

ORIGINAL ARTICLE

Medicine Science 2020;9(4):829-36

Health perceptions and healthy lifestyle behaviors of Erciyes University students Belgin Oral¹,  Fevziye Cetinkaya²¹SBU Atatürk Chest Diseases and Chest Surgery Training and Research Hospital, Ankara, Turkey²Erciyes University Faculty of Medicine Department of Public Health, Kayseri, Turkey

Received 11 May 2020; Accepted 15 June 2020

Available online 27.08.2020 with doi: 10.5455/medscience.2020.05.076

Abstract

The aim of this study is to determine some factors that may be related to the health perceptions and healthy lifestyle behaviors of Erciyes University students. In this descriptive research, 1286 students from the first and fourth-year students studying in the undergraduate programs at the Faculty of Medicine, Engineering, Education and Literature of Erciyes University were included. For the socio-demographic data, the Health Perception Scale (HPS) and the Healthy Lifestyle Behaviors Scale (HLBS) were used with a questionnaire consisting of 31 questions. 60.9% of the students included in the research were women, the average age of the whole group was 21.1 ± 2.4 years. 50.9% of students in the Faculty of Medicine, Engineering, Education, and Literature were first-year students. HPS scores of the students were found to be 40.7 ± 6.2 and HLBS scores as 125.4 ± 19.5 . University students' perceptions of health were found as low and healthy life behaviors were moderate. In order to provide the development and maintenance of positive perceptions of health perception and healthy lifestyle behaviors, and the positive interaction of these two phenomena, individual and social support is needed for the students.

Keywords: University student, Health Perception, Healthy lifestyle behaviors**Introduction**

Under the influence of health-related cultures and traditions, which are a very difficult and complex phenomenon, time-changing definitions have been made. Although it was defined as the absence of disease and disability only in the old times, today, It is defined as “not only the condition of disease or disability but also physical, social and mental well-being” by the World Health Organization (WHO) [1]. While defining health, it should not be forgotten that individuals are constantly interacting with their environment and are seriously affected by many effects of the environment [2].

In addition to how individuals perceive their own health, gaining healthy life behaviors has an important place in health promotion. Health perception; While it can be defined as the combination of personal feelings, thoughts, prejudice, anxiety, fear, and expectations regarding the health of individuals, it is seen that it can also be influenced by many factors such as gender, age,

education, marital and economic situation, as well as individuals' attitudes and behaviors related to health. In addition, the perception of health is closely related to the physical and social environment, traditions and social perceptions. Health perception can vary from country to country as well as between individuals living in the same society, and it changes with the influence of developing technology, changing sociocultural structures, social, psychological and physical environment over time [3]. An Individual's positive thoughts and beliefs about his own health called “good health perception”; adopting negative thoughts and beliefs are defined as “bad health perception” [4]. Personal health perception is an important marker that can measure mortality, morbidity, and physical and mental well-being.

A healthy lifestyle is a way individuals develop positive behaviors for their health, avoid negative behaviors and control all these behaviors and make it a lifestyle. Individuals who make these behaviors a part of life will not only maintain their health but also improve their health condition [5]. Health indicators of the societies formed by each healthy individual will reach higher levels. Practices developed to develop and maintain healthy lifestyle behaviors are important in this respect [6].

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The youth period is a transition phase from childhood to adulthood; youth is a very active and fast period in human

life. And this period, the search for identity is accepted as the beginning of a new life. The university period is an extremely important period between the ages of 18-24, which takes place in these youth years [7,8]. During this period, students experience a stressful process brought by their responsibilities regarding their education and learning, such as course load, exams, and internships. On the other hand, they go through a period in which personality and its characters are completed and independence is gained with a new environment and new responsibilities are assumed, struggling to problems, business concerns about the future, and a critical and future-oriented period in life [7]. In this respect, determining how students perceive their own health and whether they gain healthy lifestyle behaviors in order to protect and maintain health is very important in terms of measures to be taken. Raising awareness among university students in terms of healthy living behaviors and supporting areas where they are missing or inadequate will positively affect the health of both students and society. The aim of this study is to determine the health perceptions and healthy lifestyle behaviors of Erciyes University students and the factors that may be related to them.

Materials and Methods

The universe of this descriptive study was the first and fourth-year students at Erciyes University who had a total of 15685 students in undergraduate programs in the 2016-2017 academic year. In order to determine the sample size, some studies in the literature were considered to have a Healthy Lifestyle Behavior Total score average of 120 ± 18 points, the confidence level was 0.95 and it was thought that the average we could find would deviate by ± 1 unit. As a result, the minimum sample size was calculated as 1153. At least 1200 students were agreed to participate in the study. First and fourth year students studying at the Faculty of Medicine, Engineering, Education and Literature are included in the study by grouping their undergraduate programs at the university as four basic areas as Health, Science, Education and Social Sciences and representing these four areas. The total number of first and fourth grade students studying in these faculties is 2855 and 1635 (57.3%) women and 1220 (42.7%) men, and it is estimated that approximately 1200 students can be reached considering that half of these students can be reached. The Faculty of Medicine has 641 students in the 1st and 4th grades, and approximately equal numbers of students from four departments have been selected for this number. A total of 1711 students were reached and the data of 1286 students who agreed to participate in the study were evaluated.

In the research, HPS and HLBS II were used with a questionnaire consisting of 31 questions aiming to determine the sociodemographic characteristics of students such as age, gender, economic status, and health status. HPS was developed by Diamond et al in 2007 and was proved the validity and reliability in Turkish by Kadioğlu et al. [9,10]. The scale consisted of 15 items and had a 5-point Likert type. The scores that could be obtained from the scale were between 15 and 75. The scale had 4 sub-dimensions: control center, precision, the importance of health and self-awareness. The increase in the scores obtained from the scale indicated the high level of the person's perception of health. HLBS was developed as a 48-question scale based on Pender's health promotion model in 1987 by Walker et al. And it was revised in 1996 by Walker, Sechrist, and Pender. The scale was named HLBS II consisting

of 52 questions [11,12]. The validity and reliability of the first version of the scale were made by Esin in 1999 and the second version by Bahar in 2008 [13,14]. The HLBS-II scale is a four-point Likert type scale, answers change between "never, sometimes, often, regularly" and scores range from 52 to 208. The scale had six sub-dimensions as self-realization, health responsibility, exercise, nutrition, interpersonal support, and stress management. The increase in the scores obtained from the scale shows that the individual implements the specified health behaviors at a good level. In our study, smoking status was regulated according to WHO's Tobacco Use Monitoring and Control Directive, and according to smoking status, individuals were classified as 'using' and 'not using'. Those who smoke regularly and those who smoke irregularly were included in the group of smokers, and those who quit and never smoke were included in the non-smoker group [15].

The research was approved ethically appropriate by Erciyes University Clinical Research Ethics Committee. Approval of the faculty deanships of the relevant faculties and the approval of the faculty members who attended the course were obtained. All students who participated in the study were informed about the study before the study and their verbal consent was obtained, and those who accepted to participate in the study were given a questionnaire form. The questionnaire and scale were collected after being filled in by the students under the supervision of the researchers. Each class was visited twice during the research. Students were asked not to give their identity information. In statistical analysis, frequency and percentage, average value, standard deviation, highest and lowest values were used for descriptive statistics. Chi-square test was used for statistical analysis of categorical data, Unpaired t-test and one-way ANOVA test (post hoc Tukey test) were used for statistical analysis of quantitative data, and Kruskal Wallis (post hoc Dunn's test) was used for data that did not conform to normal distribution. The statistical significance of the difference was accepted as $p < 0.05$. Spearman Correlation coefficient was used to show the relationship between the variables.

Results

Some sociodemographic characteristics of the 1286 students participating in this study, which were carried out to determine the factors related to the perception of health and healthy lifestyle behaviors of Erciyes University students, were given in Table 1.

39.1% of the students in the research were men. The average age of the whole group was 21.1 ± 2.4 years (min-max: 18-42). An approximately an equal number of students from the Faculties of Medicine, Engineering, Education, and Literature participated in the research, 50.9% of them were first class. The place where students spend most of their lives was in the city center with 68.1%. 43.3% of the students stated that they stayed at home with their family, 37.2% at the student dormitory and 13.8% at home with their friends.

52.3% of the students stated their economic status at a moderate level. According to their own statements, 71.9% of the students stated that their health was good, 25.3% stated that they had moderate health, 5.2% had a serious health problem and 7.7% had used medicine regularly. While 76.6% of the students stated that they did not smoke, 11.4% stated that they smoke every day,

10.0 % smoke occasionally, and 2.0% quit smoking. 57.5% of the students stated that they were satisfied with the section they were reading, while 24.8% were undecided and 17.7% were not satisfied. 41.1% of students stated school success as good, 44.6% as moderate and 14.4% as bad.

Table 1. Students' sociodemographic characteristics

Characteristic	Number	%
Gender	Male	503
	Female	783
Age groups	21 years and under	701
	22 years and above	585
Marital status	Single	1256
	Married	19
	Other	11
Faculty	Medicine	316
	Engineering	317
	Education	322
	Literature	331
Class	1st Class	654
	4th Class	632
Mother's education status	Secondary school and below	828
	High school	265
	University	193
Father's education status	Secondary school and below	580
	High school	289
	University	417
Where the student has stayed the longest ever	Province	876
	District	285
	Village town	125
Where the student stayed in Kayseri	With his/her family	590
	Student dormitory	478
	At home with friends	178
	At home Alone	40
Total	1286	100.0

When the HPS scores of the students were examined, the total average score was 40.7 ± 6.2 , 'Control center' 14.3 ± 3.7 , 'Precision' 12.7 ± 3.0 , 'Self-awareness' 6.8 ± 1.9 , 'The importance of health' was found to be 6.8 ± 2.1 (Table 2).

There was no significant relationship between students' gender and classes and HPS scores ($p > 0.05$). According to the faculties of the students, the HPS total and control center, the sub-dimensions of precision were the lowest in the Faculty of Medicine, the highest in the Faculty of Education, and the sub-dimension of the importance of health was the highest in the Faculty of Medicine and the lowest in the Faculty of Education the difference was significant ($p < 0.05$) (Table 3).

There was no significant relationship between the educational status of the parents of the students and their longest stay and the HPS total score ($p > 0.05$). In terms of the place they stayed in Kayseri, the scale total score and control center and precision sub-dimensions were found to be significantly lower in those who stayed alone (Table 3.) ($p < 0.05$). The total scale score and the importance of precision and health were found low in the group that defined the economic status as good, and high in the group that defined it as bad ($p < 0.05$). HPS scores were found low in the group who expressed their health status as good, and the difference between the groups was found significant ($p < 0.05$). There was no relationship between whether there were any health problems, regular medication, and smoking status and total HPS score ($p > 0.05$). HPS total score and control center, the importance of health and precision sub-dimensions were found to be low in those who were satisfied with the department they study ($p < 0.05$) (Table 3).

Table 2. HPS and HLBS scores of students and the range of points that can be obtained

HPS	Average $\pm$ SS	Median (min-max)	Score range
Total score	40.7 ± 6.2	41 (15-66)	15-75
Control center	14.3 ± 3.7	14 (5-25)	5-25
Precision	12.7 ± 3.0	13 (4-20)	4-20
Self awareness	6.8 ± 1.9	7 (3-14)	3-15
The importance of health	6.8 ± 2.1	7 (3-15)	3-15
HLBS			
Total score	125.4 ± 19.5	125(57-197)	52-208
Self-realization	25.6 ± 4.6	26(9-36)	9-36
Health responsibility	20.0 ± 4.7	20(9-36)	9-36
Exercise	16.3 ± 4.8	16(8-32)	8-32
Nutrition	20.8 ± 4.2	21(9-36)	9-36
Interpersonal support	24.5 ± 4.3	24(11-36)	9-36
Stress management	18.3 ± 3.6	18(8-32)	8-32

HLBS scores of the students were given in table 2. While there was no relationship between HLBS total score averages by gender, exercise and stress management subscale mean scores were significantly higher in males ($p < 0.05$) (Table 4).

HLBS nutrition subscale score of Medical Faculty students was found to be significantly higher than the students of literature faculty. There was no significant difference between the faculties in other subgroups and in terms of the total score ($p > 0.05$) (Table 4). There was no significant difference between the scale scores by classes ($p > 0.05$) (Table 4). Health responsibility, exercise, interpersonal support subgroups, and total scale scores were found to be higher in mothers and fathers of university graduates ($p < 0.05$). There was no significant relationship between the characteristics of the place where the students stayed longest and the HLBS scores ($p > 0.05$). HLBS total score, health responsibility, interpersonal support, and exercise sub-dimensions were found to be significantly higher in groups who lived in Kayseri alone than in other groups ($p < 0.05$) (Table 4).

Table 3. Health Perception Scale scores of students according to some variables

HPS and variables		n 1286	Control center	Precision	Self awareness	Importance of health	Total scale score
			Avg ± SS / median (min-max)	Avg ± SS / median (min-max)	Avg ± SS / median (min-max)	Avg ± SS / median (min-max)	Avg ± SS / median (min-max)
Gender	Female	783	14.4±3.7	12.8±3.1	6.8±1.9	6.7±2.0	40.7±6.0
	Male	503	14.2±3.9	12.6±3.1	6.8±2.0	6.9±2.2	40.6±6.5
			0.458	0.261	0.925	0.072	0.667
Class	1st Class	654	14.4±3.7	12.8±3.1	6.8±1.9	6.9±2.2	40.9±6.3
	4th Class	632	14.2±3.8	12.7±3.1	6.8±1.9	6.8±2.1	40.5±6.1
			0.347	0.593	0.908	0.376	0.271
Faculty	Medicine	316	13.8±3.4 ^a	12.2±2.9 ^a	7.0±1.9	7.1±2.0 ^a	40.0±6.0 ^a
	Engineering	317	14.3±3.6 ^{a,b}	12.6±3.0 ^{a,b}	6.8±1.7	6.8±2.0 ^{a,b}	40.5±6.1 ^{a,b}
	Education	322	14.9±4.0 ^b	13.9±3.2 ^b	6.9±2.1	6.6±2.2 ^b	42.0±6.2 ^b
	Literature	331	14.3±4.0 ^{a,b}	12.9±3.8 ^b	6.7±2.0	6.8±2.2 ^{a,b}	40.7±6.5 ^{a,b}
	p**		0.003	<0.001	0.072	0.037	0.016
Where the student has stayed the longest ever	Province	876	14.4±3.8	12.7±3.2	6.8±1.9	6.9±2.1	40.8±6.3
	District	285	14.1±3.5	12.8±2.9	6.8±1.9	6.7±1.9	40.4±5.5
	Village town	125	14.4±3.9	12.7±3.0	6.9±2.0	6.6±2.1	40.5±6.6
	p**		0.444	0.782	0.847	0.200	0.628
Where the student stayed in Kayseri	With his/her family	590	14.6±3.7	12.8±3.2 ^a	6.89±2.0	6.82±2.8	41.1±6.2 ^a
	Student dormitory	478	14.2±3.8	12.9±2.8 ^a	6.74±1.9	6.75±2.0	40.6±6.0 ^a
	At home with friends	178	13.9±3.7	12.3±3.2 ^{a,b}	6.8±1.8	6.9±2.0	40.0±6.1 ^{a,b}
	At home Alone	40	13.1±3.7	11.0±2.8 ^b	6.6±1.9	6.7±2.2	37.4±6.7 ^b
	p**		0.017	0.001	0.488	0.653	0.001
Economical status	Good	404	14.3±3.6	12.3±3.2 ^a	6.8±2.0	6.6±2.1 ^a	40.1±6.2 ^a
	Moderate	673	14.3±3.7	12.9±3.0 ^b	6.8±1.8	6.8±2.0 ^{a,b}	40.8±6.0 ^{a,b}
	Bad	209	14.5±4.2	13.0±3.2	6.9±2.1	7.1±2.4 ^b	41.5±6.8 ^b
	p**		0.824	0.006	0.683	0.047	0.023
Satisfaction from the department they study	Satisfied	740	14.1±3.7 ^a	12.4±3.1 ^a	6.7±1.9	6.7±2.0 ^a	39.9±6.2 ^a
	Undecided	319	14.7±3.7 ^b	13.2±3.1 ^b	6.8±1.9	6.9±2.2 ^{a,b}	41.6±6.1 ^b
	Not Satisfied	227	14.4±4.0 ^{a,b}	13.1±2.9 ^b	6.9±1.9	7.2±2.2 ^b	41.7±5.9 ^b
	p**		0.043	<0.001	0.181	0.017	<0.001
General health status according to their own statements	Good	924	14(5-25) ^a	12(4-20) ^a	7(3-14) ^a	7(3-15) ^a	40(15-58) ^a
	Moderate	326	14(5-25) ^b	14(6-20) ^b	7(3-12) ^{a,b}	7(3-15) ^b	43(29-58) ^b
	Bad	36	16(5-25) ^c	14(7-20) ^b	7(3-12) ^b	7(3-14) ^{a,b}	45(25-66) ^c
	p***		<0.001	<0.001	0.044	<0.002	<0.001
The presence of a health problem	Yes	67	15.5±3.7	12.01±3.61	6.97±1.99	6.83±2.55	41.36±6.55
	No	1219	14.3±3.7	12.74±3.06	6.80±1.92	6.81±2.07	40.63±6.18
	p*		0.006	0.058	0.496	0.936	0.345
Smoking status	Smoker	275	14.34±3.70	12.72±3.04	6.78±1.90	6.67±1.98	40.52±6.24
	Non- smoker	1011	14.27±3.95	12.64±3.27	6.91±2.01	7.34±2.40	41.17±6.03
	p*		0.870	0.686	0.318	<0.001	0.131

* Student t Test, ** One Way ANOVA (post hoc Tukey), *** Kruskal Wallis (post hoc Dunn's test) a, b, c: The difference between groups that do not carry the same letter in each column is important (p <0.05)

Table 4. Students' Healthy Lifestyle Behaviors Scale scores according to some variables

		n	Self-realization	Health responsibility	Exercise	Nutrition	Interpersonal support	Stress management	Total scale score
Gender	Female	783	25.7±4.4	20.1±4.6	15.6±4.5	20.9±4.2	24.7±4.2	18.1±3.4	125.1±18.9
	Male	503	25.4±4.9	19.7±4.9	17.4±4.9	20.5±4.2	24.3±4.4	18.6±3.9	125.9±20.6
	p*		0.242	0.169	<0.001	0.095	0.110	0.011	0.446
Class	1st Class	654	25.6±4.7	20.0±4.8	16.4±5.0	20.6±4.2	24.6±4.4	18.3±3.7	125.3±19.7
	4th Class	632	25.5±4.5	20.1±4.7	16.2±4.6	21.0±4.2	24.5±4.2	18.3±3.6	125.5±19.4
	p*		0.659	0.312	0.415	0.059	0.716	0.860	0.817
Faculty	Medicine	316	25.4±4.5	20.2±4.6	16.1±4.6	21.3±3.9 ^a	24.6±4.2	18.0±3.3	125.7±18.1
	Engineering	317	25.4±4.8	19.7±4.7	16.5±4.7	20.8±4.0 ^{a,b}	24.4±4.2	18.2±3.4	124.9±19.0
	Education	322	25.8±4.8	20.4±4.9	16.6±5.0	20.6±4.7 ^{a,b}	24.4±4.5	18.6±4.0	126.5±21.0
	Literature	331	25.7±4.4	19.6±4.8	16.0±4.8	20.4±4.3 ^b	24.6±4.3	18.3±3.7	124.5±19.9
	p**		0.689	0.066	0.285	0.031	0.860	0.133	0.574
Mother's education status	Secondary school and below	828	25.6±4.6	19.7±4.7 ^a	16.0±4.7 ^a	20.6±4.2	24.3±4.2 ^a	18.2±3.6	124.4±19.4 ^a
	High school	265	25.7±4.7	20.3±4.6 ^{a,b}	16.7±4.6 ^{a,b}	20.9±4.2	24.9±4.3 ^{a,b}	18.5±3.5	127.1±18.9 ^b
	University	193	25.4±4.7	20.7±4.9 ^b	17.0±5.3 ^b	21.2±4.3	25.0±4.8 ^b	18.3±3.8	127.6±20.6 ^b
	p**		0.741	0.009	0.015	0.179	0.025	0.389	0.032
Father's education status	Secondary school and below	580	25.7±4.7	19.8±4.8 ^a	15.9±4.7 ^a	20.5±4.3	24.3±4.3 ^a	18.2±3.6	124.4±19.5 ^a
	High school	289	25.1±4.6	19.6±4.4 ^a	16.3±4.9 ^{a,b}	20.7±4.2	24.4±4.0 ^{a,b}	18.0±3.7	124.1±19.5 ^a
	University	417	25.7±4.6	20.5±4.8 ^b	16.9±4.8 ^b	21.1±4.1	24.9±4.9 ^b	18.5±3.5	127.7±19.4 ^b
	p**		0.171	0.016	0.002	0.097	0.045	0.144	0.014
Where the student stayed in Kayseri	With his/her family	590	25.5±4.7	20.1±4.8 ^a	16.3±4.8 ^{a,b}	20.9±4.1	24.2±4.2 ^a	18.3±3.7	125.3±19.1 ^a
	Student dormitory	478	25.6±4.5	19.7±4.5 ^a	16.0±4.6 ^a	20.6±4.1	24.7±4.3 ^{a,b}	18.1±3.5	124.7±19.0 ^a
	At home with friends	178	25.5±4.6	19.6±4.9 ^a	16.5±5.1 ^{a,b}	20.6±4.4	24.8±4.3 ^{a,b}	18.3±3.6	125.3±20.4 ^a
	At home Alone	40	27.1±5.5	22.3±5.2 ^b	18.2±5.5 ^b	22.0±4.9	26.3±5.2 ^b	19.3±4.4	135.2±25.1 ^b
	p**		0.178	0.006	0.054	0.153	0.009	0.234	0.013
Economical status	Good	404	26.5±4.5 ^a	20.6±4.6 ^a	21.3±4.2 ^a	21.3±4.2 ^a	25.4±4.3 ^a	18.9±3.7 ^a	129.5±19.4 ^a
	Moderate	673	25.3±4.4 ^b	19.8±4.7 ^b	20.6±4.1 ^b	20.6±4.1 ^b	24.2±4.2 ^b	18.1±3.4 ^b	124.0±18.9 ^b
	Bad	209	24.5±5.2 ^b	19.3±5.0 ^b	20.2±4.2 ^b	20.2±4.2 ^b	23.8±4.3 ^b	17.8±3.9 ^b	121.8±20.6 ^b
	p**		<0.001	0.003	0.032	0.004	<0.001	<0.001	<0.001
Satisfaction from the department they study	Satisfied	740	26.5±4.4 ^a	20.4±4.6 ^a	16.7±4.8 ^a	21.1±4.1 ^a	25.1±4.3 ^a	18.6±3.6 ^a	128.3±19.1 ^a
	Undecided	319	24.6±4.5 ^b	19.2±4.4 ^b	15.6±4.5 ^b	20.2±3.9 ^b	24.1±3.9 ^b	17.8±3.3 ^b	121.4±17.9 ^b
	Not Satisfied	227	24.0±4.9 ^b	19.5±5.3 ^b	16.5±4.9 ^{a,b}	20.5±4.8 ^{a,b}	23.2±4.5 ^b	17.8±4.0 ^b	121.6±21.6 ^b
	p**		<0.001	<0.001	0.006	0.005	<0.001	<0.001	<0.001
General health status according to their own statements	Good	924	26.1±4.4 ^a	20.2±4.7 ^a	16.6±4.9 ^a	21.2±4.1 ^a	24.9±4.3 ^a	18.6±3.6 ^a	127.6±19.3 ^a
	Moderate	326	24.4±4.6 ^b	19.3±4.6 ^b	15.6±4.6 ^b	19.9±4.2 ^b	23.7±4.1 ^b	17.7±3.5 ^b	120.6±18.7 ^b
	Bad	36	21.7±5.7 ^c	19.4±5.5 ^{a,b}	14.7±4.1 ^b	18.4±4.5 ^b	23.2±4.6 ^b	16.0±4.5 ^c	113.5±19.5 ^b
	p**		<0.001	0.007	0.001	<0.001	<0.001	<0.001	<0.001
Smoking status	Smoker	275	24.9±4.9	19.4±5.2	16.5±4.9	20.3±4.4	24.8±4.5	18.0±3.9	123.8±20.8
	Non- smoker	1011	25.8±4.5	20.1±4.6	16.3±4.8	20.9±4.1	24.4±4.2	18.4±3.5	125.8±19.2
	p*		0.005	0.029	0.519	0.030	0.235	0.128	0.127

* Student t Tpesti. ** One Way ANOVA (posthoc Tukey). a, b: The difference between groups that do not carry the same letter in each column is important (p <0.05)

HLBS scores were found to be significantly higher in groups that defined their economic and health conditions as good ($p < 0.05$). There was no significant relationship between HLBS scores and the presence of any health problem ($p > 0.05$). Healthcare responsibilities and total scale scores were higher among those using regular drugs ($p < 0.05$). Self-realization, health responsibility and nutrition subscale scores were significantly lower in smokers ($p < 0.05$). In addition, all scale scores were found to be significantly higher in those who were satisfied with the department they study ($p < 0.05$) (Table 4). Considering the relationship between HPS and HLBS in our study, it was observed that there was a weak, negative relationship at the level of 0.01 ($p < 0.001$). In other words, while HPS scores increase, HLBS scores decrease.

Discussion

In our study the ratio of male students to 39.1% depends on the ratio of male students to 42.7% among all selected faculties. When the HPS scores of the students were evaluated in our study, their total score was 40.7 ± 6.2 . Considering that the scores obtained from the scale vary between 15-75, it could be said that the scores were low (Table 2). The scores generally found in the studies in the literature were higher than our values [16–18]. In a study conducted by Yılmaz et al. in surgical patients, it was observed that the scores were lower than our values such as 38.4 ± 7.7 points. [19] In our study, the HPS control center and precision sub-dimension scores were moderate, while the self-awareness and health importance dimension scores were quite low. It was seen that students had low self-awareness about being healthy and did not give enough importance to their health.

In our study, similar to some other study results, no relation was found between students' gender and classes and their HPS scores [16,17]. The total and control center, precision sub-dimensions of the medical faculty students were found to be the lowest and the highest in the Faculty of Education. On the other hand, the importance of health sub-dimension was found to be the highest in the Faculty of Medicine and the lowest in the Faculty of Education (Table 3). The fact that the importance of health sub-dimension of the Faculty of Medicine students is high may depend on the fact that they are working in a hospital environment due to their education and that they are interested in patients closely. The reason for the lowness of precision and control center sub-dimension points suggests that they may be affected by other people's feelings and thoughts due to their close relationship with patients.

In our study, the HPS total score, control center, and precision subscale scores of the students were found to be the lowest among those who stayed alone at home and the highest among those who stayed with their families (Table 3). It is thought that health perception can be affected by other members of the family and social support is effective in this regard. The reason for this difference may be the fact that individuals living alone at home are away from the acquisition of self-efficacy, which can be effective in the awareness and decision making mechanism that can be gained by living with the family. As a matter of fact, according to the study conducted in three different European countries, it was observed that the perceptions of health stated by themselves were higher among those who stayed with their families [20].

In the group that defined their economic status as good, the sub-dimensions of HPS total score, and the importance of precision and health were found to be low. In the study of Khorshid et al., The scale scores were found to be low in those with low income [16]. While the perceived health is expected to increase while the income level is increasing, the opposite of this was observed in our study. In another study, the income level can be determined based on measurement, and in our study, the economic situation of the students is questioned according to their own expressions. In addition, it is possible that the stress created by the bad economic situation on individuals could be provided awareness and alertness in the perception of health. HPS scores were significantly lower in the group, which expressed their health status as good (Table 3). Students' thinking about their health status may cause them to move away from the concept of disease, ignore some of their responsibilities and the importance they attach to health, and it can be said that there are some deficiencies in their perception of their health. HPS total score and control center, the importance of health, sub-dimensions of precision were found to be lower in those who were satisfied with the department they study (Table 3). Contrary to our study, in the study of Meireles et al., the perception of health was found low among students between the ages of 11 and 13 who were not satisfied with their department they study [21]. In fact, those who are satisfied with the department they study, while waiting for high health perception, on the contrary, being low is quite thought-provoking.

In our study, the HLBS scores of the students were moderate at 125.4 ± 19.5 out of 208 points, and the lowest found sub-dimension was exercise (Table 2). In the literature, there are studies with low and high scores as well as values close to our study in studies conducted in different faculties [22–26]. The existence of such variable values indicates that healthy life behaviors can be affected by the physical conditions of the geography inhabited, the sociocultural structure of the society, and traditional behaviors.

In our study, exercise and stress management sub-dimensions were found higher in male students (Table 4). Exercise in university students and nursing students in Iran was found to be significantly higher in males [27,28]. High exercise scores in the male may be due to the society's traditions and the less pressure of families on males as a reflection of cultural gender inequality. In our study, there was no significant difference between the students' classes and faculties and their scale scores. Moreover, a high level of nutrition in the Faculty of Medicine may be related to the fact that the lessons contain more topics related to healthy nutrition.

In our study, HLBS total score and health responsibility, exercise, interpersonal support scale sub-dimensions of students whose parents were university graduates were found to be significantly higher (Table 4). In a study conducted with university students in Erzincan, as the education level of parents increased, all scale scores increased significantly, and in another study conducted in Medical Faculty students, the total scale score was found to be significantly higher in the group whose parents were at high school level or above [27, 29]. Parents may also reflect their awareness and awareness of the healthy behavior brought by the increased education levels to their children. According to the students' expressions, HLBS mean scores were found to be significantly higher in the groups that define their economic and health status as

good (Table 4). Similarly to our study, in the study of Cihangiroğlu et al. with Health High School students and in the study of Nacar et al. with Medicine Faculty students found that HLBS scale scores were high in students with good economic status [22,29]. The economic situation is effective in many areas such as education and health in the life of the individual, and it is effective in gaining these positive behaviors with the facilities it provides in social life and in the physical and social areas. In addition, as in similar studies in the literature, the high level of healthy living behaviors in the group, which defines health status as good, suggests that students adopt healthy living behaviors to protect their health [21–23]. In our study, self-actualization, health responsibility, and nutritional scores were found to be significantly lower in students who smoke (Table 4). In the study conducted by Kostak et al., it was observed that the total scale score and self-realization, health responsibility and nutritional subscale dimensions were low in smokers similar to our study [23]. In our study, it was determined that students who smoke were not responsible for their health responsibilities as well as their nutrition and that they were inadequate in self-actualization. Perhaps this is the reason why they may have started smoking. In our study, HLBS scores of those who stated that they were satisfied with their departments were higher (Table 4). In the study conducted by Özbaşaran et al. With the students of the High School of Health, self-fulfillment, interpersonal support and scale total score were found higher in students who chose their profession voluntarily [30]. The satisfaction of the students from the department they study affects their current and future lives with both their school life and out-of-school life. In our study, there is an inverse relationship between HPS and HLBS. Low health perception obtained by the measurement is thought to be a triggering factor in the development of students' healthy lifestyle behaviors. According to their own statements, while the group defining their health as good, HLBS scores are high, HPS scores are low. This shows that students' insights do not develop in order to perceive their health.

Limitations of the study

The fact that our study was conducted in only one university does not make it possible to generalize our findings to the whole country. In addition, it can be accepted from the limited aspects of our study that only four faculties were selected instead of all faculties of Erciyes University and some departments in these faculties were investigated, and the existence of absent students.

Conclusion

University students' perceptions of health were low and healthy life behaviors were moderate. There is a negative relationship between students' perceptions of health and healthy living behaviors. Identifying and supporting the missing aspects of the students' health perceptions and healthy life behavior sub-dimensions will provide a great awareness especially in self-realization, taking health responsibility and gaining insight that allows them to perceive their health properly. Encouraging students to physical activity, especially providing convenience to female students, environmental and social arrangements should be made in the university environment. For adequate and balanced nutrition, it will be beneficial to provide free healthy nutrition opportunities to students and to provide financial support to students in need, to organize peer education programs and health symposiums where

students can realize themselves and take health responsibility.

Conflict of interests

No benefits in any form have been or will be received from a commercial party related directly or indirectly to the subject of this manuscript.

Financial Disclosure

We have no financial disclosures for this article.

Ethical approval

The research was approved ethically appropriate by Erciyes University Clinical Research Ethics Committee.

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