

Examination of Optimal Nutrition Habits in Adults

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ABSTRACT

The aim of the study was to conduct a survey on optimal eating habits in adults. The study is a quantitative study and is based on the descriptive survey model. The population of the study consisted of a total of 624 adults. Of these, 314 were male and 310 were female. Demographic data were collected from the participants to understand the effects of variables such as age, gender, education level, marital status, family type, employment status, BMI, and physical activity on eating habits. In addition, the "Attitude Scale on Healthy Eating," (SBITQ) developed by Demir and Cicioğlu (2019), was used in the study. The scale is a 5-point Likert-type scale consisting of 4 sub-dimensions and 21 questions, including "about nutrition," "feeling towards nutrition," "positive nutrition," and "malnutrition." While analyzing the data of the study, the t-test was used for pairwise comparisons, and the Anova Tukey test was used for multiple comparisons within groups. When the data obtained from the study were analyzed, it was seen that there was a significant difference in the sub-dimensions of optimal eating habits in adults in the variables of age, gender, educational status, marital status, family type, employment status, BMI (CDC), and educational status. In conclusion, analyses by age groups revealed significant differences in nutritional attitudes and knowledge levels among different age groups. This shows that the effect of age on nutritional habits is important and that nutritional preferences may change depending on age. It is also seen that gender plays a determining role in nutritional habits. Women were generally found to have higher nutrition scores. Similarly, educational level also has an effect on dietary attitudes. Individuals with higher levels of education were generally found to have more conscious eating habits. Improving dietary habits is a critical step to improving the overall health and quality of life of individuals and communities. Therefore, it is important to use the findings in the development of health policies and nutrition education programs.

Keywords: Eating habits, demographic data, nutritional awareness, education level and nutrition

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Journal home page: www.e-jespar.com

Academic Editor: Dr. Mehmet Güllü

<https://doi.org/10.5281/zenodo.11544574>

ARTICLE HISTORY

Received: 08 May 2024

Accepted: 26 May 2024

Published: 01 July 2024



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INTRODUCTION

Nutrition is defined as the process of taking and using the basic substances required for individuals to maintain their vital functions, undergo a healthy growth and development process, and live in a healthy and productive way for a long time (Güldal et al., 2023; Ashton et al., 2017). This process starts from the moment of birth and continues throughout life (Samdal et al., 2017). Achieving the expected quality of life in the globalization process requires increasing the nutritional awareness of every individual and society and making healthy nutrition a lifestyle (Schultchen et al., 2019; Martinez-Avila et al., 2020). The welfare level and social and economic development of a society depend on the health of the individuals who make up this society, and this is closely related to physical activity and eating habits (Simmons et al., 2017).

In the light of the results of scientific research, there are two main recommendations made to adults in developed countries today: "Exercise at every opportunity" and "Change your eating habits" (Robinson et al., 2021; Shan et al., 2020). An individual with an adequate and balanced diet can reduce many health risks when exercising regularly (Ugurlu et al., 2023; Yapıcı et al., 2022). A sedentary lifestyle can lead to hypokinetic diseases; therefore, regular physical activity is important (Lesser and Nienhuis, 2020). It is thought that continuous physical activity can reduce the risk of chronic diseases such as hypertension, cardiovascular diseases, coronary artery diseases, hyperlipidemia, obesity, musculoskeletal diseases, some types of cancer, type 2 diabetes, and osteoporosis (Yapıcı, et al., 2023; Castañeda-Babarro et al., 2020). In terms of nutrition, being overweight or obese is known to increase health risks such as high blood cholesterol, cardiovascular diseases, diabetes, some types of cancer, arthritis, high blood pressure, and respiratory deficiencies (Visser et al., 2020; Aridi et al., 2020). Being underweight refers to an undesirable condition that reduces body resilience by reducing productivity (Khoramipour et al., 2021).

For healthy eating and physical activity behaviors, the stages of accessing the right information, evaluating it, and making the right decision are considered necessary for adults. Maintaining healthy eating habits and gaining awareness of regular physical activity is the most basic element that requires the ability to make the right decisions (Ramos-Lopez et al., 2021). In this context, individuals with adequate and balanced eating habits have knowledge about nutrients and food groups, as well as the ability to understand food labels and effectively apply portion control (Forbes et al., 2020). This knowledge and skill set plays an informed and influential role in healthy eating practices (Wolfenden et al., 2022). In addition, the regular participation of these individuals in physical activities and healthy food choices directly affect their physical activity participation rates (Castro et al., 2020; Ainscough et al., 2020).

Increasing the level of knowledge of society on nutrition, promoting activities in accordance with physical health recommendations in daily life, and developing healthy eating skills and behaviors have a critical role in preventing and reducing nutrition-related health problems

(Popkin & Ng, 2022). In this framework, it is aimed at raising awareness about nutritional values and nutritional control by providing healthy eating habits to individuals (Chen & Antonelli, 2020). At the same time, by encouraging regular physical activity, it is aimed at moving away from a sedentary lifestyle and reducing the risk of chronic diseases (Dempsey et al., 2020). Increasing awareness among adults and integrating these healthy behaviors into their daily lives has the potential to improve overall health status (Dogra et al., 2022).

In line with these studies, we aim to contribute to the adaptation of society to a healthy lifestyle and to the prevention of nutrition-related health problems. The aim of this study was to conduct a review of optimal eating habits in adults.

MATERIALS AND METHODS

Participants and Protocol

In this study, the effects of optimal eating habits on health in adults were evaluated, and a descriptive survey model was applied. The descriptive survey model is defined as the scanning arrangements made on the whole universe or a specific sample (Karasar, 2014). The study population consisted of a total of 624 adult individuals, of whom 314 were male and 310 were female. Volunteers' free will to participate in the study was respected, and participants were given the opportunity to terminate or withdraw at any time after being informed about the study.

Data Collection Tools

Demographic personal data were collected to understand the effects of variables such as age, gender, education level, marital status, family type, employment status, BMI, and physical activity on eating habits. In addition, the "Attitude Scale on Healthy Eating," developed by Demir and Cicioğlu (2019), was used in the study. It consists of 21 items, including knowledge about nutrition (items 1-5), feeling towards nutrition (items 6-11), positive nutrition (items 12-17), and malnutrition (items 18-21). On the scale, the lowest score was 21, and the highest score was 105. The scores obtained by the participants evaluate their attitudes towards healthy nutrition: 21 points and below reflect very low, 23-42 points reflect low, 43-63 points reflect medium, 64-84 points reflect high, and 85-105 points and above reflect a very high level of healthy eating attitude. The scale was graded from 1 ("Strongly disagree") to 5 ("Strongly agree"). The Cronbach's alpha for this scale was 0.724.

Statistical Analysis

In this study, IBM SPSS Statistics 25.0 software was used for data analysis. Cronbach's alpha was analyzed to determine the reliability of the study. Since the data were distributed

as normal binary, they met the prerequisites of parametric tests. Therefore, an independent sample t test was used for pairwise group comparisons, and an ANOVA test was used for comparisons of three or more groups. In addition, in cases of a significant difference in ANOVA results, the Tukey post hoc test, one of the multiple comparison tests, was applied to determine which groups the difference was between. The following thresholds were used to determine the effect size of the relationships: <0.1 = insignificant; $0.1-0.3$ = small; $> 0.3-0.5$ = moderate; $> 0.5-0.7$ = large; $> 0.7-0.9$ = very large; and >0.9 = almost perfect (Hop-kins et al., 2009).

RESULTS

Variables		n	Percent %
Total number of participants		624	100
Age	18-25	193	30,9
	26-35	154	24,7
	36-45	152	24,4
	46-60	125	20,0
Gender	Female	310	49,7
	Male	314	50,3
Education Status	Secondary Education	184	29,5
	High School	151	24,2
	University	189	46,3
Marital Status	Single	285	45,7
	Married	339	54,3
Family Type	Small Family	403	64,6
	Extended Family	221	35,4
Employment Status	Working	389	62,3
	Not working	235	37,7
BMI (CDC) Status	Weak	101	16,2
	Normal	274	43,9
	Overweight	203	39,9
Half an hour or more per week Physical Activity	1-2 Days	188	30,1
	3-4 Days	189	30,3
	5-6 Days	93	14,9
	Nothing.	154	24,7

Table 1. Frequency and percentage distributions of the demographic characteristics of the participants

When Table 1 examined, the largest group of the participants distributed is in the 18-25 age range (30.9%). The rate of women participating in the study was 49.7%, and the men's rate was almost equal to that of women, with 50.3%. According to educational status variable, the proportion of university graduates is 46.3%, which is higher than secondary and high school graduates. Married participants' rate are higher than single participants with 54.3%. It was determined that 64.6% of the participants were members of small families and 62.3% were working. Distribution of the participants according to the body mass index (BMI), show that the 44.0% of them were with normal weight. It was observed that participants who did more than half an hour of physical activity per week did physical activity 3-4 days a week, and this rate was 30.3%.

Dimension	Age Groups	n	Mean	SS	F	p	Tukey
About Nutrition Information	18-25 ¹	193	20,39	3,36	17,687	0,001*	1=2>3=4
	26-35 ²	154	21,32	2,92			
	36-45 ³	152	18,68	3,37			
	46-60 ⁴	125	18,69	2,79			
Feeling Towards Nutrition	18-25 ¹	193	23,87	4,04	5,793	0,001*	1=2>3=4
	26-35 ²	154	24,59	4,07			
	36-45 ³	152	22,37	3,87			
	46-60 ⁴	125	22,77	2,98			
Positive Nutrition	18-25 ¹	193	18,59	2,95	2,877	0,035	1=2>3=4
	26-35 ²	154	18,32	3,34			
	36-45 ³	152	17,18	3,20			
	46-60 ⁴	125	17,56	2,94			
Malnutrition	18-25 ¹	193	14,42	3,95	2,824	0,038	-
	26-35 ²	154	13,39	3,62			
	36-45 ³	152	13,79	3,66			
	46-60 ⁴	125	14,54	4,70			
SBITQ_total	18-25 ¹	193	77,25	10,10	5,901	0,001*	1=2>3=4
	26-35 ²	154	77,61	9,70			
	36-45 ³	152	75,00	8,82			
	46-60 ⁴	125	73,53	9,35			

Table 2. ANOVA results of SBITQ (Attitude Scale on Healthy Eating) scores according to age groups

In Table 2, there are statistically significant differences between the age groups in the sub-dimensions of SBITQ (Attitudes Towards Healthy Eating Scale), such as knowledge about nutrition, feeling towards nutrition, positive nutrition, malnutrition, and SBITQ total scores. Among these groups, the 26-35 age group had the highest mean scores in Knowledge about Nutrition, Knowledge about Nutrition, and SBITQ Total, while the 18-25 age group had the highest mean scores in Positive Nutrition and Malnutrition dimensions.

Dimension	Gender	n	Mean	SS	t	Cohen's d	p
About Nutrition Information	Female	310	20,87	2,97	5,984	0.48	0,001*
	Male	314	19,35	3,38			
Feeling Towards Nutrition	Female	310	24,73	3,59	6,874	0.55	0,001*
	Male	314	22,69	3,85			
Positive Nutrition	Female	310	18,98	2,92	6,268	0.51	0,001*
	Male	314	17,46	3,14			
Malnutrition	Female	310	14,46	4,16	2,628	0.22	0,001*
	Male	314	13,62	3,76			
SBITQ- Total	Female	310	79,03	8,65	8,041	0.65	0,001*
	Male	314	73,10	9,73			

*p< 0,001

Table 3. T-test results of SBITQ (Attitude Scale on Healthy Eating) scores according to gender status

According to the t-test results of SBITQ according to gender status in Table 3, it was determined that there was a significant difference in the sub-dimensions of knowledge about nutrition, feeling towards nutrition, positive nutrition, malnutrition, and SBITQ Total ($p<0.001$), and women had higher averages than men in all sub-dimensions.

Dimension	Educational Status	n	Mean	SS	F	p	Tukey
About Nutrition Information	Secondary Edu ¹	184	20,20	3,37	0,781	0,458	-
	High school ²	151	20,32	3,20			
	University ³	289	19,94	3,25			
Feeling Towards Nutrition	Secondary Edu ¹	184	23,95	4,04	0,995	0,370	-
	High school ²	151	23,85	3,92			
	University ³	289	23,47	3,71			
Positive Nutrition	Secondary Edu ¹	184	17,47	2,93	7,561	0,001*	2=3>1
	High school ²	151	18,55	2,83			
	University ³	289	18,51	3,31			
Malnutrition	Secondary Edu ¹	184	11,70	3,56	54,260	0001*	2=3>1
	High school ²	151	14,58	2,98			
	University ³	289	15,24	4,07			
SBITQ_total	Secondary Edu ¹	184	73,30	9,33	10,861	0,001*	2=3>1
	High school ²	151	77,28	8,70			
	University ³	289	77,15	10,03			

Table 4. ANOVA results of SBITQ (Attitude Scale on Healthy Nutrition) scores according to educational status

In Table 4, in general, there are significant differences between educational levels on SBITQ scores, especially in the dimensions of "Positive Nutrition," "Malnutrition," and "SBITQ Total." The differences are statistically significant.

Dimension	Marital status	n	Mean	SS	t	Cohen's d	p
About Nutrition Information	Single	285	20,79	3,21	4,914	0.40	0,001*
	Married	339	19,53	3,22			
Feeling Towards Nutrition	Single	285	24,11	4,01	2,407	0.20	0,016
	Married	339	23,36	3,70			
Positive Nutrition	Single	285	18,40	3,13	1,396	0.11	0,163
	Married	339	18,06	3,11			
Malnutrition	Single	285	14,11	3,80	,401	0.04	0,686
	Married	339	13,98	4,14			
SBITQ Total	Single	285	77,49	10,07	3,211	0.27	0,001*
	Married	339	74,91	9,17			

*p< 0,001

Table 5. T-test results of SBITQ (Attitude Scale on Healthy Nutrition) scores according to marital status

Table 5 shows that there are significant differences between single and married individuals in knowledge about nutrition and total scores of SBITQ. However, these differences were not statistically significant in the positive and malnutrition dimensions.

Dimension	Family Type	n	Mean	SS	t	Cohen's d	p
About Nutrition Information	Small family	403	19,20	3,19	-10,096	0.87	0,001*
	Big family	221	21,76	2,74			
Feeling Towards Nutrition	Small family	403	22,59	3,61	-10,595	0.89	0,001*
	Big family	221	25,74	3,47			
Positive Nutrition	Small family	403	17,56	3,07	-7,403	0.63	0,001*
	Big family	221	19,41	2,86			
Malnutrition	Small family	403	13,30	3,62	-6,119	0.53	0,001*
	Big family	221	15,38	4,27			
SBITQ total	Small family	403	72,63	8,66	-13,558	1.15	0,001*
	Big family	221	82,27	8,20			

*p< 0,001

Table 6. T-test results of SBITQ (Attitude Scale towards Healthy Nutrition) scores according to family type

Table 6 shows that there are significant differences between family type and SBITQ scores. It shows that participants living in small families generally have lower scores, and these differences are statistically significant.

Dimension	Working Status	n	Mean	SS	t	Cohen's d	p
About Nutrition Information	Working	389	20,14	3,26	0,346	0.03	0,729
	Not work.	235	20,05	3,30			
Feeling Towards Nutrition	Working	389	23,47	3,77	-1,925	0.16	0,052
	Not work.	235	24,09	3,98			
Positive Nutrition	Working	389	18,05	3,19	-1,689	0.15	0,087
	Not work.	235	18,49	3,00			
Malnutrition	Working	389	13,99	4,09	-0,383	0.04	0,697
	Not work.	235	14,12	3,81			
SBITQ Total	Working	389	75,64	9,70	-1,363	0.12	0,172
	Not work.	235	76,72	9,58			

*p< 0,001

Table 7. T-test results of SBITQ (Healthy Nutrition Attitude Scale) scores according to employment status

According to the t-test results of the participants' employment status in Table 7, there are no statistically significant differences between employment status and SBITQ scores.

Dimension	BMI	n	Mean	SS	F	p	Tukey
About Nutrition Information	Weak ¹	100	19,66	3,22	9,241	0,001*	2>1=3
	Normal ²	274	20,72	3,26			
	Overweight ³	249	19,59	3,18			
Feeling Towards Nutrition	Weak ¹	100	23,13	4,19	7,350	0,001*	2>1=3
	Normal ²	274	24,37	3,85			
	Overweight ³	249	23,21	3,64			
Positive Nutrition	Weak ¹	100	17,99	3,51	2,219	0,110	
	Normal ²	274	18,51	3,13			
	Overweight ³	249	17,98	2,93			
Malnutrition	Weak ¹	100	13,78	3,92	1,336	0,264	-
	Normal ²	274	13,82	3,58			
	Overweight ³	249	14,34	4,37			
SBITQ_total	Weak ¹	100	74,53	10,82	5,240	0,006	2>1=3
	Normal ²	274	77,41	9,46			
	Overweight ³	249	75,10	9,20			

*p< 0,001

Table 8. ANOVA results of SBITQ (Healthy Eating Attitude Scale) scores according to BMI (CDC) scores

According to the ANOVA test results of the participants according to their BMI (CDC) scores in Table 8, there are significant differences in About Nutrition Information, feeling towards nutrition and SBITQ total scores according to their BMI (CDC) scores. In addition, it was determined that there was no significant difference in Positive Nutrition and Malnutrition dimensions.

Dimension	Half an hour or more physical activity per week	n	Mean	SS	F	p	Tukey
About Nutrition Information	1-2 Day ¹	188	20,07	3,26	12,230	0,001*	3>1=2>4
	3-4 Days ²	189	20,62	3,00			
	5-6 Days ³	93	21,13	3,08			
	Never ⁴	154	18,90	3,38			
Feeling Towards Nutrition	1-2 Day ¹	188	23,67	3,89	9,949	0,001*	2=3>1>4
	3-4 Days ²	189	24,24	3,87			
	5-6 Days ³	93	24,81	3,54			
	Never ⁴	154	22,41	3,68			
Positive Nutrition	1-2 Day ¹	188	18,14	3,04	4,953	0,002*	1=2=3>4
	3-4 Days ²	189	18,72	2,90			
	5-6 Days ³	93	18,55	2,88			
	Never ⁴	154	16,49	3,49			
Malnutrition	1-2 Day ¹	188	14,21	4,45	0,794	0,498	-
	3-4 Days ²	189	14,21	3,60			
	5-6 Days ³	93	14,03	3,63			
	Never ⁴	154	13,62	4,04			

	1-2 Day ¹	188	76,07	9,58			
SBITQ total	3-4 Days ²	189	77,78	8,89	11,919	0,001*	3=2>1>4
	5-6 Days ³	93	78,51	9,13			
	Never ⁴	154	72,41	10,0			
				1			

*p< 0,001

Table 9. ANOVA results of SBITQ (Attitude Scale on Healthy Eating) scores according to physical activity scores

According to the results of the ANOVA test, according to the physical activity scores of the participants in Table 9, knowledge about nutrition, feelings towards nutrition, positive nutrition, and total scores of SBITQ show significant differences according to physical activity scores. However, it was determined that there was no significant difference in the dimension of malnutrition.

DISCUSSION

This study aims to examine the optimal eating habits of adult individuals. This study aims to fill an important gap, as dietary habits have an impact on individuals' health and quality of life. Determining optimal eating habits is important to improve the overall health of both individuals and society. The research aims to provide guidance to promote healthy lifestyles and improve eating habits. When the frequency and percentage distributions of demographic characteristics are analyzed in light of the findings obtained, it is seen that the majority of the participants are university graduates in terms of the educational status variable. In the family type variable, it was determined that more than half of the participants had nuclear family structures. In terms of employment status, it is seen that the participants are mostly working individuals. In the BMI (CDC) status variable, it was determined that there were more participants with normal weight.

According to age groups, statistically significant differences were found in all sub-dimensions of the Attitudes Towards Healthy Eating Scale (AHSBS). In the 26-35 age group, the highest averages were observed in knowledge about nutrition, feelings towards nutrition, and total scores of the SBITQ, while the 18-25 age group had the highest averages in the dimensions of positive nutrition and malnutrition. These results showed that there were differences between age groups in terms of nutritional attitudes and knowledge levels. Çakır and Karaağaç (2021) found no significant relationship between the age variable and the attitude scale towards healthy nutrition in a study conducted for individuals going to the gym. This study supports the results of our study. Ozenoğlu et al. (2021) showed that there was a positive relationship between the total score of the attitude towards healthy eating scale and age. These results are not compatible with the findings of our study.

According to the results of the SBITQ t-test according to gender status, a significant difference was found in the sub-dimensions of knowledge about nutrition, feelings towards

nutrition, positive nutrition, malnutrition, and total SBITQ. In this analysis, it was determined that women had higher mean scores than men in all sub-dimensions. In Sargin and Güleşce's (2022) study, as a result of the examination of SBITQ scores according to gender variables, significant differences were found in the total score and in the sub-dimensions of knowledge about nutrition, knowledge about nutrition, positive nutrition, and malnutrition. These differences were found to be higher in favor of males. On the other hand, in Dinç's (2021) study, no difference was found in the sub-dimension analysis of gender-based SBITQ scores. In the study of Gülen, Kumartaşlı, Madak, and Sönmez (2021), no difference was found between the total score and sub-dimensions of SBITQS according to gender variables. These results show that there are differences in studies on the effect of gender on healthy eating attitudes. In a study investigating the eating disorder levels of teacher candidates, Çolak, Karakaş Güz, Seçer and Haşıl Korkmaz (2022) reported that women's concerns about body shape and weight were higher than men. They attributed this to the fact that women care more about having a weaker and thinner body structure than men. It has been stated in the literature that women, who care more about their body image than men, research nutritional contents on the internet and are more interested in the content of the foods they consume (Devran, 2018). Considering that this situation indirectly contributes to the development of healthy nutrition attitudes and behaviors in women, the reasons why women have higher healthy nutrition scores than men in this study are more clearly understood.

In the analyses conducted for SBITQ scores, significant differences were found between educational levels. Especially in the dimensions of "positive nutrition," "malnutrition," and "SBITQ total," statistically significant differences were found in favor of university students. Arica et al. (2016), in their study on trainees, stated that there was no significant difference between the level of education and attitudes towards healthy nutrition. Özenoğlu et al. (2021) reported that there was no significant difference between the level of education of the participants and the total score of attitudes towards healthy eating in their study on adults. These studies are not compatible with the results of our study.

Significant differences were observed in knowledge about nutrition and total scores of SBITQ according to the marital status variable. However, these differences were not statistically significant in the favorable and malnutrition dimensions. In parallel with the study conducted by Özenoğlu et al. (2021), there were statistically significant differences in favor of singles in knowledge about nutrition and SBITQ total scores according to marital status.

Significant differences were found between family type and SBITQ scores. It was observed that participants living in nuclear families generally had lower scores, and these differences were statistically significant. This finding suggests that family type may have an effect on healthy eating attitudes.

According to the t-test results, there was no statistically significant difference between the working status of the participants and their SBITQ scores. These results show that there is

no significant difference between the attitudes towards healthy eating of employed and unemployed participants. This suggests that employment status does not have a direct effect on healthy eating attitudes. In the study conducted by Özyurt Kurt (2021), there was no significant difference between the attitudes of working and non-working participants towards healthy eating. This situation is similar to the study.

According to the results of the ANOVA test performed according to the BMI (CDC) scores of the participants, significant differences were found in knowledge about nutrition, feelings towards nutrition, and SBITQ total scores. However, no significant difference was found in the dimensions of positive nutrition and malnutrition. These findings indicate that there is a relationship between body mass index (BMI) and participants' knowledge levels and attitudes towards healthy eating, but the effect of BMI on positive and negative eating habits is not significant.

According to the results of the ANOVA test conducted according to physical activity scores, significant differences were determined between the participants' knowledge about nutrition, feelings towards nutrition, positive nutrition, and total scores of SBITQ. However, no significant difference was found in the malnutrition dimension. These findings show that there is a difference between the participants' physical activity levels and healthy eating. In the study conducted by Yilmaz et al. (2022), it was reported that there was a significant difference between the activity duration variable and the attitude towards healthy eating scale. It was emphasized that this relationship is especially due to individuals who do regular sports activities every day and have sports habits. In a study conducted by Mor et al. (2018) on sports high school students, it was reported that students with a sports history of 4-6 years had better nutritional habits. On the other hand, in the study conducted by Altunhan and Bayer (2021), no statistically significant difference was found between the attitude scale towards healthy nutrition and the level of sportsmanship (amateur-professional). In Ari and Arslan's (2020) study on the nutritional habits of science teachers, it was found that 73% of the teachers had low sports habits, and their nutritional levels progressed negatively.

CONCLUSIONS

In conclusion, this study examined the dietary habits of adult individuals and the relationship between these habits and various demographic factors. The findings show that there are significant differences between individuals in different segments of society in terms of nutrition. First of all, analyses by age groups revealed significant differences between different age groups in terms of nutritional attitudes and knowledge levels. This shows that the effect of age on dietary habits is significant and that dietary preferences may change depending on age. Gender also appears to play a determining role in dietary habits. Women were generally found to have higher nutrition scores. Similarly, level of education also affects nutrition attitudes. It was found that individuals with higher levels of education generally have more conscious eating habits. Family structure was also found to have a significant effect on dietary habits. The fact that individuals living in nuclear

families generally have lower nutrition scores shows the effect of family structure on healthy eating attitudes. Factors such as employment status and physical activity level were also found to have a significant effect on nutritional attitudes. These findings suggest that individuals' lifestyles and physical activity levels are closely related to their healthy eating habits. The findings emphasize the importance of awareness-raising and guidance activities for individuals and society on nutrition. Improving nutritional habits is a critical step to improving the overall health and quality of life of individuals and society. Therefore, it is important to use the findings obtained in the development of health policies and nutrition education programs.

Author Contributions

Conceptualisation, B.E., H.Y.; methodology, B.E., H.Y., software, H.Y.; validation, H.Y., formal analysis, H.Y., research, B.E.; sources, B.E., H.Y.,M.C., E.G., data curation, B.E., writing-original drafting, B.E., H.Y.,M.C., E.G., writing-review and editing, B.E., H.Y.,M.C., E.G., visualisation, B.E.; supervision, H.Y.; project management, H.Y.; the authors have read and accepted the published version of the article."

Informed Consent Statement:

The research was conducted in line with the Declaration of Helsinki.

Acknowledgments:

We would like to thank all participants who took part in the research.

Funding:

This research was not funded by any institution or organization.

Conflicts of Interest:

The authors declare that no conflicts interest.

REFERENCES

- Güldal, K., Emlek, B., Uğurlu, D., Yapıcı, H., & Doğan, A. A. (2023). The relationship between healthy feeling levels, sportive activity, and nutritional habits of the students of the Faculty of Sports Sciences. *Journal of Exercise Science and Physical Activity Reviews*, 1(1), 24-34. doi.org/10.5281/zenodo.8399712.
- Ashton, L.M., Hutchesson, M.J., Rollo, M.E., Morgan, P.J., & Collins, C.E. (2017). Motivations and barriers to engaging in healthy eating and physical activity: A cross-sectional survey of young adult men. *American journal of men's health*, 11(2), 330-343. doi.org/10.1177/1557988316680936
- Samdal, G. B., Eide, G. E., Barth, T., Williams, G., & Meland, E. (2017). Effective behavior change techniques for physical activity and healthy eating in overweight and obese adults; systematic re-view and meta-regression analyses. *International Journal of Behavioral Nutrition and Physical Ac-tivity*, 14, 1-14. doi.org/10.1186/s12966-017-0494-y
- Schultchen, D., Reichenberger, J., Mittl, T., Weh, T. R., Smyth, J. M., Blechert, J., & Pollatos, O. (2019). Bidirectional associations of stress and affect with physical activity and healthy eating. *Brit-ish journal of health psychology*, 24(2), 315-333. doi.org/10.1111/bjhp.12355
- Martinez-Avila, W. D., Sanchez-Delgado, G., Acosta, F. M., Jurado-Fasoli, L., Oustric, P., Labayen, I.,... & Ruiz, J. R. (2020). Eating behavior, physical activity, and exercise training: a randomized controlled trial in young, healthy adults. *Nutrients*, 12(12), 3685. doi.org/10.3390/nu12123685
- Simmons, D., Devlieger, R., Van Assche, A., Jans, G., Galjaard, S., Corcoy, R.,... & Van Poppel, M. N. (2017). Impact of physical activity and/or a healthy diet on GDM risk: The DALI lifestyle study. *Journal of Clinical Endocrinology and Metabolism*, 102(3), 903-913. doi.org/10.1210/jc.2016-3455

- Robinson, E., Boyland, E., Chisholm, A., Harrold, J., Maloney, N. G., Marty, L.,... & Hardman, C. A. (2021). Obesity, eating behavior, and physical activity during the COVID-19 lockdown: A study of adults in the United Kingdom. *Appetite*, 156, 104853. doi.org/10.1016/j.appet.2020.104853
- Shan, Z., Li, Y., Baden, M.Y., Bhupathiraju, S.N., Wang, D.D., Sun, Q.I.,... & Hu, F.B. (2020). Association between healthy eating habits and cardiovascular disease risk. *JAMA internal medicine*, 180(8), 1090-1100.
- Ugurlu, D., Emlek, B., Yagin, F. H., Uygurtas, M., & Yapici, H. (2023). Examination of the Physical Activity Levels of University Students. *Journal of Exercise Science & Physical Activity Reviews*, 1(1), 35-45. doi.org/10.5281/zenodo.8399742
- Yapici, H., Uğurlu, D., Güllü, M., & Doğan, A. A. (2022). Investigation of Adult Women's Attitudes Toward the Culture of Being Healthy. *Journal of Kırıkkale University Medical Faculty*, 24(3), 574-583. doi.org/10.24938/kutfd.1175680
- Lesser, I. A., & Nienhuis, C. P. (2020). The impact of COVID-19 on physical activity behavior and the well-being of Canadians. *International journal of environmental research and public health*, 17(11), 3899. doi.org/10.3390/ijerph17113899
- Yapıcı, H., Yaşın, F. H., Emlek, B., Uca, E., Ayyıldız, E., Ahmedov, F.,... & AL-Mhanna, S. B. (2023). Investigation of Barriers to Participation in Physical Activity: A Study on Adults. *Journal of Exercise Science and Physical Activity Reviews*, 1(1), 1-11. doi.org/10.5281/zenodo.8399374
- Castañeda-Babarro, A., Arbillaga-Etxarri, A., Gutiérrez-Santamaría, B., & Coca, A. (2020). Physical activity change during COVID-19 confinement. *International journal of environmental research and public health*, 17(18), 6878. doi.org/10.3390/ijerph17186878
- Visser, M., Schaap, L. A., and Wijnhoven, H. A. (2020). Self-reported impact of the COVID-19 pandemic on nutrition and physical activity behavior in independently living Dutch older adults. *Nutrients*, 12(12), 3708. doi.org/10.3390/nu12123708
- Aridi, Y. S., Walker, J. L., Roura, E., & Wright, O. R. (2020). Adherence to the Mediterranean diet and chronic disease in Australia: analysis of the national nutrition and physical activity survey. *Nutrients*, 12(5), 1251. doi.org/10.3390/nu12051251
- Khoramipour, K., Basereh, A., Hekmatikar, A. A., Castell, L., Ruhee, R. T., and Suzuki, K. (2021). Physical activity and nutrition guidelines to help combat COVID-19. *Journal of Sport Sciences*, 39(1), 101-107. doi.org/10.1080/02640414.2020.1807089
- Ramos-Lopez, O., Milagro, F. I., Riezu-Boj, J. I., & Martinez, J. A. (2021). Epigenetic signatures underlying inflammation: interplay of nutrition, physical activity, metabolic diseases, and environmental factors for personalized nutrition. *Inflammation Research*, 70, 29-49. doi.org/10.1007/s00011-020-01425-y
- Forbes, C.C., Swan, F., Greenley, S.L., Lind, M., & Johnson, M.J. (2020). Physical activity and nutrition interventions for older adults with cancer: a systematic review. *Journal of Cancer Survivorship*, 14, 689-711. doi.org/10.1007/s11764-020-00883-x
- Wolfenden, L., Mooney, K., Gonzalez, S., Hall, A., Hodder, R., Nathan, N., ... & McCrabb, S. (2022). Increased use of knowledge translation strategies is associated with greater research impact on public health policy and practice: An analysis of trials of nutrition, physical activity, sexual health, tobacco, alcohol and substance use interventions. *Health Research Policy and Systems*, 20(1), 15. doi.org/10.1186/s12961-022-00817-2
- Castro, E. A., Carraça, E. V., Cupeiro, R., López-Plaza, B., Teixeira, P. J., González-Lamuño, D., & Peinado, A. B. (2020). Effects of exercise type and physical activity on eating behavior and body composition in overweight and obese individuals. *Nutrition*, 12(2), 557. doi.org/10.3390/nu12020557
- Ainscough, K.M., O'Brien, E.C., Lindsay, K.L., Kennelly, M.A., O'Sullivan, E.J., O'Brien, O.A.,... & McAuliffe, F. M. (2020). Nutrition, behavior change, and physical activity outcomes from the PEARS RCT—an

- Health-supported lifestyle intervention among pregnant women with overweight and obesity. *Frontiers in Endocrinology*, 10, 938. doi.org/10.3389/fendo.2019.00938
- Popkin, B. M., and Ng, S. W. (2022). The nutritional transition to a phase of high obesity and non-communicable disease prevalence dominated by ultra-processed foods is not inevitable. *Obesity Reviews*, 23(1), e13366. doi.org/10.1111/obr.13366
- Chen, P. J., & Antonelli, M. (2020). Conceptual models of food choice: food-related influential factors, individual differences, and society. *Foods*, 9(12), 1898. doi.org/10.3390/foods9121898
- Dempsey, P.C., Matthews, C.E., Dashti, S.G., Doherty, A.R., Bergouignan, A., Van Roekel, E.H.,... & Lynch, B.M. (2020). Sedentary behavior and chronic disease: mechanisms and future directions. *Journal of Physical Activity and Health*, 17(1), 52-61. doi.org/10.1123/jpah.2019-0377
- Dogra, S., Copeland, J. L., Altenburg, T. M., Heyland, D. K., Owen, N., & Dunstan, D. W. (2022). Start with reducing sedentary behavior: a step-by-step approach to physical activity counseling in clinical practice. *Patient education and counseling*, 105(6), 1353-1361. doi.org/10.1016/j.pec.2021.09.019
- Karasar, N. (2014). "Scientific Research Methods: Concepts, Techniques, and Principles." Ankara: Nobel Publishing House.
- Demir, G.T., and Cicioğlu, H. (2019). "Attitude Scale on Healthy Nutrition (SBITO): Validity and Reliability Study". *Gaziantep University Journal of Sport Sciences*, 4 (2), 256-274. <https://doi.org/10.31680/Gaunjss.559462>
- Karaağaç, G., & Çakir, E. (2021). Determination of Healthy Nutrition Attitudes and Social Appearance Anxiety Levels of Individuals Going to Sports Halls. *Journal of Physical Education and Sports Sciences*, 23(3), 167-177.
- Özenoğlu, A., Gün, B., Karadeniz, B., Koç, F., Bilgin, V., Bembeyaz, Z., and Saha, B. S. (2021). "The Relationship of Nutrition Literacy with Attitudes Towards Healthy Nutrition and Body Mass Index in Adults," *Life Sciences*, 16 (1), 1-18. DOI: 10.12739/NWSA.2021.16.1.4B0037.
- Sargın, K., and Güleşçe, M. (2022). "Evaluation of Teachers' Attitudes Towards Healthy Nutrition: The Case of Van Province". *Gaziantep University Journal of Sport Sciences*, 7 (1), 1-11. Doi.Org/10.31680/Gaunjss.1000390
- Dinç, A. (2021). Investigation of Social Media Addiction and Healthy Eating Attitudes of Sports Sciences Students (Iğdır İli Sample). *Iğdır University Journal Of Social Sciences*, (1).
- Gülen, Ö., Kumartaşlı, M., Madak, E., Sönmez, H.O., & Pepe, O. (2021). An Investigation Of The Nutrition Attitude Of Taekwondo Athletes In Terms Of Various Variables. *The Online Journal Of Recreation And Sports*, 10(3), 31-45. Retrieved From Doi.Org/10.22282/Ojrs.2021.86
- Çolak, M., Karakaş Güz, E., Seçer, E. ve Haşıl Korkmaz, N. (2022). Öğretmen Adaylarında Yeme Bozukluğu: Kronotip ve Bazı Bireysel Özelliklerin Etkisi. *Multidisipliner Yaklaşımla Güncel Spor Araştırmaları II. Gazi Kitabevi Tic. Ltd. Şti.*, 1. Baskı: Ekim 2022, Ankara.
- Devran, B. S. (2018). Doğu Anadolu bölgesinde yaşayan adölesan ve yetişkinlerin beslenme alışkanlıkları ile yeme tutum ve davranışlarının belirlenmesi. *Başkent Üniversitesi Sağlık Bilimleri Fakültesi Dergisi-BÜSBİD*, 3(2), 47-60.
- Arıca, Ş.Ç., Güreş, N. and Arslan, S. (2016). "A Research on the Investigation of Consumers' Attitudes Towards Healthy Nutrition". *Çukurova University Journal of Faculty of Economics and Administrative Sciences*, 20 (2), 99-110.
- Yılmaz, G., Şengür, E., and Turasan, İ. (2022). "Investigation of Healthy Nutrition Attitude Scores of University Students in the COVID-19 Period." *National Journal of Sport Sciences*, 6 (1), 1-10. Doi.Org/10.30769/Usbd.1078434

-
- Mor, A., İpekođlu, G., & Arslanođlu, C. (2018). "Investigation of Nutrition Habits of Sports High School Students: The Case of Sinop Province". *Gaziantep University Journal of Sport Sciences*, 3 (3), 67-77. Doi.Org/10.31680/Gaunjss.447961
- Altunhan, A., and Bayer, R. (2021). "Investigation of the Relationship Between Sleep Quality and Nutrition Habits of Individual and Team Athletes". *Iđdır University Journal of Sport Sciences*, 4 (1), 30-44. Doi.Org/10.48133/Igdirdsbd.1026752
- Arı, A.G., and Arslan, K. (2020). "General Nutrition Habits of Science Teachers". *Journal of Yüzüncü Yıl University Institute of Social Sciences*, 47, 393-415.
- Hopkins W, Marshall S, Batterham A, Hanin J. 2009. Progressive statistics for studies in sports medicine and exercise science. *Medicine and Science in Sports and Exercise* 41:3-12 DOI 10.1249/MSS.0b013e31818cb278.