. *Journal*, *6*(2), 83–90.

Tagoe, H. A. & Dake, F. A. (2011). Healthy lifestyle behaviour among Ghanaian adults in the phase of a health policy change. *Globalization and Health*, *7*(1), 7. https://doi.org/10.1186/1744-8603-7-7

Tavazar, H. (2014). Lise Eğitimi Alan Genç Erişkinlerin Fiziksel Aktivite ve Yaşam Kalitesi Arasındaki Farklılıklarının İncelenmesi (Manisa İli Örneği). *International Journal of Science Culture and Sport*, *2*(5), 496–496. https://doi.org/10.14486/IJSCS122

T.C. Sağlık Bakanlığı Türkiye Halk Sağlığı Kurumu-Turkish Republic Ministry of Health Turkiye Public Health Agency. (2014). *Türkiye Fiziksel Aktivite Rehberi-Türkiye Physical Activity Guideline*.

Turkish Statistical Institute. (2021, 21. April). *https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Cocuk-2020-37228*. Https://Data.Tuik.Gov.Tr/Bulten/Index?P=Istatistiklerle-Cocuk-2020-37228. https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Cocuk-2020-37228

Turkmen, M., Kul, M., Öçalan, M., Özkan, A. & Bozkus, T. (2013). Determination of the Relationship between Physical Activity Levels and Healthy Lifestyle Behaviors of University Students. *Australian Journal of Basic and Applied Sciences*, *7*, 507–512.

Uçar, M. (2014). *Konya İli Yetiştirme Yurtlarında Barınan 14-18 Yaş Grubu Kız ve Erkek Öğrencilerin Fiziksel Aktivite ve Uygunluk Düzeylerinin Değerlendirilmesi-Evaluation of Physical Activity and Fitness Levels of 14-18 Age Group Female and Male Students Accommodating in Orphanages in Konya Province* [Selcuk University]. http://acikerisimarsiv.selcuk.edu.tr:8080/xmlui/handle/123456789/1053

World Health Organization (WHO). (2019). *https://www.who.int/health-topics/adolescent-health#tab=tab_1*. Https://Www.Who.Int/Health-Topics/Adolescent-Health#tab=tab_1. https://www.who.int/health-topics/adolescent-health#tab=tab_1