Original Article

The Correlation between University Students' Healthy Lifestyle Behaviors and Perceived Social Support: A Descriptive Cross-Sectional Correlational Trial

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Abstract
Aim: This research aimed to explore the association between the health-promoting behaviors of university students and their perceived social support.
Material and Methods: This descriptive-cross-sectional correlational study involved 250 students enrolled between January 2023 and March 2023 at a university. Data were gathered through socio-demographic questionnaires, the Health-Promoting Lifestyle Profile II, and the Multidimensional Scale of Perceived Social Support. Statistical analysis included Spearman correlation tests, as well as calculations of mean, median, and standard deviation.
Results: The analysis revealed a statistically significant weak positive correlation between the total scores of the Health-Promoting Lifestyle Profile II and the Multidimensional Scale of Perceived Social Support ($r=0.253$, $p<0.001$). Additionally, statistically significant weak positive correlations were observed between the Health-Promoting Lifestyle Profile II total scores and the subscales of Friends ($r=0.180$, $p=0.004$), Family ($r=0.211$, $p=0.001$), and Significant others ($r=0.249$, $p<0.001$) in the Multidimensional Scale of Perceived Social Support.
Conclusion: The study highlights a weak but significant relationship between the health-promoting behaviors of students and their perceived social support.
Keywords: Healthy lifestyle behaviors, Perceived social support, Youth.

Introduction

Youth is when people experience significant changes and transformations in their lives. They develop their character and obligations and take control of their life. Social interactions are essential for social development (Kipping, Campbell, MacArthur, Gunnell & Hickman,2012). The World Health Organization (WHO) defines these ages, which are called the "youth period" of young people between the ages of 15-24, as a sensitive and risky period (World Health Organization, 2021). When we look at the young population within the total population of the countries, Syria had the highest rate of young population (23.6%) in 2022, which was followed by The Central African Republic (22.1%) and East Timor (22.3%). The country with the lowest rate of the young population was Qatar (7.2%). Among the countries closely following this country are Ukraine with 7.8% and Monaco with 8.4%. The average rate of the world's

young population was 15.5% in 2022. Turkey's young population rate (15.2%) is just below the world's. When examining the young population rates of 27 European Union (EU) countries according to the projections of world population in 2022, the highest rates of young population are Ireland at 13.0%, Denmark and the Netherlands at 12.1%, and France at 11.8%. The lowest rate of the young population was 9.2% in Bulgaria, 9.4% in the Czech Republic, and 9.5% in Malta, Slovenia, and Lithuania. Turkey's young population rate is 15.2%, which is higher than the young population rates of 27 EU countries (Turkish Statistical Institute, 2022).

Healthy lifestyle behaviors refer to all the individual's actions that encourage healthy living and disease protection. Healthy lifestyle behaviors are a way of life. If a person can support these behaviors, he can continue his healthy well-being, improve his health conditions, and enhance his quality of life (Baykal et al., 2022). According to WHO's evaluations, 70-80% of the mortalities in developed countries and 40-50% of the mortalities in underdeveloped countries are caused by lifestyle-related diseases. For this reason, health services should be maintained to prevent diseases and promote health. When the causes of mortality are examined, chronic diseases rank first. In this context, it is indicated that there is a robust cause-and-effect relationship between chronic disease and lifestyle (Baykal et al., 2022). A healthy lifestyle includes preventing diseases and determining health-promoting behaviors that enhance the quality of well-being throughout life. A healthy lifestyle requires knowing, comprehending, and using health activities and protective information (Berdida et al., 2023). A healthy lifestyle includes balanced nutrition, health responsibility, regular exercise, and positive stress management. Acquiring healthy lifestyle behaviors is essential in preventing chronic diseases (Baykal et al., 2022)

Perceived social support is the general and specific supportive perception an individual receives from individuals in his/her social circle to protect himself from negative situations (Gottlieb & Bergen, 2010). It is stated that social support is essential to support individuals to initiate positive behavioral change, evaluate the importance they attach to their health and the influencing risk factors, adapt to the disease they have and make changes in their lifestyles, and cooperate in actively participating in planned care (Helgeson, 2003). It has also been shown that social support can be beneficial in coping with chronic disease conditions and stressful and problematic situations experienced by the individual (Al Houri et al., 2023). In the literature, family, friends, and significant others (like romantic partner, fiancée, relative, neighbor, doctor) are stated as sources of perceived social support (Gottlieb & Bergen, 2010). Many individuals attend university during their youth and experience significant positive or negative lifestyle changes. They may also need more experience creating a healthy lifestyle for themselves. Unhealthy lifestyles may contribute to developing type 2 diabetes and obesity among university students (Ansari, Suomine & Samara, 2015; Gan, Mohd Nasir, Zalilah & Hazizi, 2011; Li et al., 2012). In this context, receiving social support during this period may make it easier to adapt to the transition from adolescence to adulthood and cope with the problems experienced.

A healthy lifestyle can positively or negatively impact individuals' spouses, friends, families, and society. Individuals generally live with people of the same quality (smokers keep company with other smokers, alcoholics with other alcoholics, obese individuals with other obese ones, and trained ones with other trained individuals) (Ali et al, 2012; Al-Momani et al., 2021). Family members may also have the same negative risk factors; thus, negative health behaviors can be copied into society. Therefore, it is necessary to identify individuals' negative health behaviors and change these behaviors positively. For this reason, it is essential to determine the relationship between individuals' social supports and healthy lifestyle behaviors. In the literature, the relationship between healthy lifestyle behaviors and social support has been studied in the elderly and pregnant population, and a limited number of studies on young individuals has been found (Fathnezhad-Kazemi, Aslani, & Hajian, 2021;Huang,

Huang, & Wu, 2022;Peker & Bermerk, 2011;Tang, Feng, & Lin, 2021;Wu & Sheng, 2019;Zhu, Zhu, Jiang, Lin, Yang, & Luan, 2021). The results of the present study may provide data for health promotion programs or education programs to be planned for young individuals.

Material And Methods - Purpose and Type of the Study: This study examines the relationship between university students' healthy lifestyle behaviors and perceived social support. The type of the study is a descriptive-cross-sectional and correlational survey.

Sampling and Participant: This study was conducted at Karabuk University. Karabuk University is located in northwestern Turkey and has 14 faculties, four colleges, nine vocational schools, and four institutes. Brochures detailing the research were distributed across the campus and the residence halls. Interested participants contacted the first author, and those who met the inclusion criteria were enrolled in the study. Among students studying at Karabuk University between 25 January and 25 March 2023, 250 university students selected using convenience sampling per the inclusion and exclusion criteria were included in the study. According to the postpower analysis, the power of the study was found to be 0.95% with 95% confidence (1-α) and an effect size of f=0.45 (Faul et al.,2007). The inclusion criteria were the students who were (a) aged 18-25 years, (b) continuing to receive undergraduate and postgraduate education at Karabuk University, and (c) agreed to participate in the study. The exclusion criteria were (a) the students with a chronic disease diagnosed by a physician.

Data Collection Tools

Socio-Demographic Form: The form, prepared using the literature to determine some socio-demographic characteristics of the students, includes a total of 9 questions about age, gender, educational level, marital status, height, body mass index, department, health insurance, and university year (Peker & Bermek, 2011).

Health-Promoting Lifestyle Profile II (HPLP II): The Health-Promoting Lifestyle Profile II (HPLP II) is a scale used to evaluate individuals' health-promoting behaviors and overall healthy lifestyles. Bahar et al. (2008) adapted the scale into Turkish and conducted its validation and reliability assessment. It comprises 52 items categorized into six subscales: spiritual growth, health responsibility, physical activity, nutrition, interpersonal relations, and stress management. Total scores ranged from 52 to 208. The scale demonstrates high reliability, with a Cronbach's Alpha coefficient of 0.92 (Bahar et al., 2008).

Multidimensional Scale of Perceived Social Support (MSPSS): The Scale is designed to measure individuals' perceived adequacy of social support, with three subscales: support from family, friends, and significant others. Eker, Arkar, and Yaldiz (2001) conducted a validity and reliability study of the scale. It consists of twelve items, with total scores ranging from 12 to 84. Higher scores indicate higher levels of perceived social support. The original version of the scale demonstrates strong reliability, with a total coefficient of 0.89 and subscale coefficients ranging from 0.85 to 0.92 (Eker et al., 2001). In this study, ethical approval and institutional permissions were obtained, and students provided informed consent before completing the socio-demographic form, HPLP II, and MSPSS at their residence hall.

Statistical Analysis: The data of the study were analyzed using SPSS Windows 25.0 software. Continuous variables were shown as mean, median, and standard deviation. Whether or not the data were normally distributed was examined with the Kolmogorov-Smirnov test. Information about the scales used in the study and their subscales were given as mean and standard deviation. Spearman's correlation test was applied to test the correlation between the scales and their subscales.

Ethical Approval: In order to conduct the study, ethical approval was obtained from the ethics committee of Karabuk University (E-78977401-050204-196119), and institutional permission (E-78436549-044-209648) was also obtained. Verbal and written informed consent was given from the students participating in the study. This study was conducted following the Principles of the Declaration of Helsinki.

Results

Table 1 shows the distribution of the participants according to their socio-demographic characteristics. 24.8% were students from the Faculty of Health Sciences, 7.2% from the Faculty of Technology, 5.2% from the Faculty of Medicine, 12% from the Faculty of Business Administration, 13.2% from the Faculty of Economics and Administrative Sciences, 22.4% from the Faculty of Engineering, 6.8% from the Faculty of Literature, 7.2% from the Faculty of Social Sciences, and 1.2% from the Faculty of Theology.

Table 1. The Distribution of The University Students According to Their Socio-Demographic Characteristics (N=250)

Variables	Number	Percent
Gender		
Female	109	43.6
Male	141	56.4
Age	121	22.2
18-21 age	54	21.6
22-25 age	196	78.4
Educational level		
Undergraduate	224	89.6
Postgraduate	26	10.4
Marital status		
Single	243	97.2
Married	7	2.8
Body mass index (kg./ sqm.)		
Underweight	14	5.6
Normal weight	180	72.0
Overweight	43	17.2
Obese	9	3.6
Department		
Health Sciences	62	24.8
Faculty of Technology	18	7.2
Faculty of Medicine	13	5.2
Faculty of Business	30	12.0
Economics and Administrative Sciences	33	13.2
Faculty of Engineering	56	22.4
Faculty of Literature	17	6.8

Faculty of Social Sciences	18	7.2
Faculty of Theology	3	1.2
Health Insurance		
Yes	102	40.8
No	148	59.2
University year		
First	62	24.8
Second	87	34.8
Third	44	17.6
Fourth	57	22.8

kg: kilogramme; sqm.: square meters

Table 2 shows the mean values of the HPLP II and MSPSS scales and their subscales. The HPLP II total mean score was 132.13 ± 18.76. The mean scores of its subscales were 21.47 ± 4.63 for the health responsibility subscale, 18.40 ± 4.58 for the physical activity subscale, 21.30 ± 3.95 for the nutrition subscale, 26.48±4.99 for the spiritual growth subscale, 24.16 ± 4.54 for the interpersonal relations subscale, and 20.32±3.59 for the stress management subscale. The total mean score of MSPSS was 70.54 ± 17.18. The mean scores of its subscales were 25.09 ± 6.66 for the family subscale, 23.72 ± 6.48 for the friends subscale, and 21.72 ± 7.33 for the significant other subscale.

Table 2. Mean Values of HPLP II and MSPSS

Scale and Its subscales	Mean	SD
HPLP II total score	132.13	18.76
Health Responsibility subscale	21.47	4.63
Physical Activity subscale	18.40	4.58
Nutrition subscale	21.30	3.95
Spiritual Growth subscale	26.48	4.99
Interpersonal Relations subscale	24.16	4.54
Stress Management subscale	20.32	3.59
MSPSS total score	70.54	17.18
Family subscale	25.09	6.66
Friends subscale	23.72	6.48
Significant other subscale	21.72	7.33

HPLP II: Health-Promoting Lifestyle Profile II, MSPSS: Multidimensional Scale of Perceived Social Support

Table 3 illustrates the correlations between the total scores of HPLP II and MSPSS, as well as their respective subscales. A statistically significant, positive, and weak relationship was identified between the total scores of MSPSS and HPLP II (r=0.253; p<0.001). Similarly, statistically significant, positive, and weak relationships were observed between the total score of HPLP II and the family (r=0.211, p=0.001), friends (r=0.180, p=0.004), and significant other (r=0.249, p<0.001) subscales of MSPSS. However, no statistically significant relationships were found between the physical activity and health responsibility subscales of HPLP II and the total score or subscales of MSPSS. For the nutrition subscale, a statistically significant, positive, and weak relationship was noted with friends (r=0.158, p=0.012), significant other (r=0.193, p=0.002), family (r=0.130, p=0.041), and the total score of MSPSS (r=0.196, p=0.002). Similarly, the spiritual growth subscale exhibited statistically significant, positive, and weak relationships with friends (r=0.201, p=0.001), significant others (r=0.236, p<0.001), family (r=0.307, p<0.001), and the total score of MSPSS (r=0.291, p<0.001). Furthermore, the interpersonal relations subscale demonstrated statistically significant, positive, and weak relationships with friends (r=0.258, p<0.001), significant others (r=0.276, p<0.001), family (r=0.268, p<0.001), and the total score of MSPSS (r=0.314, p<0.001). However, the stress management subscale only showed a statistically significant, positive, and weak relationship with the significant other subscale (r=0.188, p=0.003) and the total score of MSPSS (r=0.133, p<0.001), with no statistically significant correlation found with the family and friends subscales.

Table 3. The Correlation between HPLP II and MSPSS Total Scores

		Family subscale	Friends subscale	Significant other subscale	MSPSS Total Score
Physical Activity	r	0.031	0.059	0.103	0.078
	p	0.622	0.353	0.105	0.218
Nutrition	r	0.130*	0.158*	0.193**	0.196**
	p	0.041	0.012	0.002	0.002
Spiritual Growth	r	0.307**	0.201**	0.236**	0.291**
	p	<0.001	<0.001	<0.001	<0.001
Interpersonal relations	r	0.268**	0.258**	0.276**	0.314**
	p	<0.001	<0.001	<0.001	<0.001
Stress Management	r	0.096	0.053	0.188**	0.133*
	p	0.129	0.406	0.003	0.036
Health Responsibility	r	0.104	0.104	0.103	0.123
	p	0.100	0.101	0.104	0.052
HPLP II-Total Score	r	0.211**	0.180**	0.249**	0.253**
	p	0.001	0.004	<0.001	<0.001

HPLP II: Health-Promoting Lifestyle Profile II, MSPSS: Multidimensional Scale of Perceived Social Support

Discussion

When analyzing the mean scores of the subscales within the HPLP II scale in our study, it became evident that the highest score was achieved in the spiritual growth subscale, while the lowest score was observed in the physical activity subscale (18.40±4.58). These findings align with several previous studies (Al-Momani et al., 2021; Alzahrani et al., 2019; Azami Gilan et al., 2021; Chouhan et al., 2022; Doumit et al., 2022; Fehintola et al., 2022; Tang et al., 2021). Chouhan et al. (2022) investigated the healthy lifestyle behaviors among medical and nursing students in India, noting a low mean score for physical activity. Similarly, Alzahrani et al. (2019) highlighted the physical activity subscale as obtaining the lowest score. Al-Momani (2021) reiterated this trend in a study conducted in Saudi Arabia, emphasizing the low score of the physical activity subscale. Azami Gilan et al. (2021) observed comparable results among medical students. Likewise, studies by Doumit et al. (2022), Baykal et al. (2022), and Fashafsheh et al. (2021) reported low scores in the physical activity subscale among nursing students. Tang et al. (2021) and Fehintola et al. (2022) found similarly low mean scores for the physical activity subscale among university students in China and Nigeria, respectively. Conversely, our findings diverge from those of Zhang et al. (2023), Chao (2023), and Núñez-Rocha et al. (2020). Zhang et al. (2023) identified the stress management subscale as having the lowest score among medical students in China. Chao (2023) and Núñez-Rocha et al. (2020) revealed that students outside health-related departments scored lowest in the health responsibility subscale in Taiwan and Mexico, respectively. The discrepancies in findings may stem from variations in students' spiritual beliefs, disparities in coping strategies for stress, and differences in awareness and knowledge levels, particularly among students not receiving health-related education pertaining to health-promoting behaviors.

The undergraduate students received higher MSPSS total scores. This finding is compatible with the findings of the studies by Abdul Aziz et al. (2023), Wills et al. (2021), and Xu et al. (2020). When the social support sources of the undergraduate students were examined, it was determined that while the highest score was obtained from the family subscale, the lowest score was obtained from the other significant subscale. The results of the present study are parallel with those of the study by Wills et al. (2021), and they are not similar to those of the studies by Abdul Aziz et al. (2023) and Cai et al. (2021). Wills et al. (2021) conducted a study with university students in Arizona and found that the mean score of the family subscale was high (Wills et al., 2021). In a study conducted by Abdul Aziz et al. (2023) with university students studying in the field of health sciences in Malaysia and a study conducted by Cai et al. (2021) with undergraduate students attending the field of health sciences in China, they found that students received the social support mostly from their friends (Abdul Aziz et al., 2023; Cai et al., 2021). The difference between the study results may be due to the cultural differences in the family dynamics of university students.

It was determined that as undergraduate students' perceived social support levels elevated, their healthy lifestyle behaviors increased. Likewise, Peker and Bermek (2011) found a positive correlation between healthy lifestyle behaviors and social support in their study of dentistry students (Peker & Bermek, 2011). One related study has been found, and different studies are needed to develop the literature.

When the correlation between stress management and the perceived social support of the undergraduate students was analyzed, a positive correlation was found between stress management and social support. No study in the literature directly examines students' stress management and perceived social support. Studies have primarily examined the correlation between students' perceived stress levels and social support. In their studies, McLean et al. (2022), Aleksejuniene et al. (2022), Reeve et al. (2013), Berdida et al. (2023), Al Houri et al. (2023) and Lou et al. (2010) reported a negative correlation between perceived stress and social support. Therefore, adequate and high levels of

perceived social support help students manage their stress positively.

A positive correlation was found between the interpersonal relations subscale, another component of HPLP II, and perceived social support. Likewise, Zhang et al. (2021) also revealed that healthy interpersonal relationships among students elevated their level of social support. They also stated that a high level of social support can be a driving force for university students to establish healthy interpersonal relationships (Zhang et al., 2015). Zhang et al. (2015) emphasized that social support was an essential mediator between interpersonal relations and loneliness. They demonstrated that interpersonal relations can positively affect loneliness through the effect of perceived social support (Zhang et al., 2015). In parallel, the student's ability to establish healthy interpersonal relationships may be beneficial in preventing unhealthy dietary habits and physical inactivity caused by loneliness (Jiang et al., 2022).

When the correlation between the spiritual growth subscale and perceived social support was examined, it was found that their spiritual growth increased as the students' social support level elevated. Likewise, the studies by Rafat et al. (2019), Alorani and Alradaydeh (2018), and Deb et al. (2016) reported a positive correlation between perceived social support and spiritual growth.

A positive correlation was found between the nutrition subscale, an essential component of HPLP II, and the perceived social support. The results of the present study are compatible with the results of the studies by Michels et al. (2020), Deliens et al. (2014), and Ali et al. (2021). In their study, Michels et al. (2020) examined the factors affecting the change in dietary habits of university students during the exam period. They found that as their level of social support increased, their fruit and vegetable consumption and diet quality enhanced. On the other hand, they found that social support reduced the consumption of fast food and unhealthy snacks (Michels et al., 2020). A qualitative study on university students reported that social support and other factors incentivized healthy nutrition (Deliens et al., 2014). In their study on university students, Ali et al. (2021) reported that they received significantly more ($P<0.001$) support from their families compared to their friends as a source of social support in reducing sugar intake and increasing fiber consumption.

Limitations: There are some limitations to this study. Firstly, The study was conducted at a single university, limiting the generalizability of the findings to all university students. A multicenter study would provide more comprehensive and representative results. Secondly, The study did not include students with chronic illnesses due to the potential risk of symptom exacerbation. This limits the applicability of the findings to students who may have different lifestyle behaviors and social support needs due to their health conditions. Future research could explore the relationship between social support and healthy lifestyle behaviors among young adults with chronic illnesses. Finally, The study's cross-sectional nature does not allow for establishing causality between perceived social support and healthy lifestyle behaviors. Longitudinal studies are needed to examine the directionality and potential long-term effects of social support on health-promoting behaviors.

Conclusion: While the undergraduate students obtained the highest score from the HPLP II from the spiritual growth subscale and the lowest score from the physical activity subscale, a statistically significant, positive, and weak correlation was found between the HPLP II total score and the MSPSS total score. In line with the results of this study, recommendations are summarized as follows: Training and awareness programs should be organized to elevate the physical activity level of undergraduate students. These programs should be designed in such a way that students can easily access them. Social support resources for university students should be included in the initiatives to be planned to develop healthy lifestyle behaviors. Health promotion programs should be planned in which students' families, who are the most important source of social support, can be included.

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