

Original Article

Examining the Relationship between Health Perception, Life Satisfaction, and Healthy Lifestyle Behaviours among University Students

Buse Mete

Faculty of Health Sciences, Health Management Department, Sakarya University of Applied Sciences, Sakarya, Turkiye

Canan Birimoglu Okuyan, PhD

Faculty of Health Sciences, Nursing Department, Sakarya University of Applied Sciences, Sakarya, Turkiye

Correspondence: Canan Birimoglu Okuyan, PhD, Associate Professor, Faculty of Health Sciences, Nursing Department, Sakarya University of Applied Sciences, Sakarya, Turkiye E-mail: cananbirimoglu@subu.edu.tr

Abstract

Aim: The aim of this study is to investigate the correlation among university students between healthy lifestyle habits, life satisfaction, and health perception.

Methods: Participants in the research included 360 students majoring in health. The research employed several instruments to collect data, such as a questionnaire on sociodemographic traits, the Health Perception Scale, the Healthy Lifestyle Behaviors scale and the Life Satisfaction Scale.

Results: According to the study's descriptive results, participants' life satisfaction levels were moderate (15.11 ± 4.21), while their perceptions of their health (47.72 ± 8.38) and healthy lifestyle behaviour (128.15 ± 20.12) were slightly above average. Research indicates that there is a statistically significant ($p < 0.001$) effect of 0.745 on healthy lifestyle behaviours from health perception.

Conclusion: The study's findings indicate that students will have higher levels of life satisfaction if they adopt healthier habits and have a more positive perception of their health.

For this reason, subjects like health promotion, protection, living a healthy lifestyle, etc. should be included in the health curriculum for higher education.

Keywords: University students, Health perception, Healthy life behaviors, Life satisfaction

Introduction

According to literature, an individual's condition of physical, mental, and social well-being is referred to as their health (Larsen, 2022). The primary responsibility for preserving and advancing health lies with people (Obidovna & Sulaymonovich, 2022). The efforts and behaviors of individuals to maintain their health are related mainly to their perceived health status (Leite et al., 2019). Health perception encompasses an individual's subjective assessment of their health status. Individuals with a high perception of health have a high awareness of identifying risk factors that may affect their health status (Nie et al., 2023). It is thought that individuals who evaluate their health

correctly in this way will encounter fewer problems in their social lives.

The process of improving health and people's perceptions of their own health are closely linked to the adoption and upkeep of healthy lifestyle practices (Citak Tunc et al., 2021). The term "healthy lifestyle behaviors" (HLB) refers to all of the actions that a person takes to maintain their health and fend off illness (Byrne et al., 2016). HLB is presented as a combination of healthy eating practices, self-actualization, health responsibility, exercise routines, social support, and stress management (Loef & Walach, 2012). At this point, it's critical to adopt healthy lifestyle practices and identify the variables influencing these practices (Kilani ID et al., 2020). Studies have shown that there is a

strong correlation between the development of health perception in adults and young people and the acquisition of HLB (Ardic & Esin, 2016). Students have a modest level of health perception and HLB according to studies done on university students (Acikgoz Cepni, S., & Kitis, Y. 2017; de-Mateo-Silleras et al., 2019; Bozkurt et al., 2021). It has also been determined that individuals with high health perception are more likely to exhibit positive health behaviors and stay away from risky behaviors. Positive health perception is also an important predictor of high physical activity levels and healthy behavior patterns (Al-Amari & Al-Khamees, 2015).

When people do not have a positive perception of their health and do not acquire appropriate abilities in healthy behavior choices, they tend to practice unhealthy lifestyle behaviors (Steptoe et al., 2015). In the CDC (Centers for Disease Control and Prevention) report, it has been reported that individuals' life expectancies will be extended if they exhibit one or more healthful lifestyle behaviours. (Bailey et al., 2019). HLB, which has a very important effect on the life span of individuals, is also in life satisfaction (Kvintova et al., 2016; Mehr et al., 2019).

Life satisfaction is the situations or results that emerge after the individual's expectations are compared with the actual events. The less the inconsistency between the expectations, perceptions and results of the individual, the higher the life satisfaction will be. It has been revealed in many scientific studies that the level of life satisfaction of individuals in a society is basically related to development indicators such as welfare level, health outcomes and education in that society (Khodabakhsh, 2002; Bidzan-Bluma et al., 2020). Increasing life satisfaction, which has a very important place in the welfare of society, is also a current issue in the targeted health policies. In this context, factors that can affect life satisfaction are emphasized. When the literature is examined, it is seen that health perception and HLB have an important effect on life satisfaction. Health perception is an important predictor of life satisfaction. In particular, it is stated that life satisfaction is in

a stronger relationship with the perception of health rather than objective health measures (Kim et al., 2021). Research shows that poor health perception is significantly associated with decreased life satisfaction for adults (Abolhasani & Bastani, 2019; Pierannuzio et al., 2022). However, it is acknowledged that there are relationships between alterations in lifestyle (such as food, exercise, smoking, and drinking alcohol), health-related behaviors, and psychological elements like life satisfaction (Ramos Salazar, 2021). In a study conducted with young individuals, it was found that young people who participated in physical exercise, abstained from smoking, avoided fatty foods, and particularly ate healthily had far better life satisfaction than others (Pengpid & Peltzer, 2019).

While research has been done on the association between health perceptions, health-related behaviour, and life satisfaction levels among university students studying health sciences, no study has been discovered that looks at the impact on life satisfaction all at once.. However, no studies examining the relationship between health beliefs, HLB, and life satisfaction among Turkish students and evaluating were identified. In this direction, the aim of examining the relationship between health perception, life satisfaction, and healthy lifestyle behaviours among university students.

Based on the aforementioned explanations and the objectives of the study, the hypotheses and research model shown in Figure 1 were established. H₁: There is a statistically significant effect of health perception level on the HLB of health science students.

H₂: The level of HLB has a statistically significant effect on the life satisfaction of health science students.

H₃: Health science students' life satisfaction is statistically correlated with their degree of health perception..

H₄: The impact of health perception levels on life satisfaction among health science students is mediated by HLB.

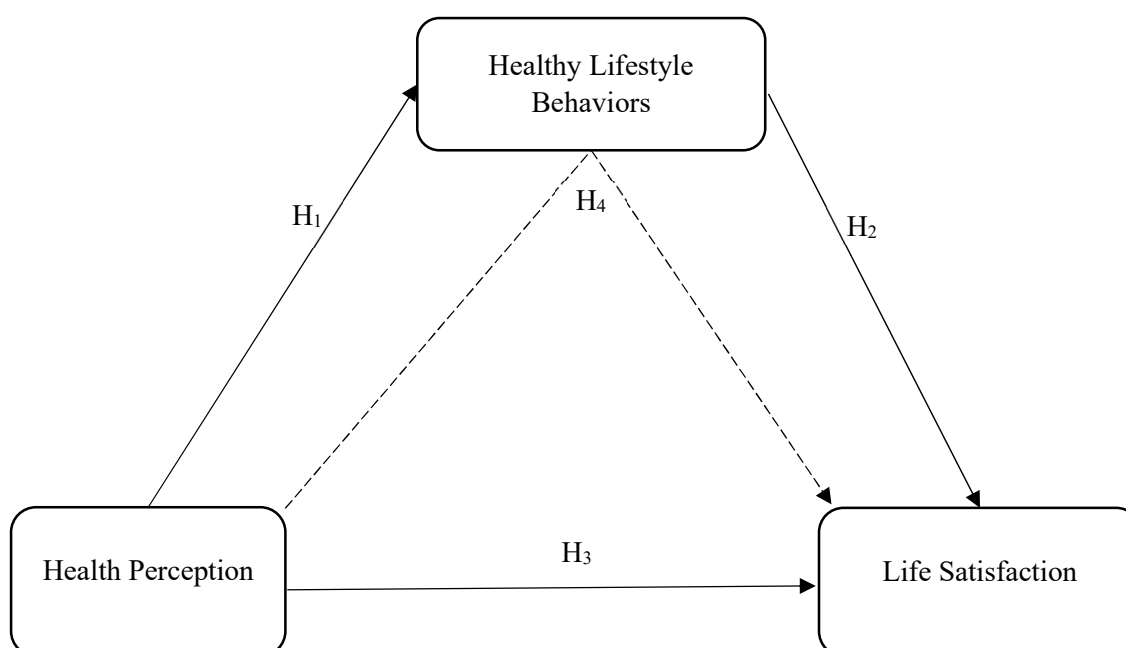


Figure 1. Research Model

Materials and Methods

Type of research: This cross-sectional research was carried out to identify the connection between health perception, HLB, and life satisfaction levels and to estimate their effect levels among health science students.

Population and sample of the research: The study's sample consisted of 360 students studying at a university located in the western region of Turkey (N=644). It was determined that in determining the sample size, a total of 241 students should be reached with alpha = .05, 95% confidence level (Yazicioglu & Erdogan, 2004). However, factors such as incomplete questionnaire filling, loss of questionnaire, and dead questionnaire were taken into consideration and the study was completed with 360 students.

Place and time of research: The research was collected between April and June 2022 by applying a face-to-face questionnaire to students.

Study inclusion criteria.

- Participating in the research as a volunteer
- Being studying in the same faculty's health program.
- Speaking and understanding Turkish.

Study exclusion criteria.

- Not volunteering to take part in the study.
- Not speaking and understanding Turkish.

Data collection tools

The data of the research were used in the "Socio-Demographic Information Form", "Health Perception Scale", "Healthy Lifestyle Behaviors Scale" and Life Satisfaction Scale, which were prepared by the researchers in the light of literature information.

Socio-demographic information form: The researchers used the relevant literature and studies to generate the 11 questions on this form, which asks about people's sociodemographic characteristics of individuals.

Health Perception Scale: The scale, which was devised by Diamond et al., (2007), is scored using the 5-point Likert type and comprises 15 items and 4 sub-dimensions. Scale dimensions are control center (5 items), self-awareness (3 items), certainty (4 items) and importance of health (3 items) (Diamond et al., 2007). The Cronbach Alpha coefficient of the original scale was 0.88 and also the Turkish adaptation, validity and reliability of the scale were made by Kadioglu and Yildiz (2012), and the Cronbach Alpha coefficient was found to be 0.77 (Kadioglu & Yildiz, 2012). The Cronbach Alpha coefficient in our study was found to be 0.92.

Healthy Lifestyle Behaviors Scale: The HLB II scale, created by Walker and Hill-Polerecky (1996), has 52 items and six

components. The lowest overall score is 52, while the highest is 208 (Walker & Hill-Polerecky, 1996). The Cronbach Alpha coefficient for the original scale was 0.94. The Cronbach Alpha coefficient for the related scale, which was translated into Turkish by Bahar et al. (2008), is 0.92. The Cronbach Alpha coefficient in our study was 0.75 (Bahar et al., 2008).

Life Satisfaction Scale: The "Satisfaction with Life Scale" established by Diener et al., (1985) has one dimension and five items. Each item on the original scale is scored using a 7-point system (1: Strongly Disagree - 7: Totally Agree). The Cronbach Alpha coefficient for the scale was 0.82 (Diener et al., 1985). The Cronbach Alpha coefficient of the scale, as analyzed by Dagli and Baysal (2016) using the 5-point Likert approach, is 0.88. The Cronbach Alpha coefficient for our study was 0.83 (Dagli & Baysal, 2016).

Ethical consideration: The research was conducted with the assistance of the following: institutional permission from the university where the study was conducted, Ethics Committee Permission (2022, 18/1) from a state university, and documented consent from the participants. The regulations outlined in the Declaration of Helsinki were adhered to throughout the research. The individuals who agreed to take part in the study gave verbal permission.

Analysis of data: The data obtained in the research were evaluated with the SPSS 22.0 package program. Number, percentage, mean and standard deviation from descriptive statistics were used for socio-demographic information of health science students. Pearson's correlation analysis was performed to determine the relationships between health perception, healthy lifestyle behaviors and life satisfaction. In addition, in order to test the research hypotheses, model 4 test analysis was performed with the Process Macro software, which was carried out over the Spss program. Findings related to the analyzes made in this context are given below. The significance level was accepted as 0.05.

Results

According to the findings obtained within the scope of the study, the descriptive information regarding the socio-demographic characteristics and health status of the participants is as follows (Table 1).

The average scores of the students participating in the study regarding the general scale and its sub-dimensions are presented in Table 2. Accordingly, it was determined that the participants' health perception (47.72 ± 8.38) and HLB scale (128.15 ± 20.12) levels were slightly above average and their life satisfaction was moderate (15.11 ± 4.21).

Table 3 presents the results of the correlation analysis that was done to ascertain the link between the dependent, independent, and mediator variables as well as their sub-dimensions within the parameters of the study. The associations observed here between life satisfaction, health perception, and HLPV are statistically significant ($p < 0.05$).

Table 4 shows the regression analysis results for the hypotheses developed within the scope of the investigation. The correlation between health perception and healthy lifestyle behaviours is 0.745 and statistically significant ($p < 0.001$). Therefore, the H1 hypothesis was adopted. The effect of health perception on life satisfaction was 0.150, while the effect of HLB on life satisfaction was 0.089 ($p < 0.001$). In this setting, hypotheses H2 and H3 were likewise accepted.

The findings of the Process Macro model 4 analysis, which was carried out in the study to determine the effect of HLB on health perception and life satisfaction, are given in Table 5. As a result, it has been discovered that HLB has a 0.066 mediating effect in explaining the overall 0.216 effect of health perception on life satisfaction, which is statistically significant. Therefore, the H4 hypothesis was also accepted.

Table 1. Information on the socio-demographical characteristics of the participating students (n=360)

	n	mean
Age	360	20.01±1.333
Gender	n	%
Female	217	60.3
Male	143	39.7
Department		
Health Management	93	25.8
Physical therapy and rehabilitation	83	23.1
Nursing	75	20.8
Physiotherapy	18	5.0
First and Emergency Aid	28	7.8
Medical Laboratory	23	6.4
Management of Health Institutions	28	7.8
Health Tourism Management	12	3.3
Class		
First Class	205	56.9
Second Class	155	43.1
Income status		
Income Less than Expenses	129	35.8
Income Equal to Expense	172	47.8
Income Higher than Expenses	59	16.4
Smoking Status		
I don't use	214	59.4
Sometimes	74	20.6
I Use Often	72	20.0
Alcohol Use Status		

I don't use	264	73.3
Sometimes	73	20.3
I Use Often	23	6.4
Who Lives With		
Alone	36	10.0
With friends	129	35.8
With family	195	54.2
Information on Students' Health Status		
Physical Disease Status		
Yes	10	2.8
No	350	97.2
Chronic Disease Status		
Yes	28	7.8
No	332	92.2
Continuous Medication Use		
Yes	31	8.6
No	329	91.4
Total	360	100

Table 2. Mean scores on research scales and sub-dimensions given by students

Scales and sub-dimensions	Lower and Upper Values That Can Be Taken in the Original Scale	Lower and Upper Values Taken in This Study	Scale Means and Standard Deviations in This Study
Health Perception	15-75	19-75	47.72±8.38
control center	5-25	5-24	15.43±4.19
certainty	4-20	4-20	11.94±3.39
Importance of Health	3-15	3-15	10.47±2.69

self-awareness	3-15	3-15	10.62±2.11
HLB II	52-208	83-179	128.15±20.12
Health Responsibility	9-36	10-33	21.01±5.07
Physical Activity	8-32	8-29	18.58±4.62
Nutrition	9-36	11-31	20.31±4.31
Spiritual Development	10-40	13-35	24.32±4.28
Interpersonal Relations	9-36	16-34	24.17±3.93
Stress Management	8-32	11-29	19.76±4.17
Life Satisfaction	5-25	5-25	15.11±4.21

Table 3. Findings related to correlation analysis between health perception, hlb, satisfaction with life and sub-dimensions

	Health Perception	Control Center	Certainty	Importance of Health	Awareness	Life Satisfaction
HLB II	0.310**	0.273**	0.012	0.285**	0.307**	0.518**
Health Responsibility	0.264**	0.214**	0.022	0.245**	0.275**	0.498**
Physical Activity	0.354**	0.344**	0.127*	0.216**	0.242**	0.349**
Nutrition	0.321**	0.202**	0.164**	0.223**	0.322**	0.490**
Spiritual Development	0.161**	0.158**	0.102	0.253**	0.165**	0.322**
Interpersonal Relations	0.059***	0.093***	0.182**	0.125*	0.184**	0.225**
Stress Management	0.232**	0.219**	0.005***	0.231**	0.202**	0.458**
Life Satisfaction	0.430**	0.308**	0.102	0.422**	0.396**	1
*p<0.05 **p<0.001 ***p>0.05						

Table 4. Findings related to regression analysis for research variables

	Main Effects			Model Summary		
	β	Standard error	p	R ²	F	p
Health Perception → HLB	0.745	0.121	0.001	0.096	38.132	0.001
Health Perception → Life Satisfaction	0.15	0.023	0.001	0.349	95.601	0.001
HLB → Life Satisfaction	0.089	0.009	0.001			

Table 5: Findings Related to the Mediator Role of the SYBD

The Total Effect of Health Perception on Life Satisfaction		β	Standard error	LLCI	ULCI	
Total Effect		0.216	0.024	0.169	0.263	
Direct Effect		0,15	0,023	0,105	0,194	
Mediation Effect						
Independent variable	Mediator Variable	Dependent variable	β	Standard error	LLCI	ULCI
Health Perception	> HLB	> Life Satisfaction	0.066	0.016	0.039	0.1

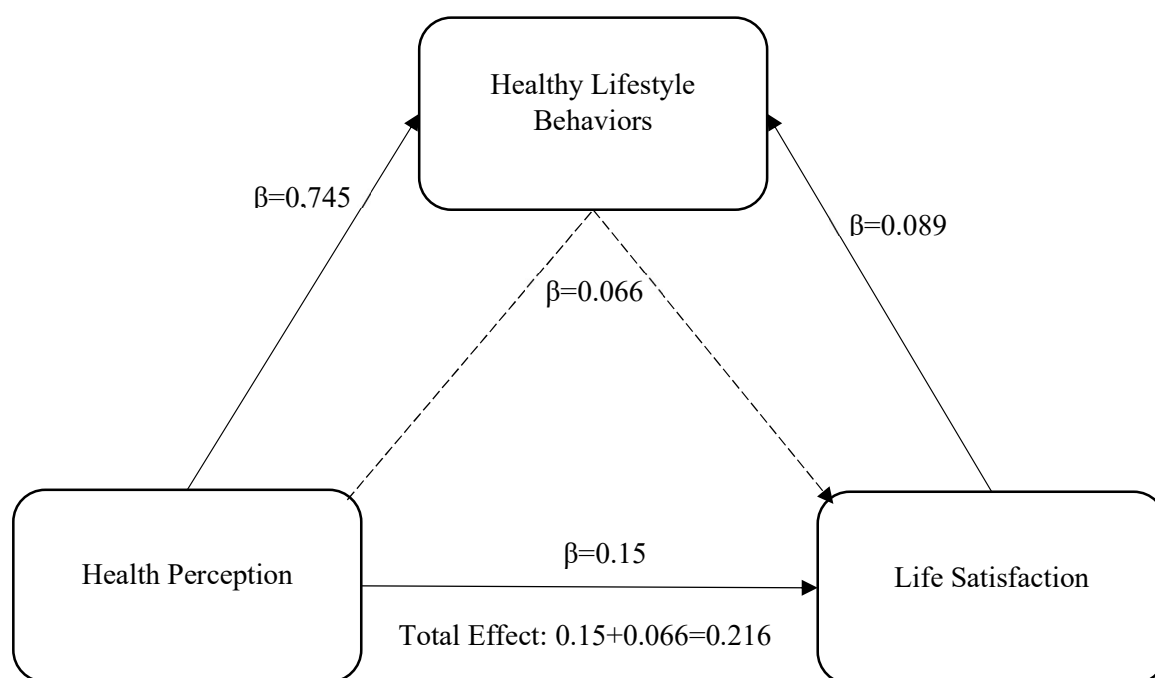


Figure 2. Research Model

Discussion

We showed that the health perception of university students studying in the field of health sciences was at a moderate level with an average of 47.72 points, an average of 128.15 points in the HLB, and a good level of life satisfaction with an average of 15.11 points. In a study investigating the health perception level of young individuals, the average score of the student's health perception scale was found to be 50.57, which is consistent with the findings of our study (Ozdelikara et al., 2018). In another study, reported that the average health perception level in factory workers was 39.84 (Kolac et al., 2018). In a study conducted with health school students, it was revealed that the HLB scale score was 127.8 ± 17.5 (Melnyk et al., 2021). Further, the HLB scale score was 125.9 ± 17.4 among university students (Nazik & Gunes, 2019), while it was 117.5 ± 17.1 among health personnel working in primary health care services (Alhejaili & Almutgi, 2022). Moreover, it was observed in other studies using the same scale that HLB scores were lower in healthcare professionals in various countries (Blake et al., 2017)(Dayoub & Jena, 2015). The difference in the findings of our study may be associated with the

behaviours that will negatively affect health such as smoking and alcohol use, which are more common than the employees in Turkiye. On the other hand, in some studies on the life satisfaction of university students, it has been shown that the average is rather good, which consistent the findings of the current research (Gavín-Chocano et al., 2020; Rogowska et al., 2020).

Our statistical analyses have shown that the level of health perception of university students studying in the field of health sciences had a significant effect on HLB and life satisfaction. In addition, we found that HLBs has a mediating role of 0.066 in the effect of health perception on life satisfaction. In another study carried out with individuals aged 60 and over by Ayna and Gumus (2021), it was reported that there was a relationship between health perception and life satisfaction ($p < 0.050$, $r = 0.335$) [41]. Moreover, it was determined that individuals' perception of health was a significant predictor of their level of life satisfaction ($\beta = .185$, $p < .05$) (Kim et al., 2018). It has been shown that physical and mental health perceptions have an effect on students' life satisfaction (Rogowska et al., 2020). In another study conducted in Japan, it was

reported that the healthy lifestyle behaviours of individuals aged 20 and over are associated with health perception (Tanaka et al., 2020). Further, it has been demonstrated that not complying with healthy lifestyle behaviors results from inadequate health perception in people with cardiovascular disease (Lee et al., 2019). It was observed that university students studying in the field of health science with a high health perception tend to exhibit health-promoting behaviors (Aciksoz et al., 2013). In a recent study with elderly individuals in Thailand, it was found that individuals with high HLB scale scores had higher life satisfaction (Phulkard et al., 2021). Furthermore, it was determined that there is a positive and significant relationship between HLB and life satisfaction and job satisfaction in nurses (Sampson, 2020). Considering the results presented here and previous studies, we may suggest that health perception and HLB have essential effects on the life satisfaction of students studying health sciences.

Conclusion and Recommendations: In the current research, our data show that the life satisfaction levels of university students studying health sciences are at a reasonable level, and both health perceptions and HLB are effective in this. In addition, the mediator role of the HLB strengthens the impact of health perception on my life satisfaction. Overall, it might be ensured that students gain higher life satisfaction by improving their health perception and HLB. Moreover, courses such as health promotion, protection, and healthy life could be included in the higher education curriculum in the field of health.

Research Limitations: This study was carried out with 360 students studying in the field of health sciences. Further research with a large sample size can be performed by including students studying in different academic fields. Additionally, adding additional factors that might affect students' life satisfaction will broaden the research area.

References

Abolhasani, F., & Bastani, F. (2019). Successful Ageing in the Dimensions of Life Satisfaction and Perception of Ageing in the Iranian Elderly Adults Referring to the Health Center in the

- West of Tehran, Iran. *Iran Journal of Nursing*, 31(116), 61–74.
- Acikgoz Cepni, S., & Kitis, Y. (2017). Relationship between healthy lifestyle behaviors and health locus of control and health-specific self-efficacy in university students. *Japan Journal of Nursing Science*, 14(3), 231–239.
- Aciksoz, S., Uzun, S., & Arslan, F. (2013). Relationship between perceptions of health status and health promotion behaviors in nursing students. *Gulhane Medical Journal*, 55(1), 181–187.
- Al-Amari, H. G., & Al-Khamees, N. (2015). The perception of college students about a healthy lifestyle and its effect on their health. *Journal of Nutrition and Food Sciences*, 5(6), 437–447.
- Alhejaili, B. A., & Almugti, H. S. (2022). Practicing healthy lifestyle behaviors among physicians in public primary healthcare centers, Jeddah, Saudi Arabia. *Medical Science*, 26(1), 1–13.
- Ardic, A., & Esin, M. N. (2016). Factors associated with healthy lifestyle behaviors in a sample of Turkish adolescents: A school-based study. *Journal of Transcultural Nursing*, 27(6), 583–592.
- Ayna, C., & Gumus, H. (2021). Investigation of Life Satisfaction, Health Perception and Leisure Activity Preferences of Individuals Over 60 Years of Age. *Hacettepe Journal of Sport Sciences*, 32(1), 1–9. <https://doi.org/10.17644/sbd.793415>
- Bahar, Z., Beser, A., Gordes, N., Ersin, F., & KIssal, A. (2008). Healthy Life Style Behavior Scale II: A Reliability and Validity Study. *Cumhuriyet Nursing Journal*, 12(1), 1–13.
- Bailey, R. R., Phad, A., Mcgrath, R., Tabak, R., & Haire-Joshu, D. (2019). Prevalence of 3 healthy lifestyle behaviors among US adults with and without history of stroke. *Preventing Chronic Disease: Public Health Research, Practice and Policy*, 16(180409), 1–9.
- Bidzan-Bluma, I., Bidzan, M., Jurek, P., Bidzan, L., Knietzsch, J., Stueck, M., & Bidzan, M. (2020). A Polish and German Population Study of Quality of Life, Well-Being, and Life Satisfaction in Older Adults During the COVID-19 Pandemic. *Frontiers in Psychiatry*, 11(November), 1–9.
- Blake, H., Stanulewicz, N., & Griffiths, K. (2017). Healthy lifestyle behaviors and health promotion attitudes in preregistered nurses: a questionnaire study. *Journal of Nursing Education*, 56(2), 94–103.
- Bozkurt, E., Erdogan, R., Tel, M., Aydemir, I., & Celikel, E. (2021). Investigation of Education Faculty Students' Health Perception Levels and Healthy Lifestyles in the Covid-19

- Process. *Progress in Nutrition*, 23(4), e2021315.
- Byrne, D. W., Rolando, L. A., Aliyu, M. H., McGown, P. W., Connor, L. R., Awalt, B. M., Holmes, M. C., Wang, L., & Yarbrough, M. I. (2016). Modifiable Healthy Lifestyle Behaviors: 10-Year Health Outcomes From a Health Promotion Program. *American Journal of Preventive Medicine*, 51(6), 1027–1037.
- Citak Tunc, G., Citak Bilgin, N., & Cerit, B. (2021). The Relationship Between International Students' Health Perceptions and Their Healthy Lifestyle Behaviors. *Journal of Religion and Health*, 60(6), 4331–4344. <https://doi.org/10.1007/s10943-021-01336-0>
- Dagli, A., & Baysal, N. (2016). Adaptation of The Satisfaction with Life Scale into Turkish: The study of Validity and Reliability. *Electronic Journal of Social Sciences*, 15(59), 1250–1262. <https://doi.org/10.17755/esosder.75955>
- Dayoub, E., & Jena, A. B. (2015). Chronic Disease Prevalence and Healthy Lifestyle Behaviors Among U.S. Health Care Professionals. *Mayo Clinic Proceeding*, 90(12), 1659–1662. <https://doi.org/10.1016/j.mayocp.2015.08.002>.Chronic
- de-Mateo-Silleras, B., Camina-Martín, M. A., Cartujo-Redondo, A., Carreño-Enciso, L., De-la-Cruz-Marcos, S., & Redondo-del-Río, P. (2019). Health Perception According to the Lifestyle of University Students. *Journal of Community Health*, 44(1), 74–80. <https://doi.org/10.1007/s10900-018-0555-4>
- Diamond, J. J., Becker, J. A., Arenson, C. A., Chambers, C. V., & Rosenthal, M. P. (2007). Development of a scale to measure adults' perceptions of health: Preliminary findings. *Journal of Community Psychology*, 35(5), 557–561. <https://doi.org/10.1002/JCOP.20164>
- Diener, E. D., Emmons, R. A., Sem, R. J. L., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71–75.
- Gavín-Chocano, Ó., Molero, D., Ubago-Jiménez, J. L., & García-Martínez, I. (2020). Emotions as predictors of life satisfaction among university students. *International Journal of Environmental Research and Public Health*, 17(24), 1–15.
- Kadioglu, H., & Yildiz, A. (2012). Validity and reliability of Turkish version of perception of health scale. *Turkish Clinics Journal of Medical Sciences*, 32(1), 47–53.
- Khodabakhsh, S. (2022). Factors Affecting Life Satisfaction of Older Adults in Asia: A Systematic Review. *Journal of Happiness Studies*, 23(3), 1289–1304.
- Kilani ID, H. A., Bataineh, ath F., Al-Nawayseh, A., Atiyat, K., Obeid, O., Abu-Hilal, M. M., Mansi, T., Al-Kilani, M., Al-Kitani, M., El-Saleh, M., Jaber, R. M., Sweidan, A., Himsi, M., Yousef, I., Alzeer, F., Nasrallah, M., Al Dhaheri, A. S., Al-Za, A., Allala, O., ... Kilani, A. (2020). Healthy lifestyle behaviors are major predictors of mental wellbeing during COVID-19 pandemic confinement: A study on adult Arabs in higher educational institutions. *Plos One*, 15(2), 1–15.
- Kim, J., Byon, K. K., & Kim, J. (2021). Leisure activities, happiness, life satisfaction, and health perception of older Korean adults. *International Journal of Mental Health Promotion*, 23(2), 155–166.
- Kim, J., Kim, M., & Han, A. (2018). Exploring the Relationship between Types of Leisure Activities and Life Satisfaction, Health Perception, and Social Support among Korean Individuals with Physical Disabilities. *American Journal of Health Behavior*, 42(4), 34–44.
- Kolac, N., Balci, A. S., Sisman, F. N., Atacer, B. E., & Dincer, S. (2018). Health perception and healthy lifestyle behaviors in factory workers. *Medical Journal of Bakirkoy*, 14(1), 274. <https://doi.org/10.5350/BTDMJB.20170328092601>
- Kvintova, J., Kudlacek, M., & Sigmundova, D. (2016). Active lifestyle as a determinant of life satisfaction among university students. *Anthropologist*, 24(1), 179–185.
- Larsen, L. T. (2022). Not merely the absence of disease: A genealogy of the WHO's positive health definition. *History of the Human Sciences*, 35(1), 111–131.
- Lee, K., Feltner, F. J., Bailey, A. L., Lennie, T. A., Chung, M. L., Smalls, B. L., Schuman, D. L., & Moser, D. K. (2019). The relationship between psychological states and health perception in individuals at risk for cardiovascular disease. *Psychology Research and Behavior Management*, 12(1), 317–324.
- Leite, Â., Ramires, A., De Moura, A., Souto, T., & Marôco, J. (2019). Psychological well-being and health perception: Predictors for past, present and future. *Revista de Psiquiatria Clinica*, 46(3), 53–60.
- Loef, M., & Walach, H. (2012). The combined effects of healthy lifestyle behaviors on all cause mortality: A systematic review and meta-analysis. *Preventive Medicine*, 55(3), 163–170.
- Mehr, M. M., Zamani-Alavijeh, F., Hasanzadeh, A., & Fasihi, T. (2019). Effect of healthy lifestyle educational programs on happiness and life satisfaction in the elderly: A randomized controlled trial study. *Iranian Journal of Ageing*, 13(4), 440–451.
- Melnyk, B. M., Hsieh, A. P., Tan, A., Gawlik, K. S., Hacker, E. D., Ferrell, D., Simpson, V., Burda, C., Hagerty, B., Scott, L. D., Holt, J. M.,

- Gampetro, P., Farag, A., Glogocheski, S., & Badzek, L. (2021). The state of mental health and healthy lifestyle behaviors in nursing, medicine and health sciences faculty and students at Big 10 Universities with implications for action. *Journal of Professional Nursing*, 37(6), 1167–1174.
- Nazik, F., & Gunes, G. (2019). Problematic internet usage and healthy lifestyle behaviors in university students. *Cukurova Medical Journal*, 44(1), 41–48.
- Nie, P., Wang, L., & Sousa-Poza, A. (2023). Health perception biases and risky health behaviours in China. *Applied Economics Letters*, 30(2), 221–228.
- Obidovna, D. Z., & Sulaymonovich, D. . (2022). The concept of “healthy lifestyle” in psychological research. *ResearchJet Journal of Analysis and Inventions*, 3(6), 53–64.
- Ozdelikara, A., Alkan, S. A., & Mumcu, N. (2018). Determination of health perception, health anxiety and effecting factors among nursing students. *Medical Journal of Bakirkoy*, 14(1), 282. <https://doi.org/10.5350/BTDMJB.20170310015347>
- Pengpid, S., & Peltzer, K. (2019). Sedentary behaviour, physical activity and life satisfaction, happiness and perceived health status in university students from 24 countries. *International Journal of Environmental Research and Public Health*, 16(12). <https://doi.org/10.3390/ijerph16122084>
- Phulkerd, S., Thapsuwan, S., Chamratrithirong, A., & Gray, R. S. (2021). Influence of healthy lifestyle behaviors on life satisfaction in the aging population of Thailand: a national population-based survey. *BMC Public Health*, 21(1), 1–10.
- Pierannunzio, D., Spinelli, A., Berchialla, P., Borraccino, A., Charrier, L., Dalmasso, P., Lazzeri, G., Vieno, A., Ciardullo, S., & Nardone, P. (2022). Physical activity among Italian adolescents: Association with life satisfaction, self-rated health and peer relationships. *International Journal of Environmental Research and Public Health*, 19(8), 1–12.
- Ramos Salazar, L. (2021). Cyberbullying victimization as a predictor of cyberbullying perpetration, body image dissatisfaction, healthy eating and dieting behaviors, and life satisfaction. *Journal of Interpersonal Violence*, 36(2), 354–380.
- Rogowska, A. M., Kuśnierz, C., & Bokszczanin, A. (2020). Examining Anxiety, Life Satisfaction, General Health, Stress and Coping Styles During COVID-19 Pandemic in Polish Sample of University Students. *Psychology Research and Behavior Management*, 13(1), 797–811.
- Sampson, M. (2020). The MINDBODYSTRONG Intervention for New Nurse Residents: 6-Month Effects on Mental Health Outcomes , Healthy Lifestyle Behaviors , and Job Satisfaction. *Worldviews on Evidence-Based Nursing*, 17(1), 16–23.
- Stephens, A., Deaton, A., & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *The Lancet*, 385(9968), 640–648.
- Tanaka, S., Muraki, S., Inoue, Y., Miura, K., & Imai, E. (2020). The association between subjective health perception and lifestyle factors in Shiga prefecture, Japan: a cross-sectional study. *BMC Public Health*, 20(1), 1–10.
- Walker, S. N., & Hill-Polerecky, D. M. (1996). *Psychometric evaluation of the Health Promoting Lifestyle Profile II*.
- Yazicioglu, Y., & Erdogan, S. (2004). *SPSS applied scientific research methods* (1st edition). Detay Publishing.