DOES HEALTH LITERACY AND LIFE SATISFACTION PROMOTE HEALTHY EATING AMONG MARRIED WOMEN IN TURKEY?

Türkiye'de evli kadınların sağlık okur-yazarlığı ve yaşam doyumu sağlıklı beslenmeyi teşvik ediyor mu?

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Abstract

Healthy nutrition is very important in preventing chronic diseases and promoting overall health. This study aimed to assess the influence of health literacy (HL) and life satisfaction on healthy eating habits among married women aged 18-64. The present cross-sectional study was conducted from 2022 to 2023. Data were collected through face-to-face interviews with women attending family health centers in the central district of Yozgat province. Data collection instruments included a sociodemographic questionnaire, the Healthy Eating Attitudes Scale (HEAS), the Adult Life Satisfaction Scale (ALSS), and the European Health Literacy Survey Questionnaire-Short Form (EHLS-TR-16). A total of 303 women participated in the study. It was found that 59.4% of the women in the research group exhibited high levels of dietary attitudes, with 26.1% achieving an ideal high level. Women's dietary attitudes were influenced by increased life satisfaction (β=0.359), receiving nutritional information from healthcare professionals (β=0.124), and higher health literacy (β=0.113). No significant relationships were observed between healthy eating attitudes and factors such as age, body mass index, family income level, education level, household size, profession and spouse's profession, and education level. Women with higher life satisfaction, those who receive nutritional information from healthcare professionals, and those with higher health literacy have more positive attitudes toward healthy eating. It is recommended that women receive education on both health literacy and healthy eating.

Keywords: Health literacy, life satisfaction, healthy eating, ever married, woman.

Özet

Kronik hastalıkları önleme, sağlığı koruma ve geliştirmede sağlıklı beslenmenin rolü büyüktür. Bu çalışma, 18-64 yaş arası evli kadınlarda sağlık okuryazarlığı (SOY) ve yaşam doyumunun sağlıklı beslenme üzerine etkisini ölçmek amacıyla yapılmıştır. Çalışma kesitsel türde olup 2022-2023 yıllarında yapılmıştır. Veriler, Yozgat il merkezindeki Aile Sağlığı Merkezlerine başvuran kadınlarla yüz yüze görüşme ile toplanmıştır. Veri formları olarak sosyo-demografik özellikler, Yaşam Doyumu Ölçeği-Yetişkin (YDÖ-Y), Avrupa Sağlık Okuryazarlığı Ölçeği (ASOY-TR-16) ve Sağlıklı Beslenmeye İlişkin Tutum Ölçeği (SBİTÖ) kullanılmıştır. Çalışmaya il merkezinde yaşayan 303 kadın katılmıştır. Araştırma grubundaki kadınların %59,4'ünün beslenme tutumlarının yüksek seviyede ve %26,1' i ise ideal yüksek seviyede olduğu tespit edilmiştir. Kadınların beslenme tutumunu, yaşam doyumunun yükselmesi (β=0,359), beslenme bilgisini sağlık personelinden almak (β=0,124) ve sağlık okur-yazarlığının yükselmesi (β=0,113) etkilemektedir. Kadınların yaşı, beden kitle indeksi (BKİ), aile gelir düzeyi, öğrenim düzeyi, ailedeki kişi sayısı, meslek, eş meslek ve eş öğrenim düzeyi ile sağlıklı beslenme tutumu arasında önemli bir ilişki saptanmamıştır. Yaşam doyumu yüksek olan, beslenme bilgini sağlık personelinden alan ve sağlık okur-yazarlığı yüksek olan kadınların sağlıklı beslenme tutumları daha yüksektir. Kadınlara hem sağlık okuryazarlığı hem de sağlıklı beslenme hakkında eğitimlerin verilmesi önerilmektedir.

Anahtar kelimeler: Sağlık okuryazarlığı, yaşam doyumu, sağlıklı beslenme, evlenmiş, kadın.

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Introduction

Nutrition has a great share in preventing chronic diseases, promoting and improving health. (1). A healthy diet is essential for the continuation of life, physical growth, mental, performance and well-being. In a healthy diet, it is important to choose food diversity, balanced consumption of nutrients, and foods rich in nutrients (2). For a healthy life, individuals should first have an adequate and balanced diet and acquire good eating habits (3). It is important to recognize that women's attitudes towards healthy eating impact not only themselves but also their spouses and children, particularly during pregnancy and lactation (4).

In the Global Burden of Disease Study (GBD), metabolic risks such as body mass index (BMI) and fasting blood glucose were among the leading causes of disease burden. In GBD 2019, bad eating habits are in second place. Unhealthy nutrition, which ranks 2nd in the hierarchy of death globally, is the cause of almost one out of every five deaths. Overall, the burden of dietary risks at the global level is 14.8% for men and 13.5% for women (5). In the National Burden of Disease (NBD) study, the importance of nutrition was emphasized by stating that one of the most important factors in the increase of non-communicable diseases is nutrition-related risks (6).

Health literacy (HL) plays an important role in reaching the source of information, reading and understanding information, and protecting and improving health in line with information (7). HL is important for consumers to understand nutritional information, to evaluate it critically, and to apply this information by making the right decisions for healthy food selection and consumption. In a study conducted in the United States, it was shown that individuals with low HL levels had an unhealthy diet regardless of their income level (8). People with sufficient health literacy have the knowledge of healthy nutrition and have the ability to understand information about nutrients and food groups, read nutrition labels and control portions (4).

Life satisfaction is the result obtained by comparing what an individual wants from life with what he has (9). Life satisfaction can affect individuals' sense of taste and feeding behaviors (10). High life satisfaction can further motivate individuals to maintain their health and overall well-being (11). Healthy eating can also be seen as a way of taking care of yourself. By increasing life satisfaction, people may become more likely to adopt healthy eating habits. High life satisfaction can help reduce negative eating habits, such as emotional eating (12). As life satisfaction increases, individuals may be more likely to make nutritional choices by thinking more consciously and long-term. Healthy eating habits also often require conscious and thoughtful choices. However, this relationship can differ from person to person, and many factors can influence this dynamic.

In order to prevent and reduce nutrition-related health problems, it is important to increase the level of knowledge of the society about nutrition, to increase life satisfaction, and to develop healthy eating skills and behaviors in daily life.

This study; it was conducted to examine the effect of health literacy and life satisfaction of married women between the ages of 18-64 living in Yozgat, Turkey on healthy nutrition by multivariate analysis method. In the literature review, there was no study in which these three factors were examined together.

Materials and Methods

Type of research

The study is analytical and cross-sectional.

Population and sample of the research

The study was conducted among ever married women aged 18-64 who sought assistance at the Family Health Center in Yozgat city center. The sample comprised married women within the 18-64 age range who visited the Family Health Centers in the city center of Yozgat between 2022 and 2023. The sample size was determined using the GPower3.1 software package. In calculating the minimum sample size, the study conducted by Özenoğlu et al. on adults was referenced, where the arithmetic mean and standard deviation of the Healthy Eating Attitude Scale (HEAS) were reported as 75.57±10.31 (4). The total score to be obtained by the participants from the HEAS was taken as the dependent variable, and 5 of the demographic variables such as health literacy scale score, life satisfaction scale score, women's age, education level, family income level were taken as independent variables, and analyzed with linear regression, it was calculated to sample at least n = 171 people at the error level of α=0.05, and at the power level of 90% when the effect size was taken as 10% (effect size 0.1).

Data collection tools

Participants were provided with detailed information about the purpose of the research and the evaluation methods before filling out the questionnaires. The data were collected by face-to-face interviews with patients who applied to Family Health Centers with questionnaire forms. Socio-demographic data forms prepared by the researcher, the Healthy Eating Attitude Scale (HEAS), the European Health Literacy Survey Questionnaire-short version (HLS-EU-Q16), and the Life Satisfaction Scale (LSS) were used as data collection forms.

Healthy eating attitudes scale (HEAS): The HEAS comprises 21 items organized into 4 factors. These factors are Knowledge About Nutrition (KAN, 5 items), Emotion Towards Nutrition (ETN, 6 items), Healthy Nutrition (HN, 5 items), and Unhealthy Nutrition (UN, 5 items). Positive items on the scale utilize a Likert-type response format, scored as "Strongly Disagree=1", "Disagree=2", "Undecided=3", "Agree=4", and "Strongly Agree=5". However, items within the ETN and UN sub-dimensions contain negative statements and are scored in reverse (13). In this study, the internal consistency coefficients of the scale were found to be 0.82.

European health literacy survey questionnaire-short version (HLS-EU-Q16): The HLS-EU-Q16 consists of 16 questions. The scale, developed by the European Health Literacy Consortium within the scope of the European Health Literacy Survey (HLS-EU), is a 5-point Likert type and the answers given for each question are scored between 0-4. In the calculation of the total score obtained from the scale, the standardized index score is used ((Index=(mean-1)*(50/3))). The index score varies between 0-50, and the health literacy level of people who score 33 and above on the scale is considered sufficient (14). The validity and reliability study in Turkey was conducted by Emiral et al. in 2018 (15).

Life satisfaction scale (LSS): The LSS consists of 5 questions. It is a 7-point Likert-type self-report scale. The scale includes a metric that goes from "(1) Strongly Disagree" to "(7) Completely Disagree." The lowest score of 5 and the highest score of 35 are taken from the scale. The scale can be applied to all persons over the age of 16. The internal consistency of the scale was found to be 0.81. A high scale score indicates high life satisfaction (16).

Statistical analysis

The data from the study were evaluated using the SPSS 25.0 program. Tables displaying the ratios and averages of the data were created. The chi-square test was used to compare ratios according to independent variables, the t-test was used for independent groups, and a one-way ANOVA test was used to compare arithmetic means. Pearson correlation analysis and linear regression analysis were employed to examine the relationships between variables.

The dependent variables included the total score of the attitude scale about nutrition, information about nutrition, emotions about nutrition, positive nutrition, and negative nutrition attitudes. The independent variables were the socio-demographic characteristics of the participants, their education about nutrition, food preparation and cooking, the presence of chronic diseases in themselves and their spouses, who prepared the meals at home, health literacy level, and life satisfaction. Independent variables found to be significant in univariate tests were included in a multivariate linear regression analysis and analyzed using the backward elimination model. Categorical variables, such as nutrition education and occupation, were transformed into dummy variables and included in the linear regression. In the statistical test results, a p-value of <0.05 was considered significant.

Ethical approval

This research received institutional approval from the Yozgat Provincial Directorate of Health. Additionally, ethical permission was granted by the Ethics Committee of Yozgat University on October 19, 2022 (decision number: 37/09). Necessary explanations were provided before the research, and written consents were obtained from the participants, ensuring them that the information they provided would be kept confidential and would not be used elsewhere.

Results

The age range of the married women participating in the study was 23-64 and the average age was 39.1±8.3. 11.9% (n=36) of the women were between the ages of 23-29, 22.4% (n=68) were between the ages of 30-34 and 10.2% (n=31) were aged 50 and over. 57.1% of the respondents and 67.3% of their spouses are university graduates. While 41.9% of the women participating in the study are housewives, 51.8% of their husbands work as civil servants. 77.9% of the participants live with their spouses and children (Table 1).

In the study group, 11.2% of the women were deemed to have inadequate HL, 31.0% had problematic HL, and the majority, 57.8%, possessed sufficient HL. Upon evaluating the Body Mass Index (BMI) distribution, it was observed that 43.9% of the participants were overweight (BMI=25-29.9), while 21.8% were classified as obese (BMI = 30 or higher). Additionally, an assessment of the participants' family income revealed that 33.7% had an average monthly income of 20,000 or more. Additionally, 72.3% of the participants stated that they did not have chronic health problems, and 77.2% reported that the people they lived with did not have chronic health problems (Table 1). The mean life satisfaction score of the women was 21.2±8.1, which was higher than the median value of 17.5.

Of the study group, 92.4% stated that the woman of the house prepared the food, 31.7% received training on nutrition (from health personnel, social media, family, friends, or school), and 13.9% received training on cooking/preparation. The majority, 27.7%, received their nutrition training from health personnel (Table 1).

The mean nutrition knowledge score of the women in the study was found to be higher among those who were university graduates, those who were not housewives, those with sufficient health literacy, those with a family monthly income of 20,000 TL or more, those who received education on nutrition, and those who gained nutrition knowledge from school (p<0.05, Table 1).

Table 1: Mean scores of healthy eating attitudes according to the socio-demographic characteristics of women.

Variables		Count	%	HEAS		t/F
				Mean	Sd	p
Age groups (year)	23-34	104	34.3	77.0	11.2	1.337; 0.264
	35-44	121	39.9	77.2	11.5	
	≥45	78	25.7	74.7	11.9	
Education level	Primary school	32	10.6	73.2	12.7	4.555; **0.004**
	Middle school	17	5.6	69.0	7.8	
	High school	81	26.7	76.1	11.2	
	University	173	57.1	78.1	11.4	
Matching education level	Primary school	13	4.3	69.5	8.3	4.013; **0.008**
	Middle school	13	4.3	71.2	11.9	
	High school	73	24.1	74.9	12.4	
	University	204	67.3	77.8	11.0	
Profession	Housewife	127	41.9	75.7	11.3	0.949; 0.436
	Civil servant	115	38.0	77.3	11.7	
	Public sector worker	20	6.6	74.9	9.7	
	Worker in private	14	4.6	73.9	10.8	
	Other	27	8.9	79.2	13.3	
Spouse's profession	Civil servant	157	51.8	77.9	11.3	3.343; **0.020**
	Public sector worker	26	8.6	72.5	10.6	
	Worker in private	37	12.2	72.6	10.9	
	Other	83	27.4	76.8	12.0	
Type of nuclear family	No	67	22.1	74.9	12.0	1.762; 0.185
	Yes	236	77.9	77.0	11.3	
Health literacy level	Insufficient	34	11.2	69.2	11.8	9.284; **<0.001**
	Problematic	94	31.0	76.0	11.2	
	Sufficient	175	57.8	78.2	11.1	
	mean±Sd	47.8	±8.3			
BMI groups (kg/m^2)	<25	104	34.3	77.2	11.4	1.544; 0.215
	25-29,9	133	43.9	77.0	11.2	
	≥30	66	21.8	74.3	12.1	
Family monthly income	<10.000 TL	68	22.4	73.4	10.6	2.085; 0.083
	10.000- <15.000 TL	70	23.1	75.8	11.9	
	15.000- <20.000 TL	63	20.8	77.5	12.5	
	≥20.000 TL	102	33.7	78.4	10.9	
Presence of chronic health problems	None	219	72.3	76.6	10.8	0.140; 0.709
	Yes	84	27.7	76.1	13.2	

**HEAS: Healthy Eating Attitudes Scale. BMI: Body Mass Index. t: Independent t student test. F: One-way ANOVA test*

Table 1. Continuous: Mean scores of healthy eating attitudes according to the socio-demographic characteristics of women.

Variables		Count	%	HEAS		t/F
				Mean	SD	p
Chronic disease/ disability in cohabitants	None	234	77.2	76.7	11.3	0.463;
	Yes	69	22.8	75.7	12.4	0.497
Meal preparation	Woman of the house	280	92.4	76.4	11.4	0.378; 0.893
	Others	23	7.6	77.5	12.7	
Nutrition information - healthcare personnel	No	219	72.3	75.6	11.1	5.016;
	Yes	84	27.7	78.9	12.1	**0.026**
Nutrition information - social media	No	223	73.6	77.8	11.4	10.577;
	Yes	80	26.4	73.0	11.0	**0.001**
Nutritional information - another internet	No	269	88.8	76.7	11.4	0.725;
	Yes	34	11.2	74.9	12.3	0.395
Nutritional information - family-friend	No	244	80.5	76.6	11.5	0.037;
	Yes	59	19.5	76.2	11.5	0.848
Nutritional information - at school	No	282	93.1	76.1	11.5	4.445;
	Yes	21	6.9	81.6	9.8	**0.036**
Receiving cooking/ preparation training	No	261	86.1	76.5	11.7	0.026;
	Yes	42	13.9	76.8	10.4	0.872
Total		**303**	**100.0**	**76.5**	**11.5**	

**HEAS: Healthy Eating Attitudes Scale. BMI: Body Mass Index. t: Independent t student test. F: One-way ANOVA test*

When examining the nutritional attitude levels of the women participating in the study across various socio-demographic characteristics, it was found that 59.4% (n=180) exhibited high nutritional attitudes, and 26.1% (n=79) demonstrated ideally high nutritional attitudes. The percentage of women with high nutritional attitudes (61.2%) and ideal levels (28.1%) was observed to be higher among those aged 35-44 compared to other age groups; however, this difference was not statistically significant ($p>0.05$). Furthermore, as the education level of both women and their spouses increased, there was an increase in the proportion of individuals with ideally high nutritional attitudes ($p>0.05$). Participants with high health literacy levels were found to have higher nutritional attitude levels compared to those with insufficient health literacy levels ($p=0.002$). No statistically significant differences were observed in the nutritional attitude levels of women concerning other characteristics (Table 2).

In Table 3, the mean scores of nutritional knowledge, nutritional awareness, positive nutrition, and negative nutrition, which are sub-dimensions of nutritional attitudes, were examined according to the socio-demographic characteristics of the women included in the study. The mean nutritional knowledge score was higher among university graduates, civil servants, individuals with a family monthly income exceeding 10,000 TL, and those with sufficient health literacy levels ($p<0.05$). Similarly, the mean positive nutrition score was higher among university graduates, non-public sector workers, individuals with sufficient health literacy, those with a family monthly income exceeding 10,000 TL, individuals who received education on nutrition, and those who acquired nutritional knowledge

from school (p<0.05). However, the mean scores of nutritional awareness and negative nutrition did not exhibit statistically significant differences across various socio-demographic characteristics of women. The mean scores of women's nutritional knowledge and positive nutrition were higher among those who received education about nutrition and those who acquired information about nutrition at school (p>0.05, Table 3).

Table 2: Level of healthy eating attitudes according to the socio-demographic characteristics of women.

Variables	Healthy eating attitude levels							X^{2*}
	Moderate		High		Ideally high			
	Count	%	Count	%	Count	%	Total	p
Age groups (Year)								
23-34	16	15.4	60	57.7	28	26.9	104	
35-44	13	10.7	74	61.2	34	28.1	121	0.506
≥45	15	19.2	46	59.0	17	21.8	78	
Education level								
Primary education	11	25.0	31	53.1	7	21.9	49	
High school	10	12.3	51	63.0	20	24.7	81	0.147
University	23	13.3	98	56.6	52	30.1	173	
Spouse's education levels								
Primary school	3	23.1	10	76.9	0	0.0	13	
Middle school	4	30.8	6	46.1	3	23.1	13	0.140
High school	13	17.8	42	57.5	18	24.7	73	
University	24	11.8	122	59.8	58	28.4	204	
Profession								
Housewife	18	14.2	81	63.8	28	22.0	127	
Civil servant	17	14.8	64	55.7	34	29.6	115	
Public sector worker	3	15.0	13	65.0	4	20.0	20	0.564
Worker in private	2	14.3	10	71.4	2	14.3	14	
Other	4	14.8	12	44.4	11	40.8	27	
Spouse's profession								
Civil servant	18	11.5	93	59.2	46	29.3	157	
Public sector worker	4	15.4	19	73.1	3	11.5	26	0.176
Worker in private	9	24.3	22	59.5	6	16.2	37	
Other	13	15.7	46	55.4	24	28.9	83	
Type of nuclear family								
No	11	16.4	40	59.7	16	23.9	67	0.830
Yes	33	14.0	140	59.3	63	26.7	236	
Health literacy level								
Insufficient	12	35.3	17	50.0	5	14.7	34	
Problematic	12	12.8	62	66.0	20	21.2	94	**0.002**
Sufficient	20	11.4	101	57.7	54	30.9	175	
Total	**44**	**14.5**	**180**	**59.4**	**79**	**26.1**	**303**	

**X^2: Chi-square test*

Table 3: Mean scores of healthy eating attitude sub-dimensions according to the socio-demographic characteristics of women.

Variables	Nutrition knowledge		Nutrition emotion		Healthy nutrition		Unhealthy nutrition	
	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Age groups (years)								
23-34	20.3	4.9	18.5	5.1	18.1	5.2	20.1	4.4
35-44	19.6	4.6	19.3	5.3	17.4	5.0	21.0	4.1
≥45	18.6	5.8	19.5	4.9	16.6	5.3	20.0	4.4
F, p	2.572	0.078	0.985	0.375	1.899	0.151	1.491	0.277
Education levels								
Primary school	17.5	5.5	20.2	4.5	15.2	5.4	20.3	4.1
Middle school	16.2	5.6	18.3	4.9	14.2	5.3	20.2	3.7
High school	19.2	5.2	19.3	4.8	17.2	5.0	20.4	4.5
University	20.5	4.6	18.8	5.4	18.3	5.0	20.5	4.4
F, p	6.471	**<0.001**	0.841	0.472	6.145	**<0.001**	0.044	0.988
Spouse's education levels								
Primary school	16.6	5.0	18.8	3.4	14.5	4.2	19.5	4.2
Middle school	18.2	5.0	18.8	5.0	14.6	5.6	19.5	4.0
High school	18.3	5.9	19.4	5.2	16.6	5.9	20.7	4.8
University	20.3	4.6	19.0	5.2	18.1	4.8	20.5	4.1
F, p	4.840	**0.003**	0.118	0.950	4.716	**0.003**	0.459	0.711
Profession								
Housewife	18.4	5.2	19.5	4.4	16.7	5.4	21.0	3.9
Civil servant	20.5	4.9	18.5	5.5	18.1	5.1	20.3	4.3
Public sector worker	18.9	4.3	18.7	6.3	17.8	5.2	19.6	4.8
Worker in private	19.7	5.7	19.0	5.7	16.6	4.4	18.6	5.5
Other	21.3	4.1	19.5	5.6	18.6	4.7	19.8	4.8
F, p	3.572	**0.007**	0.732	0.571	1.610	0.172	1.624	0.168
Spouse's profession								
Civil servant	20.0	5.0	19.3	5.3	17.8	5.2	20.8	4.0
Public sector worker	17.2	5.9	20.5	5.1	14.7	5.3	20.0	4.9
Worker in private	19.3	4.5	17.5	4.4	17.0	4.3	18.8	5.0
Other	19.6	5.0	18.8	4.9	17.8	5.2	20.6	4.2
F, p	2.370	0.071	1.994	0.115	3.005	**0.031**	2.247	0.083
Type of nuclear family								
No	19.0	5.6	19.2	5.1	17.0	5.1	19.7	4.1
Yes	19.7	4.9	19.0	5.1	17.6	5.2	20.6	4.3
t, p	1.272	0.260	0.055	0.815	0.672	0.413	2.302	0.130
Health literacy levels								
Insufficient	16.0	6.9	19.9	6.0	12.9	5.5	20.4	4.4
Problematic	18.8	5.0	19.6	4.8	17.1	5.4	20.5	3.9
Sufficient	20.7	4.2	18.6	5.1	18.5	4.4	20.4	4.5
F, p	15.184	**<0.001**	1.681	0.188	19.158	**<0.001**	0.046	0.956
BMI groups (kg/m2)								
<25	19.6	5.3	19.6	5.1	17.5	5.3	20.5	3.9
25-29,9	19.8	4.9	19.0	5.2	17.6	5.1	20.6	4.3
≥30	18.9	5.1	18.3	5.0	17.1	5.2	19.9	4.9
F, p	0.735	0.480	1.183	0.308	0.179	0.836	0.595	0.552

*BMI: Body Mass Index. t: Independent t student test. F: One-way ANOVA test

Table 3. Continuous: Mean scores of healthy eating attitude sub-dimensions according to the socio-demographic characteristics of women.

Variables	Nutrition knowledge		Nutrition emotion		Healthy nutrition		Unhealthy nutrition	
	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Family monthly income								
<10.000 TL	18.0	5.4	19.4	4.4	15.5	5.3	20.6	4.3
10.000-<15.000 TL	19.7	4.7	18.7	5.0	17.8	4.9	19.6	4.8
15.000-<20.000 TL	19.5	5.3	19.6	5.9	18.0	5.1	20.4	4.7
≥20.000 TL	20.6	4.7	18.8	5.2	18.1	5.1	20.9	3.6
F, p	2.835	**0.025**	0.446	0.775	3.241	**0.013**	0.969	0.424
Presence of chronic health problems								
Yok	19.8	5.0	18.7	4.9	17.6	5.1	20.5	4.1
Var	18.9	5.2	19.8	5.5	17.0	5.4	20.4	4.7
t, p	2.089	0.149	2.819	0.094	0.945	0.332	**0.017**	0.898
Chronic disease/ disability in cohabitants								
Yok	19.8	5.2	18.9	5.0	17.7	5.1	20.4	4.4
Var	18.8	4.5	19.6	5.4	16.6	5.4	20.7	3.8
t, p	2.172	0.142	1.064	0.303	0.416	0.121	0.299	0.585
Meal preparation								
Woman of the house	19.5	5.2	19.1	5.2	17.3	5.2	20.5	4.2
Others	20.4	3.8	18.4	4.4	19.5	4.0	19.2	5.0
t, p	0.768	0.595	0.267	0.952	1.224	0.294	0.941	0.466
Getting education about nutrition								
No	18.8	5.3	19.3	5.1	16.8	5.2	20.7	4.2
Yes	21.2	4.0	18.6	5.1	18.9	4.8	19.9	4.5
t, p	15.789	**<0.001**	1.270	0.261	11.499	**0.001**	2.202	0.139
Nutrition information - health personnel								
No	19.4	5.2	18.7	5.1	17.2	5.0	20.3	4.4
Yes	20.1	4.8	19.9	5.1	18.2	5.5	20.7	4.0
t, p	1.135	0.288	3.347	0.064	2.447	0.119	0.381	0.537
Nutrition information - social media								
No	20.2	4.6	19.1	5.1	17.8	5.0	20.6	4.1
Yes	17.9	5.8	18.8	5.3	16.4	5.4	19.9	4.8
t, p	12.456	**<0.001**	0.208	0.649	4.580	**0.033**	1.919	0.167
Nutrition information - another internet								
No	19.7	4.9	18.9	5.0	17.7	5.1	20.4	4.4
Yes	18.4	6.0	20.2	6.2	15.5	5.5	20.7	3.8
t, p	1.910	0.168	2.057	0.153	5.488	0.020	0.190	0.663
Nutrition information - family-friend								
No	19.4	5.3	19.3	5.3	17.4	5.3	20.5	4.2
Yes	20.2	4.0	18.2	4.4	17.6	4.5	20.2	4.6
t, p	1.142	0.286	2.169	0.142	0.111	0.739	0.178	0.673
Nutrition information - at school								
No	19.4	5.1	19.1	5.2	17.3	5.2	20.4	4.3
Yes	22.2	3.5	18.9	4.5	19.9	3.9	20.7	4.1
t, p	6.134	**0.014**	0.032	0.859	4.990	**0.026**	0.067	0.796
Meal preparation								
No	19.5	5.2	19.1	5.1	17.3	5.3	20.6	4.3
Yes	20.3	4.4	18.7	5.3	18.2	4.4	19.6	4.3
Total	19.6	5.1	19.0	5.1	17.4	5.2	20.4	4.3
t, p	1.036	0.310	0.271	0.603	0.958	0.329	1.753	0.187
Total	19.6	5.1	19.0	5.1	17.4	5.2	20.4	4.3

*t: Independent t student test. F: One-way ANOVA test

In Table 4, Pearson correlation analysis was used to examine the relationship between various characteristics of women and their nutritional attitudes. A weak linear relationship was observed between the total nutritional attitude score and the participants' health literacy (r=0.291), while a moderate relationship was found with life satisfaction (r=0.431). Weak relationships were observed between the family's monthly income, education level, and co-education level, whereas a weak inverse relationship was found with BMI (r=-0.128) ($p<0.05$). Additionally, a moderate linear relationship was found between participants' nutritional knowledge and their health literacy (r=0.396) and life satisfaction (r=0.572). Weak correlations were observed between nutritional information and the number of people in the family (r=-0.137) and age (r=-0.130) in the opposite direction. Furthermore, weak linear correlations were found between nutrition information and family monthly income (r=0.172), education level (r=0.228), and co-education level (r=0.206) ($p<0.05$).

Lastly, an inverse relationship was observed between the nutritional sense score and health literacy (r=-0.117) and life satisfaction (r=-0.199), while a weak relationship was found with age (r=0.120) in the linear direction ($p<0.05$). There was a moderate linear relationship between positive nutrition score and life satisfaction (r=0.543) and health literacy (r=0.368), and a weak linear relationship between family monthly income (r=0.162), education level (r=0.226) and co-education level (r=0.209) ($p<0.05$). There was no statistically significant relationship between unhealthy nutrition and health literacy, life satisfaction, age BMI, family income level, education level of self and spouse, and number of people in the family ($p>0.05$, Table 4).

Table 4: Relationship between women's total and sub-dimension scores of eating attitude and various characteristics.

	HEAS	**1**	**2**	**3**	**4**	**HL**	**6**	**7**	**8**	**9**	**10**	**11**
1.N.Knowledge	0.619**	1										
2.N.Emotion	0.408**	-0.316**	1									
3.Healthy nutrition	0.694**	0.693**	-0.181**	1								
4.Unhealthy nutrition	0.626**	0.022	0.492**	0.053	1							
5.HL	**0.291****	**0.396****	**-0.117***	**0.368****	0.008	1						
6.Life satisfaction	**0.431****	**0.572****	**-0.199****	**0.543****	0.061	0.385**	1					
7.Age (years)	-0.025	**-0.130***	**0.120***	-0.076	0.035	-0.117*	-0.126*	1				
8.BMI (kg/m^2)	**-0.128***	-0.075	-0.094	-0.063	-0.067	-0.096	-0.081	0.368**	1			
9.Family income	**0.158****	**0.172****	-0.026	**0.162****	0.056	0.221**	0.243**	-0.048	-0.066	1		
10.Education levels	**0.179****	**0.228****	-0.068	**0.226****	0.020	0.250**	0.197**	-0.312**	-0.336**	0.534**	1	
11.Spouse's education levels	**0.196****	**0.206****	-0.008	**0.209****	0.040	0.174**	0.192**	-0.156**	-0.188**	0.557**	0.644**	1
12. Number of family members	-0.062	**-0.137***	0.076	-0.103	0.027	-0.162**	-0.112	0.066	0.028	-0.012	-0.050	-0.021

***Correlation is significant at the 0.01 level (2-tailed).*Correlation is significant at the 0.05 level (2-tailed). HEAS: Healthy Eating Attitudes Scale. BMI: Body Mass Index. HL: Health literacy.*

When analyzing the factors influencing nutritional attitudes through multivariate linear regression, it was observed that an increase in life satisfaction (β=0.359), obtaining nutritional information from health personnel (β=0.124), and an increase in health literacy level (β=0.113) significantly contributed to enhanced nutritional attitudes (p<0.05). These three factors collectively accounted for 23.3% (Adj.R2=0.233) of the variance in nutritional attitude (Table 5).

Regarding nutritional knowledge, the factors influencing it included increased life satisfaction (β=0.478), higher health literacy level (β=0.176), employment status of women (β=-0.159), receiving education on nutrition (β=0.118), living arrangements with spouse and children (β=0.113), and not being employed as a public worker (β= -0.111). These variables explained 38.6% of the variance in nutritional knowledge (Adj.R^2=0.386) (Table 5).

For the sense of nutrition, factors affecting it included decreased life satisfaction (β=-0.179), decrease in BMI (β=-0.177), spouse being a civil servant (β=0.156), not being a civil servant (β=-0.152), obtaining nutritional information from health personnel (β=0.151), and increasing age (β=0.145). These variables collectively accounted for 10.2% of the variance in nutritional feelings (Adj.R^2=0.102) (Table 5).

In terms of positive nutrition, an increase in health literacy level (β=0.162), not obtaining nutritional information from the internet and other sources (β=-0.130), and an increase in life satisfaction (β=0.461) were identified as significant factors contributing to a higher positive nutrition score. Together, these variables explained 34.1% of the variance in positive nutrition (Adj.R^2=0.341) (Table 5).

Lastly, factors influencing unhealthy nutrition included being a housewife (β=0.229), an increase in family income (β=0.151), and not being employed as a worker in particular (β=-0.125). These factors explained 4.8% of the variance in unhealthy nutrition (Adj.R^2=0.048) (Table 5, *next page*).

Discussion

In this study, the relationship between health literacy level and life satisfaction and healthy eating attitudes of married women between the ages of 18-64 was examined in the light of the literature.

The majority of women in the research group (85.5%) exhibited high nutritional attitudes, with 26.1% achieving an ideal high level. Women with high nutritional attitudes comprehend the significance of healthy eating and enact corresponding behaviors. It is expected that these women will opt for nutritious foods, engage in regular exercise, and uphold a healthy lifestyle. Conversely, women with an "ideal high" eating attitude demonstrate a heightened consciousness regarding healthy eating, serving as exemplary figures in this regard. They actively seek out information on healthy eating, integrate healthy eating habits into their lives, and can serve as role models for others. A healthy diet plays a pivotal role in reducing the risk of numerous chronic diseases. Therefore, the high nutritional attitudes of women hold significant implications for both individual and societal health. This positive trend underscores the importance of fostering awareness among women regarding healthy nutrition, implementing policies and initiatives that support healthy eating, and continuing research efforts in this field to sustain and enhance this development. In a study conducted by Çakır Arıca et al., it was found that female

consumers place greater importance on healthy nutrition compared to male

Table 5: Analysis of factors influencing eating attitude through backward elimination linear regression.

Variables	Non-standard coefficient		Standardized Coefficient	t	p	95% Confidence Interval B	
	B	Std. Errors	β			Lower bound	Upper bound
Healthy nutrition attitude total Adj.R^2=0,233							
(Constant)	51.676	3.887		13.295	**<0.001**	44.026	59.325
Health literacy	0.151	0.075	0.113	2.012	**0.045**	0.003	0.298
Life satisfaction	0.510	0.079	0.359	6.465	**<0.001**	0.355	0.666
Nutrition information= health personnel	3.190	1.324	0.124	2.410	**0.017**	0.584	5.795
Nutrition knowledge Adj.R^2=0,386							
(Constant)	11.347	1.383		8.206	**<0.001**	8.626	14.068
Health literacy	0.104	0.029	0.176	3.541	**<0.001**	0.046	0.161
Life satisfaction	0.299	0.031	0.478	9.684	**<0.001**	0.238	0.360
Type of nuclear family	1.375	0.678	0.113	2.030	**0.043**	0.042	2.709
Getting education about nutrition	1.283	0.550	0.118	2.332	**0.020**	0.200	2.366
Profession=Housewife	-1.626	0.723	-0.159	-2.249	**0.025**	-3.050	-0.203
Profession=Public sector worker	-2.260	1.094	-0.111	-2.066	**0.040**	-4.412	-0.107
Nutrition emotion Adj.R^2=0,102							
(Constant)	21.817	2.017		10.816	**<0.001**	17.847	25.787
Life satisfaction	-0.114	0.036	-0.179	-3.190	**0.002**	-0.184	-0.044
Age	0.090	0.037	0.145	2.442	**0.015**	0.017	0.163
BMI	-0.182	0.061	-0.177	-2.997	**0.003**	-0.302	-0.062
Nutrition information =health personnel	1.725	0.651	0.151	2.649	**0.009**	0.443	3.007
Profession=civil servant	-1.601	0.656	-0.152	-2.441	**0.015**	-2.892	-0.310
Spouse's profession =civil servant	1.602	0.652	0.156	2.457	**0.015**	.319	2.885
Spouse's profession =public sector worker	2.105	1.068	0.115	1.971	0.050	.004	4.206
Healthy nutrition Adj.R^2=0,341							
(Constant)	6.163	1.250		4.929	**<0.001**	3.702	8.623
Health literacy	0.097	0.031	0.162	3.146	**0.002**	0.036	0.158
Life satisfaction	0.294	0.033	0.461	9.051	**<0.001**	0.230	0.358
Education levels	0.173	0.085	0.098	2.026	**0.044**	0.005	0.341
Nutrition information= another internet	-2.117	0.765	-0.130	-2.769	**0.006**	-3.622	-0.613
Unhealthy nutrition Adj.R^2=0,048							
(Constant)	18.482	0.961		19.230	**<0.001**	16.590	20.373
Family income	0.093	0.044	0.151	2.133	**0.034**	0.007	0.179
Profession=housewife	1.990	0.600	0.229	3.318	**0.001**	0.810	3.171
Spouse's profession =worker in private	-1.634	0.759	-0.125	-2.152	**0.032**	-3.129	-0.140

**Independent variables: Health literacy (HL), Life satisfaction, Age, Body Mass Index (BMI), Family monthly income, Education level, Spouse education level, Number of people in the family, Dummy variables: Spouse and children living together, Nutrition education, Cooking/preparation training, Presence of chronic health problems, Presence of chronic disease/disability in cohabitants, Nutrition Information Source, Profession, Spouse's profession*

consumers. The research revealed that women tend to prioritize natural products in their diet, favor homemade items, and exhibit careful attention to healthy cooking and food storage practices (17). In Unutz's study, it was discovered that female patients exhibited significantly higher attitude scores regarding healthy eating compared to male patients (18). In Çetin's study, which explored the attitudes of adults aged 25 and over toward healthy eating, it was observed that women place a greater emphasis on healthy eating compared to men (19). In Çın's study, in which he examined health literacy and attitudes toward healthy eating in obese individuals; HEAS scores were found to be higher in women compared to men (20). It is thought that the fact that women spend more time in the kitchen and are responsible for the nutrition of the household, and that they attach more importance to their physical appearance may be effective in higher women's attitude scores towards healthy eating. Our findings seem to be consistent with the literature.

A positive attitude towards healthy eating can enhance both individual and familial well-being, aid in disease prevention, and boost energy levels. Consequently, embracing a balanced and nutritious diet can significantly enhance overall quality of life.

In our study, it is observed that women (92.4%) primarily undertake meal preparation within the family. Given the patriarchal nature of the study area, this trend is likely influenced by societal norms. It is anticipated that women's positive attitudes towards healthy eating will positively impact the preparation of nutritious meals for the family and promote healthier eating habits among family members.

According to the findings of our research, it has been determined that the increase in life satisfaction in women affects their nutritional attitudes. Life satisfaction refers to an individual's overall satisfaction with their life. High life satisfaction allows individuals to feel that their lives are meaningful and fulfilling. This may cause individuals to pay more attention to healthy eating. Life satisfaction and nutritional attitude are two factors that affect each other. Individuals with high life satisfaction are more likely to have a healthier diet. A healthy diet can help increase life satisfaction.

In our study, a moderate linear relationship was found between the nutritional attitudes and life satisfaction of the women included in the study. Studies show that life satisfaction positively affects nutritional attitudes. In a study conducted in our country, While a moderately significant negative relationship was found between life satisfaction and nutritional emotion and unhealthy nutrition sub-dimensions, a moderately significant positive relationship was found between the positive nutrition sub-dimension (21). A study conducted in Jordan examined the relationship between life satisfaction and eating habits in university students. As a result of the research, it was found that students with high life satisfaction had healthier eating habits (22).

A study examining the relationship between life satisfaction and diet quality in adults in South Korea found that adults with high life satisfaction had a healthier diet quality (23). In a study conducted among university students in Turkey, a positive relationship was found between life satisfaction and positive eating attitudes (24). These results support the findings of our study. Research supports the relationship between life satisfaction and nutritional attitude. This is due to the fact that people with high life satisfaction have higher healthy eating attitudes due to their higher desire to live a long and healthy life. High life satisfaction allows individuals to focus on their personal goals. This can make individuals more willing to make healthy eating a lifestyle.

In our study, we found that an increase in health literacy level positively influences the nutritional attitude of women. Specifically, individuals with

higher health literacy exhibit more positive attitudes toward eating compared to those with lower levels of health literacy (8). Individuals with a high level of health literacy can better understand the importance of healthy eating and develop more positive attitudes in this direction. Individuals with high levels of HL have access to more information about healthy eating. This information can help individuals develop positive attitudes toward healthy eating. In the United States (25, 26) and in Iran (27) Studies have found that adults with a high level of health literacy have a healthier diet quality. A moderate correlation was found between food and health protection literacy and diet quality in adults in South Korea (28). It has been found that university students in Turkey who have a high level of health literacy have more positive eating attitudes (29). A study by Yılmaz et al. (2021) shows that the increase in the level of health literacy positively affects the quality of the diet and has healthier eating habits (22). These studies support that health literacy positively affects nutritional attitudes. Individuals with a high level of health literacy are more likely to have a healthier diet. In a review written by Madalı et al. in 2017; They state that health literacy is important in the treatment of nutrition-related chronic diseases and in improving the quality of life of individuals with these diseases (30). Eating habits can lead to variations in individuals' levels of health literacy. While the significance of nutrition in preventive healthcare is underscored, there is often insufficient consideration given to health literacy, as matters pertaining to food and nutrition are not consistently elucidated in scientific research. In a study conducted by Gökçe et al. (2023), it was determined that the relationship between the HEAS total score and the e-Health Literacy score was statistically significant in a positive way. A statistically significant positive relationship was found between the e-Health Literacy Scale and the sub-dimensions of "Knowledge About Nutrition", "Feeling Towards Nutrition" and "Unhealthy Nutrition" (31). In the study conducted by Çın et al. on obese people using the HEAS scale, it is seen that health literacy levels are low in individuals with obesity. At the same time, it was observed that there was a positive relationship between health literacy levels and healthy eating attitudes (20).

In our research, it was determined that receiving information about nutrition from health personnel positively affected the nutritional attitude. Medical personnel are nutrition experts. These people can accurately convey the importance of healthy nutrition, how to provide it, and its practical applications to individuals. This type of information can help women pay more attention to healthy eating and make healthy eating a lifestyle. In Özpulat's research, The educational role of health personnel, as a result of changing life conditions in the protection, promotion, and development of health is emphasized that it plays an important role (32). For this reason, planned and continuous training should be organized following the needs and characteristics of individuals and society. Our research shows that getting nutritional information from healthcare professionals can contribute to women having a healthy eating attitude and therefore adopting a healthier lifestyle.

When the relationship between the nutritional attitudes of the women participating in the study according to their socio-demographic characteristics is examined, the rate of those with an ideal high level of nutritional attitudes increases as the education level of the women and their spouses increases. However, this relationship was not found to be significant in multivariate linear regression. As a result of a positive eating attitude, it is to have a normal BMI level. In this study, it was found that women It was concluded that as the nutritional attitude score increased, their BMI decreased. In the study conducted by Öztayıncı et al., it was observed that the frequency of obesity decreased as the educational status increased (33). In a study conducted in Brazil, it was

concluded that the waist circumference and BMI values of women living in a region with a low level of education were higher than those living in a region with a high level of education (34). A study conducted in China in 2023 states that women and their partners show healthier eating behaviors as their education level increases (35). In the bivariate comparison of Çın's HEAS, it was determined that the emotion sub-dimension score for nutrition was higher in those whose education level was a primary school In Unutulmaz's 2023 study, it was discovered that the HEAS Knowledge About Nutrition sub-scores increased significantly with higher levels of patient education (18). In a study conducted by Kayışoğlu et al. on university and high school students, it was concluded that the preference for poor nutrition decreases as the level of education increases (36). In a study conducted by Ebeneggre et al., it was concluded that the children of mothers with a low level of education consumed more energy daily with diet and had a higher body weight than the children of mothers with a high level of education (37). The children's nutritional status is also adversely affected by the mother's low level of education.

These findings align with the observed increase in nutritional attitudes among women and their spouses in our study as their level of education rises, consistent with results from studies utilizing alternative healthy eating attitude scales. However, multivariate analysis did not reveal a significant relationship between women's and their husbands' education levels and their nutritional attitudes. In the study of Özenoğlu et al., there was no significant difference between the educational status of the participants and their attitudes toward healthy eating (4). This may be because the sample, place, and time of the study are different.

Conclusion and Recommendations

Our study found that a majority of women exhibited positive dietary attitudes. Life satisfaction, access to nutritional information from healthcare professionals, and higher health literacy emerged as significant factors associated with these positive attitudes. However, no statistically significant relationships were found between other sociodemographic characteristics and healthy eating attitudes.

This finding highlights the potential influence of psychosocial factors (life satisfaction) and access to knowledge (nutritional information, health literacy) on fostering healthy eating behaviors in women. Furthermore, the positive dietary attitudes observed may translate to healthier meal preparation for families, ultimately impacting the overall nutritional well-being of household members.

Based on these results, we recommend implementing interventions to improve women's dietary attitudes. Healthcare institutions could offer educational programs on health literacy and healthy eating practices.

It is recommended that future research be conducted on diverse demographic samples to explore the relationship between health literacy and nutritional behaviors. By incorporating participants from varied socio-economic backgrounds and regions, including both urban and rural populations, this approach will provide a more comprehensive understanding of how different demographic factors influence health literacy and dietary habits.

Limitations of the research

The survey conducted at the Family Health Center in Yozgat province has limitations related to the extended duration of data collection, primarily due to women's inability to allocate time for

health facility visits due to reasons such as illness. Another limitation is that the research is confined to Family Health Centers in the central district of Yozgat, excluding married women from other regions.

Ethics approval: Institutional permission for the research was obtained from the Yozgat Provincial Directorate of National Education, and ethical approval was granted by the Yozgat Bozok University Ethics Committee (decision dated 19.10.2022, no. 37/09). Mothers were informed about the study and their informed consent was obtained. The research was carried out in accordance with the rules and ethical codes specified in the Declaration of Helsinki.

Conflict of interest: The authors declare that there is no conflict of interest in this study.

Authors contributions: MK and NNY: Planning the research, obtaining the necessary institutional and ethical permissions, applying the data forms, statistical analysis, and writing and reviewing the article.

Availability of data and materials: This study was prepared by using the data of the master's thesis named "The impact of health literacy and life satisfaction on healthy eating among married women aged 18-64 living in Yozgat province".

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References

1. *Sağlık Bakanlığı. Türkiye nutrition and health survey (TNHS) 2019. Ankara, Turkey: Ministry of Health; 2019. Pp. 402–3.*
2. *Pekcan G, Şanlıer N, Baş M. Türkiye Nutrition Guide TÜNG 2015. Ankara, Turkey: Ministry of Health. Yayın No: 1031; 2015.*
3. *Wolinsky I, Driskell JA. Sports Nutrition: Energy Metabolism and Exercise. Driskell JA, Wolinsky I, editors. Sports Nutrition: Energy Metabolism and Exercise. CRC Press; 2007. Pp. 1–273.*
4. *Özenoğlu A, Gün B, Karadeniz B, Koç F, Bilgin V, Bembeyaz Z, et al. The Relationship between Nutritional Literacy and Attitudes Towards Healthy Nutrition and Body Mass Index in Adults. NWSA Academic Journals. 2021;16(1):1–18.*
5. *Murray CJL, Aravkin AY, Zheng P, Abbafati C, Abbas KM, Abbasi-Kangevari M, et al. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet. 2020;396(10258):1223–49.*
6. *National Burden of Disease (NHY) Study 2013. Ankara, Turkey; 2016.*
7. *Bilir N. Sağlık okur-yazarlığı/ Health Literacy. Turkish Journal of Public Health. 2014;12(1):61–8.*
8. *Speirs KE, Messina LA, Munger AL, Grutzmacher SK. Health literacy and nutrition behaviors among low-income adults. J Health Care Poor Underserved. 2012;23(3):1082–91.*
9. *Kudo H, Izumo Y, Kodama H, Watanabe M, Hatakeyama R, Fukuoka Y, et al. Life satisfaction in older people. Geriatrics and Gerontology International. 2007 Mar 1;7(1):15–20.*
10. *Karaman EE, Çetinkaya N. Gıda tercihinde duyuların rolü: tat duyusunun tat testi ile demografik özelliklere göre farklılığının tespiti. Atatürk Üniversitesi Sosyal*

Bilimler Enstitüsü Dergisi. 2020;24(2):883–98.

11. *Özkul AS, Özkul RF. Yaşam doyumunu etkileyen değerler: Üniversite öğrencileri üzerine bir araştırma. Paradigma: İktisadi ve İdari Araştırmalar Dergisi. 2022;11(2):1–12.*
12. *Seki öZ H, Bayam H. Genç yetişkinlerde algılanan stres ve yalnızlığın duygusal yeme ile ilişkisi. Sağlık Bilimleri Dergisi. 2022;31(2):176–83.*
13. *Tekkurşun Demir G, Cicioğlu Hİ. Sağlıklı Beslenmeye İlişkin Tutum Ölçeği (SBİTÖ): Geçerlik ve Güvenirlik Çalışması. Gaziantep Üniversitesi Spor Bilimleri Dergisi. 2019;4(2):256–74.*
14. *Sørensen K, Van den Broucke S, Pelikan JM, Fullam J, Doyle G, Slonska Z, et al. Measuring health literacy in populations: illuminating the design and development process of the European Health Literacy Survey Questionnaire (HLS-EU-Q). BMC Public Health. 2013 Dec 10;13(1):948.*
15. *Emiral GO, Aygar H, Isiktekin B, Göktas S, Dagtekin G, Arslantas D, et al. Health Literacy Scale-European Union-Q16: A Validity and Reliability Study in Turkey. International Research Journal of Medical Sciences. 2018;6(1):1–7.*
16. *Dağlı A, Baysal N. Yaşam doyumu ölçeğinin Türkçe' ye uyarlanması: geçerlik ve güvenirlik çalışması. Elektronik Sosyal Bilimler Dergisi. 2016;15(59):1250–62.*
17. *Çakır Arıca Ş, Güreş N, Arslan S. Tüketicilerin Sağlıklı Beslenmeye Yönelik Tutumlarının İncelenmesine Yönelik Bir Araştırma. Çukurova Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi. 2016;20(2):99–110.*
18. *Unutulmaz A. Sağlıklı beslenme Tutumu ile Depresyona Yatkınlık İlişkisi. Sağlık Bilimleri Üniversitesi, İstanbul; 2023.*
19. *Çetin E. Yetişkin Tüketicilerin Besin Tercihleri Ve Sağlıklı Beslenmeye Yönelik Tutumları Üzerine Cinsiyet Faktörünün Etkisi. Ankara Üniversitesi; 2007.*
20. *Çın A, Akkan T, Dağdeviren M, Şengezer T, Altay M. Obezite Hastalarında Sağlık Okuryazarlığı ile Sağlıklı Beslenme Tutumu İlişkisinin Değerlendirilmesi. Türkiye Aile Hekimliği Dergisi. 2022;26(4):154–63.*
21. *Karagöz Ş, Onur Kocaer H, Ünveren A, Üniversitesi AK, Fakültesi SB, Bölümü R, et al. Düzenli egzersiz yapan 60 yaş ve üzeri bireylerin sağlıklı beslenmeye ilişkin tutumları ve bilişsel esneklik durumlarının yaşam doyumu üzerine etkisi. Journal of ROL Sports Sciences. 2023;4(1):208–28.*
22. *Yılmaz T, Dalbudak I, Yiğit Ş. Relationship between life satisfaction and nutrition of students at the faculty of sports and health sciences at university. Progress in Nutrition. 2020;22(2):645–59.*
23. *Lee S Bin, Choi HJ, Kim MJ. The Relationships among Quality of Life and Stress, Health-related Habits and Food Intake in Korean Healthy Adults Based on 2013 Korea National Health and Nutrition Examination Survey. Korean Journal of Community Nutrition. 2015;20(6):411.*
24. *Ergüven AT, Teke MS, Üstün ÜD, Ekinci NE. Life satisfaction and healthy nutrition attitude in physically active and inactive university students. Progress in Nutrition. 2022;24(2):e2022128.*
25. *Cha ES, Kim KH, Lerner HM, Dawkins CR, Bello MK, Umpierrez G, et al. Health literacy, self-efficacy, food label use, and diet in young adults. American Journal of Health Behavior. 2014;38(3):331–9.*
26. *Adams EL. The association between health literacy, numeracy and diet quality in an urban population of socioeconomically*

diverse African American and white adults. ProQuest Number: 1602336; 2015.

27. *Shahavandi M, Ghorbaninejad P, Mohammadpour S, Djafari F, Shahinfar H, Sheikhhossein F, et al. Higher health literacy score is associated with better healthy eating index in Iranian adults. Nutrition. 2021;90:111262.*
28. *Lee Y, Kim T, Jung H. The Relationships between Food Literacy, Health Promotion Literacy and Healthy Eating Habits among Young Adults in South Korea. Foods. 2022 Aug 16;11(16):2467.*
29. *Kırşan M, Özcan BA. Adölesanlarda Sağlık Okuryazarlığı ve Beslenme Okuryazarlığının Diyet Kalitesine Etkisi. European Journal of Science and Technology. 2021 Nov 30;(27):532–8.*
30. *Madalı B, Dikmen D, Piyal B. Beslenme Bilgi Düzeyinin Değerlendirilmesinde Sağlık Okuryazarlığı Yeterli mi? Beslenme ve Diyet Dergisi. 2017;45(2):153–60.*
31. *Gökçe D, Yeşil E. Lise Öğrencilerinin Sağlıklı Beslenmeye İlişkin Tutumlarıyla E-sağlık Okuryazarlığı Düzeyleri Arasındaki İlişkinin Değerlendirilmesi. Abant Sağlık Bilimleri ve Teknolojileri Dergisi. 2023;3(1):17–27.*
32. *Özpulat F. Sağlığın Korunması ve Geliştirilmesinde Hemşirenin Çağdaş Bir Rolü: Eğitici Kimliği. . Maltepe Üniversitesi Hemşirelik Bilim ve Sanatı Dergisi,Sempozyum Özel Sayısı. 2010;Özel sayı:293–7.*
33. *Öztayıncı N, Açıkgöz Pınar A, Akal Yıldız E, Gökmen Özel H. Farklı Beden Kütle İndeksi Değerine Sahip Yetişkin Kadınların Sosyo-demografik Özellikleri ile Yeme Tutumlarının Değerlendirilmesi. Journal of Nutrition and Dietetics. 2022;49(3):48–57.*
34. *Boing AF, Subramanian S V. The influence of area-level education on body mass index, waist circumference and obesity according to gender. International Journal of Public Health. 2015;60(6):727–36.*
35. *Wang WC, Zou SM, Ding Z, Fang JY. Nutritional knowledge, attitude and practices among pregnant females in 2020 Shenzhen China: A cross-sectional study. Preventive Medicine Reports. 2023;32:102155.*
36. *Kayışoğlu S, Kayışoğlu S, Içöz A, Icöz A. Eğitim Düzeyinin Fast-Food Tüketim Alışkanlığına Etkisi. Journal of Tekirdag Agricultural Faculty. 2012;9(2):16–9.*
37. *Ebenegger V, Marques-Vidal PM, Nydegger A, Laimbacher J, Niederer I, Bürgi F, et al. Independent contribution of parental migrant status and educational level to adiposity and eating habits in preschool children. European Journal of Clinical Nutrition. 2011;65(2):210–8.*