

Determination of the relationship between healthy lifestyle behaviors and health locus of control in nursing students

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ABSTRACT

Aims: The first steps in developing healthy lifestyle behaviors are taken in the community and family, and then they develop and change with education. The attribution of the health-related situations experienced by individuals is related to the health locus of control. Health professionals have important roles and responsibilities in the development and maintenance of these behaviors. This study was conducted to determine the relationship between healthy lifestyle behaviors and health locus of control in nursing students.

Methods: This cross-sectional descriptive relationship-seeking study was conducted with 450 students at Gülhane Nursing Faculty between 01.03.2023 and 01.06.2023. Information about the participants was collected using the sociodemographic data form, multidimensional health control scale form a and healthy lifestyle behaviors scale.

Results: According to the results of the study, the mean age of the students was 21.51 ± 1.47 years. 88.2% of the students were female and 36.7% were 2nd graders. Regression analysis to determine the cause and effect relationship between healthy lifestyle behaviors and multidimensional health locus of control was found significant ($F=30.985$; $p=0.00 < 0.05$). Healthy lifestyle behaviors are explained by internal control, external control and chance control ($R^2=0.172$). Internal control and external control increase healthy lifestyle behaviors ($\beta=0.959$, $\beta=1.144$). Change control had no effect on healthy lifestyle behaviors.

Conclusion: In this study, it was found that multidimensional health locus of control affected healthy lifestyle behaviors in nursing students. Nursing students' acquisition of healthy lifestyle behaviors and increase in health locus of control levels will enable them to provide these behaviors to the individuals they care for in their professional lives.

Keywords: Nursing, health locus of control, healthy lifestyle behaviors, nursing students

INTRODUCTION

Healthy lifestyle is defined as behaviors that have an impact on the health status of individuals and that they do with their own control (Walker et al., 1988). All behaviors that affect the physical, mental and social health of the individual, as well as the whole of the behaviors that the individual believes and practices for the purpose of staying healthy to prevent diseases are included in healthy lifestyle behaviors (Değerli & Yiğit, 2020). These behaviors include health responsibility, exercise, nutrition, stress management, self-actualization, interpersonal support, health control, spiritual satisfaction and developing social relationships. At the same time, these behaviors are an indicator of the lifestyle that enables the individual to protect and improve his/her health (Johnson, 2005).

Health promotion is the state of maximizing the health behaviors of the individual. Being healthy is a fundamental right of every human being, and improving, protecting and maintaining health is the main goal of health services

and health professionals as well as the responsibility of the individual (Kris-Etherton et al., 2022). In this context, individuals taking their own health under control will directly affect their healthy life behaviors. People's attribution of their own health to personal or environmental factors is defined as health locus of control. In other words, it refers to the beliefs about how a health problem is affected by oneself, others or fate (Sardoğan, 2006). Individuals who believe that the events affecting them are mostly under their control are referred to as individuals with high internal locus of control orientation, while those who believe that the events affecting them are mostly controlled by forces outside themselves are referred to as individuals with high external locus of control orientation. Individuals with high internal locus of control orientation cling more tightly to their individual beliefs when they encounter external evidence that may cast doubt on the accuracy of their own behaviors

and perceptions. On the other hand, individuals with a high external locus of control orientation, especially when they perceive the external source as a “respectable” or “expert” person, submit more easily to pressures from others or from outside (Dönmez, 1986).

In order to prevent lifestyle-related diseases and deaths due to these diseases, individuals should acquire healthy lifestyle behaviors (Aksoy & Uçar, 2014). Diseases such as diabetes, cancer and cardiovascular diseases are becoming more common day by day due to increased alcohol and tobacco consumption, improper diet and physical inactivity. These diseases are caused by problems such as excessive weight gain (obesity), increased blood sugar, hypertension, and high blood cholesterol (Kris-Etherton et al., 2022). Factors that cause diseases such as diabetes, cancer and cardiovascular diseases can be prevented by preventing risky behaviors from childhood, especially from adolescence, and gaining “healthy lifestyle behaviors” (Yeung et al., 2021). Healthy lifestyle means that individuals control all behaviors that affect their health and organize their daily activities by choosing behaviors that are appropriate for their health status (Huerta, 2008). It is to protect and improve one’s health by paying attention to cleanliness, eating healthy, being physically active, and avoiding habits that harm one’s health and body (Yüksel Kaçan & Örsal, 2019). In this context, all individuals in the society should create their own “healthy lifestyles” by gaining positive health behaviors to protect and improve their health (Kaminsky et al., 2022).

It has been found that due to the various difficulties of university students in social, emotional, behavioral, academic, sexual and economic areas, students experience stress and turn to maladaptive health behaviors, including unhealthy diet, inadequate rest, substance abuse (Navarro-Prado et al., 2017). Due to time constraints and economic inadequacy, it has been observed that the consumption of fresh or minimally processed foods decreased and the consumption of ultra-processed products increased in students (Da Silva et al., 2020). At the same time, studies have indicated that students who are constantly worried and stressed about catching up during the day negatively affect sleep quality (Litsfeldt et al., 2020).

Negative behaviors related to health in the early stages of life can negatively affect the course of the individual’s future life (Soriano-Ayala et al., 2020). At this point; in order for an individual to practice healthy lifestyle behaviors, he/she must first believe that his/her health is a phenomenon that he/she can develop in his/her own hands and realize that his/her unhealthy behaviors affect him/her. For this reason, in order to correct all these maladaptive lifestyle behaviors in students and to establish healthy lifestyle behaviors, it is necessary to be aware of the situations related to the person’s health locus of control, which is one of the variables that significantly affect the perception and implementation of healthy lifestyle behaviors. Due to their professional responsibilities and social roles, healthcare professionals have the ability to be role models with the lifestyles they lead and to influence the group they serve in terms of health education (Phiri et al., 2014). Nursing education is expected to contribute to the development of students’ skills and individual health perceptions to protect their own health and the health of the individuals they will care for (Açıksöz et al., 2013). On the other hand, in order for nursing students to improve the

health of the individuals they will care for in their professional lives, they must first have healthy lifestyle behaviors and positive health perception (Köse Tosunöz, 2021). This study was conducted to determine the relationship between healthy lifestyle behaviors and health locus of control in nursing students.

METHODS

Ethical Aspects of the Study

While collecting the data, the purpose of the study was explained to the nursing students and they were not forced to participate in the study. Institutional permission was obtained for the study and consent was obtained from the students included in the study. The study was approved by the University of Health Sciences Gülhane Training and Research Hospital Clinical Researches Ethics Committee (Date: 2022, Decision No: 47). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

Material and Method

This study is a cross-sectional descriptive relationship-seeking study. This study was conducted between 01.03.2023 and 01.06.2023 at Gülhane Faculty of Nursing, University of Health Sciences. The population of the study consisted of 758 students studying at Gülhane Nursing Faculty in the 2022-2023 academic year and the sample consisted of 450 students who agreed to participate in the study.

Data Collection Tools

Sociodemographic data form, multidimensional health locus of control scale form a and healthy lifestyle behaviors scale were used to collect data from the students participating in the study. Data were collected under the supervision of the researchers. It took students an average of 10 minutes to fill out the form.

Sociodemographic Data Form: The sociodemographic questionnaire consists of 10 questions. It includes students’ gender, class, socio-economic status and family characteristics.

Multidimensional Health Locus of Control Scale Form: The multidimensional health locus of control scale was developed by Walltson et al. (1978) (Walltson et al., 1978). The validity and reliability of the scale was conducted by Güzel et al. (2019) and form a was used for this study. The 18 items in the scale are divided into three groups of six items each to assess internal health locus of control, strong others health locus of control, and change health locus of control orientations. Intrinsic health locus of control measures the impact of one’s own values on one’s health. Strong external level of control measures the level of influence of friends, family, physicians, nurses, etc. on the individual’s health. Chance effect measures the level of influences such as chance, luck, fatalism and fatalism on the individual’s health. The degree of agreement with the items is scored from “strongly agree=5” to “strongly disagree=0”. The 18 items in the scale represent 3 sub-dimensions. Each sub-dimension produces scores between 0-30 on six items. The scores of the sub-dimensions are evaluated one by one and whichever sub-dimension has the highest score, the center that controls health is controlled

as that sub-dimension (Güzel et al., 2019). In this study, the Cronbach's alpha value of the scale was found to be 0.86.

Healthy Lifestyle Behaviors Scale: The healthy lifestyle behaviors scale was developed by Walker et al. (1988) and is a four-point Likert-type scale consisting of 52 items (Walker et al., 1988). The validity and reliability study of the scale in Türkiye was conducted by Bahar et al. (2008). The scale includes 6 subgroups: health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships and stress management. The scale is a 4-point Likert-type scale and is evaluated by giving 1, 2, 3, 4 points to the answers "never", "sometimes", "frequently", "regularly" respectively. All items of this scale contain positive statements, and an increase in the scale score indicates that the participant evaluates healthy lifestyle behaviors more positively (Bahar et al., 2008). In this study, the Cronbach's alpha value of the scale was found to be 0.95.

Statistical Analysis

The data of the study were transferred to the computer environment and standard deviation, arithmetic mean, frequency and percentage calculations were analyzed through the statistical package for the social sciences (SPSS 24.0) package program. Frequency and percentage analyses were used to determine the descriptive characteristics of the students participating in the study, and mean and standard deviation statistics were used to analyze the scale. Kurtosis and Skewness values were analyzed to determine whether the research variables were normally distributed. It was determined that the variables were normally distributed. The relationships between the dimensions that determine the scale levels of the students were examined through Pearson correlation and linear regression analyses.

RESULTS

The mean age of the students participating in the study was 21.51±1.47 years. Of the students, 88.2% were female, 36.7% were in the 2nd grade. 51.1% of the students stated that they lived with their families, 66.9% did not receive scholarships, 61.3% had an income equal to their expenses, 95.3% stated that their parents were married, 62.4% stated that their mothers and 38.2% stated that their fathers were primary school graduates, and 91.8% stated that they did not have any chronic disease. Socio-demographic data of the students are shown in Table 1.

The scores of the students on the healthy lifestyle behaviors scale (HLBS) and multidimensional health locus of control scale (MH LCS) sub-dimensions and total scores are shown in Table 2. The mean scores of the students in the health responsibility sub-dimension were 23.49±5.52, in the physical activity sub-dimension were 18.99±5.25, in the nutrition sub-dimension were 21.21±4.89, in the spiritual development sub-dimension were 26.94±4.92, in the interpersonal relations sub-dimension were 27.33±4.85, in the stress management sub-dimension were 20.59±4.56, and in the total scale were 138.57±24.58. The mean scores of the internal control subscale were 27.76±5.24, the mean scores of the chance control subscale were 16.52±6.24, the mean scores of the external control subscale were 21.65±6.07, and the mean scores of the total scale were 62.94±13.5 (Table 2).

Pearson correlation analysis was performed to evaluate the relationship between students' healthy lifestyle behaviors

and multidimensional health locus of control scale mean scores (Table 3). As a result of the analysis, a significant positive relationship was found between self-actualization and external control and internal control sub-dimensions (r: 0.248, p: 0.000), (r: 0.381, p: 0.000). A significant positive relationship was found between the health responsibility sub-dimension and external control and internal control sub-dimensions (r: 0.362, p: 0.000), (r: 0.260, p: 0.000). A significant and weak positive relationship was found between the physical activity sub-dimension and external control, internal control and chance control sub-dimensions (r: 0.268, p: 0.000), (r: 0.198, p: 0.000), (r: 0.133, p: 0.005). There was a significant positive relationship between the nutrition sub-dimension and external control, internal control and chance control sub-dimension (r: 0.356, p: 0.000), (r: 0.244, p: 0.000), (r: 0.218, p: 0.000). There was a significant positive relationship between the interpersonal relations sub-dimension and external control and internal control sub-dimensions (r: 0.286, p: 0.000), (r: 0.359, p: 0.000). There was a significant positive relationship between the stress management sub-dimension and external control, internal control sub-dimension, and a very weak positive relationship between the chance control sub-dimension (r: 0.319, p: 0.000), (r: 0.301, p: 0.000) (r: 0.130, p: 0.006). No statistically significant relationship was found between the other sub-dimensions (p>0.005) (Table 3).

Table 1. Socio-demographic data of the students (n=450)

Age (mean±SD)	21.51±1.47	
	n	%
Gender*		
Female	397	88.2
Male	53	11.8
Class*		
Class 1	68	15.1
Class 2	165	36.7
Class 3	130	28.9
Class 4	87	19.3
Place of Residence*		
Family house	230	51.1
Dormitory	163	36.2
Student house	57	12.7
Scholarship Status*		
Yes	149	33.1
No	301	66.9
Family Income Status*		
Income less than expenditure	104	23.1
Income equals expenditure	276	61.3
Income more than expenditure	70	15.6
Parents marital status*		
Married	429	95.3
Separated	21	4.7
Mother's education status*		
Primary education graduate	281	62.4
High school graduate	126	28.0
University graduate	43	9.6
Father's education status*		
Primary education graduate	172	38.2
High school graduate	155	34.4
University graduate	122	27.1
Presence of chronic disease*		
Yes**	37	8.2
No	413	91.8

*: n (%). **: Type 1 diabetes, hypothyroidism, mitral insufficiency, bipolar disorder, chronic kidney disease, arterial hypertension, allergies, anxiety, polycystic ovary, systematic juvenile idiopathic arthritis, Mediterranean anemia, migraine, glaucoma, SD: Standart deviation

Table 2. Distribution of healthy lifestyle behaviors and multidimensional health locus of control scale mean scores (n=450)

HLBS	Mean±SD
HLBS total score	138.57±24.58
Health responsibility	23.49±5.52
Physical activity	18.99±5.25
Nutrition	21.21±4.89
Spiritual development	26.94 ±4.92
Interpersonal relationships	27.33±4.85
Stress management	20.59±4.56
MHLCS	
MHLCS total score	62.94±13.5
Internal control	27.76±5.24
Chance control	16.52±6.24
External control (Otherpowerful people)	21.65±6.07

HLBS: Healthy lifestyle behaviors scale, MHLCS: Multidimensional health locus of control scale, SD: Standart deviation

Table 3. The relationship between healthy lifestyle behaviors scale and multidimensional control scale scores

HLBS	MHLCS		
	External control (other powerful people)	Internal control	Chance control
Self-actualization (spiritual development)	r: 0.248 p: 0.000	r: 0.381 p: 0.000	r: -0.059 p: 0.208
Health responsibility	r: 0.362 p: 0.000	r: 0.260 p: 0.000	r: 0.073 p: 0.121
Physical activity	r: 0.268 p: 0.000	r: 0.198 p: 0.000	r: 0.133 p: 0.005
Nutrition	r: 0.356 p: 0.000	r: 0.244 p: 0.000	r: 0.218 p: 0.000
Interpersonal relationships	r: 0.286 p: 0.000	r: 0.359 p: 0.000	r: -0.052 p: 0.268
Stress management	r: 0.319 p: 0.000	r: 0.301 p: 0.000	r: 0.130 p: 0.006
Total	r: 0.375 p: 0.000	r: 0.353 p: 0.000	r: 0.090 p: 0.056

HLBS: Healthy lifestyle behaviors scale, MHLCS: Multidimensional health locus of control scale

Regression analysis to determine the cause and effect relationship between healthy lifestyle behaviors and multidimensional health locus of control was found to be significant (F=30.985; p=0.00<0.05). The total change in healthy lifestyle behaviors was explained by internal control, external control and chance control at a rate of 17.2% (R²=0,172). Internal control and external control increase healthy lifestyle behaviors (β=0.959, β=1.144). Chance control has no effect on healthy lifestyle behaviors (Table 4).

Table 4. The effect of multidimensional health locus of control on healthy lifestyle behaviors*

	β	SE	t	p	95% confidence interval	
					Bottom	Upper
Internal control	0.959	0.245	3.910	0.000	0.477	1.441
External control	1.144	0.225	5.075	0.000	0.701	1.587

*Linear regression analysis

DISCUSSION

In this study, it was found that multidimensional health locus of control affected healthy lifestyle behaviors, internal control and external control increased healthy lifestyle behaviors, while chance control had no effect on healthy lifestyle

behaviors. The score obtained from the healthy lifestyle behaviors scale shows us that the healthy lifestyle behaviors of the students are at a good level and this situation is evaluated positively. In a systematic review examining the healthy lifestyle behaviors of high school students in our country, it was reported that the health behaviors of adolescents were at a moderate level (Sümen et al., 2017). The fact that our study was conducted with nursing faculty students is thought to be related to the fact that they adopted health-related lifestyle behaviors in the educational environment. In this study, it was found that the students received the highest score in the internal control sub-dimension of the multidimensional health locus of control scale, that is, the center that controls health was found to be the internal control sub-dimension. Individuals with internal locus of control are self-confident, have high self-efficacy in health, seek and demand more information by not depending on the opinions of others, apply what health professionals say better, and know the importance of their behaviors (Debnam et al., 2012; Sümen & Öncel, 2017). People who think that they can affect their own health with their own behaviors are more likely to engage in healthy life behaviors (Jackson et al., 2007). The fact that the self-actualization and interpersonal relationships of students with higher levels of internal control are higher suggests that students with higher levels of self-actualization may not give much opportunity to the luck factor on their health.

It has been stated that individuals' health behaviors are under their own control and this situation is influenced by external factors. Health professionals, teachers, family and peers play an important role in the health behaviors of individuals. These people constitute role models for how the person will think, feel and behave (Tabak & Akköse, 2006). When young people with high external control tendency perceive other powerful people as respectful or expert, they give more importance to their own behaviors and evaluations (Dönmez, 1986). Studies have shown that external health control is a significant determinant of health behaviors (Cloutier, 2003; Steptoe, 2001). In another study, although external health control was significantly associated with balanced diet and regular physical activity, it was not found to be significant in regression analysis (Hosseini et al., 2017). In this study, external control was found to increase healthy lifestyle behaviors. It shows the importance of students having high external control and getting help from experts in their field when they have a health problem.

In this study, it was found that students did not attribute their healthy lifestyle behaviors to chance control. In İlkan and Alkır's study (2021), it was found that physical activity, nutrition, positive life perception, interpersonal relationships, and stress management decreased as the chance fatalistic approach score increased. In their regression analysis, it was stated that chance fatalism did not affect the health behaviors of adolescents (İlhan & Alkır, 2021). In the study of Hosseini and colleagues, it was determined that the luck factor was not a significant determinant of health behaviors (Hosseini et al., 2017). In another study, it was shown that increased chance effect was associated with lower leisure time physical activity behavior (Mercer et al., 2018). Chance locus of control is used to measure the control of variables such as luck, fortune and fate that the individual perceives towards his/her health. In this study, it is thought that the reason why the students did not attribute their healthy lifestyle behaviors to chance control

was due to the fact that they were nursing students receiving health education. The importance of physical activity, stress management and nutrition, which have an important place in healthy lifestyle behaviors, should not be left to chance and students should be told about the importance of gaining their own health responsibilities.

Limitations

The most important limitation of this study was the use of questionnaires based on student self-reports. Therefore, misunderstanding or misinterpretation of the questions might have affected the results of the study. Also it was conducted in only one research school and has a modest sample size.

CONCLUSION

As a result of the study, It has been found that health locus of control is an important factor in displaying healthy lifestyle behaviors of nursing students who will provide care, education and consultancy services to healthy/sick individuals. It was determined that the health behaviors of nursing students were at a good level, and as the internal locus of control and external locus of control scores increased, health behaviors increased positively. The center that controls health was found to be the internal control sub-dimension. In programs to improve the health of students, factors affecting health behaviors should be taken into account. Health education programs should be organized to increase health responsibility before entering the nursing profession. In this context, based on the idea that students' understanding that their health and behaviors are under their own control improves their health behaviors positively, content aimed at improving the internal health locus of control should be included in the training programs.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was approved by the Faculty of Health Sciences Gülhane Training and Research Hospital Clinical Researches Ethics Committee (Date: 2022, Decision No: 47).

Informed Consent

Written informed consent was obtained from the all patients included in the study.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper and that they have approved the final version.

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