ORİJİNAL MAKALE / ORIGINAL ARTICLE
Balıkesir Sağlık Bilimleri Dergisi / BAUN Sağ Bil Derg
Balıkesir Health Sciences Journal / BAUN Health Sci J
ISSN: 2146-9601- e ISSN: 2147-2238
Doi: https://doi.org/10.53424/balikesirsbd.1617836

Evaluation of Eating Behavior in Adolescents

Müge SEVAL [1], Nilüfer TATOĞLU [2], Fadime ÜSTÜNER TOP [3], Tülay KUZLU AYYILDIZ [1]

[1] Zonguldak Bulent Ecevit University, Faculty of Health Sciences, Pediatric Health and Diseases Nursing
[2] Zonguldak Bulent Ecevit University, Institute of Health Sciences, Pediatric Health and Diseases Nursing
[3] Giresun University, Faculty of Health Sciences, Department of Child Health and Diseases Nursing

Geliş Tarihi / Received: *11.01.2025,* ***Kabul Tarihi / Accepted:*** *26.02.2025*

ABSTRACT
Objective: This study aimed to examine eating behaviors and related factors in adolescents. **Materials and Methods:** The population of the research, planned as a cross-sectional descriptive type, consists of adolescents between the ages of 12 and 18. The sample of the study was 506 adolescents reached using the snowball sampling strategy. Research data were collected online using the Sociodemographic and Behavioral Data Form and Eating Behavior Scale**. Result:** The average age of the participants is 17.38±0.13, and the average of the Eating Behavior Scale is 255.33±2.57. A significant difference was found between father's education (p=0.021), family attitude (p=0.015), number of meals (p=0.001) and screen time (p=0.005) and Eating Behavior Scale score. A significant difference was detected between the scale score and characteristics such as eating habits at night, dieting, using food supplements, doing sports, having a special friend of the opposite sex, and having knowledge about eating disorders (p<0.05). A weak positive relationship was detected between the participants' weight (p=0.006) and BMI (p=0.005) values and the total Eating Behavior Scale score. **Conclusion:** The average score of eating behavior among adolescents is at a moderate level. Father's education, family attitude, number of meals, screen time, night eating habits, dieting, using food supplements, doing sports, having a special friend of the opposite sex, and knowledge about eating disorders are associated with eating behavior. There is a significant positive relationship between adolescents' eating behavior and weight and body mass index.
Keywords: Adolescent, Eating Habits, Body Weight, Body Mass Index.

Adölesanlarda Yeme Davranışlarının Değerlendirilmesi

ÖZ
Amaç: Bu araştırma adölesanlarda yeme davranışlarının ve ilişkili faktörlerin incelenmesi amacıyla yapılmıştır. **Gereç ve Yöntem:** Kesitsel tanımlayıcı tipte planlanan araştırmanın evrenini, 12-18 yaş arası adölesanlar oluşturmaktadır. Araştırmanın örneklemi kartopu örnekleme stratejisi kullanılarak ulaşılan 506 adölesandır. Araştırma verileri Sosyodemografik ve Davranışsal Veri Formu ve Yeme Davranışları Ölçeği ile internet ortamında toplanmıştır. Veriler SPSS (Statistical Package for Social Sciences) for Windows 25.0 programı kullanılarak analiz edilmiştir. **Bulgular:** Katılımcıların yaş ortalaması 17.38±0.13, Yeme Davranışları Ölçeği ortalaması 255.33±2.57'dir. Baba eğitimi (p=0.021), aile tutumu (p=0.015), öğün sayısı (p=0.001) ve ekran süresi (p=0.005) ile Yeme Davranışları Ölçeği puanı arasında anlamlı fark bulunmuştur. Gece yemek yeme alışkanlığı, diyet yapma, gıda takviyesi kullanma, spor yapma ve karşı cinsten özel bir arkadaşa sahip olma ve yeme bozuklukları hakkında bilgi sahibi olma gibi özellikler ile ölçek puanı arasında anlamlı fark tespit edilmiştir (p<0.05). Katılımcıların kilo (p=0.006) ile Beden Kütle İndeksi (p=0.005) değerleri ile toplam Yeme Davranışları Ölçeği puanı arasında pozitif yönde zayıf bir ilişki tespit edilmiştir. **Sonuç:** Adölesanlar arasında yeme davranışı puan ortalamalarının orta düzeydedir. Baba eğitimi, aile tutumu, öğün sayısı, ekran süresi, gece yemek yeme alışkanlığı, diyet yapma, gıda takviyesi kullanma, spor yapma, karşı cinsten özel bir arkadaşa sahip olma ve yeme bozuklukları hakkında bilgi sahibi yeme davranışı ile ilişkilidir. Adölesanların yeme davranışı ile kilo ve beden kütle indeksi arasında anlamlı pozitif ilişki vardır.
Anahtar kelimeler: Adölesan, Yeme Alışkanlığı, Vücut Ağırlığı, Beden Kütle İndeksi

Sorumlu Yazar / Corresponding Author: *Nilüfer TATOĞLU,* Zonguldak Bulent Ecevit University, Faculty of Health Sciences, Pediatric Health and Diseases Nursing, Türkiye.
E-mail: nilufer.tatoglu@hotmail.com

Bu makaleye atıf yapmak için / Cite this article: Seval, M., Tatoğlu, N., Üstüner Top, F. & Ayyıldız, T. (2025). Evaluation of eating behavior in adolescents. *BAUN Health Sci J, 14*(1), 65-73. https://doi.org/10.53424/balikesirsbd.1617836

INTRODUCTION

Optimal nutrition is defined as the concept of consuming the necessary nutrients for the body in adequate and balanced amounts (Alexander, 2020). However, this ideal can be impeded by various factors, including socioeconomic constraints and the prevalence of detrimental dietary practices. Nutrition can be influenced by personal characteristics, chronic illnesses, the presence of allergies, the structure and culture of the society in which one lives, climate and geographical features, purchasing power, economic adequacy, and social reasons such as familial factors (Uyanık, 2019).

During adolescence, the developmental and physiological changes that occur can lead to deviations from healthy eating habits. This period is marked by an increased preoccupation with physical appearance, particularly among females, driven by the desire to attract the attention and approval of the opposite sex. Additionally, as the importance of social interactions grows, adolescents spend more time outside the home, which correlates with an increased consumption of fast food (Günaydın & Kumcağız, 2020). This shift often leads to the disruption of regular dietary patterns and the adoption of unhealthy snacking behaviors. Adolescents who perceive themselves as overweight may engage in unendorsed weight loss practices, such as unhealthy dieting, or the use of herbal or chemical substances, without professional guidance (Altay et. al., 2018).

Eating behaviors emerge as an integral part of life, influenced by cultural and environmental factors. These behaviors are characterized by practices such as delaying meals, rapid consumption of food, and unbalanced, unconscious eating habits (Uyanık, 2019). Literature on the subject identifies disordered eating behaviors as those that fail to meet the nutritional requirements of the individual, including meal skipping, frequent consumption of unhealthy snacks, avoidance of eating with family or friends, selective eating of specific food groups, adherence to vegetarian diets, excessive use of dietary supplements, compulsive exercise, binge eating, and purging. While these behaviors may not fulfill the diagnostic criteria for clinical eating disorders, they can nonetheless have detrimental effects on the physical and psychological well-being of adolescents (Acar, 2020).

Cultural, social, developmental, familial, individual, economic, and psychological factors can all influence eating behaviors. Individuals may use eating as a coping mechanism to manage emotions such as stress, boredom, anxiety, or to prolong feelings of joy. While this may provide temporary emotional relief, it is believed to lead to negative emotions such as regret and guilt, potentially exacerbating distress over time (My Cleveland Clinic, 2023) A study conducted among high school seniors found that students with disordered eating behaviors exhibited significantly higher body weight and Body Mass Index (BMI) values, along with lower self-esteem scores and higher anxiety levels (Çakır, 2018).

Excessive eating, food refusal, the disposal of food without digestion, and nighttime eating behaviors are included within the concept of eating disorders. Eating disorders are characterized by a constant preoccupation with body weight, a growing increase in negative thoughts about body shape, and the emergence of mood disorders. 1Eating disorders are observed in 3-10% of the general population, with varying prevalence rates among adolescents. According to DSM-5 data, the prevalence of eating disorders in adolescents ranges from 5.7% to 15.2% in females and from 2.9% to 1.2% in males (Dinç & Koçhan, 2016).

The establishment of healthy eating behaviors during adolescence is of paramount importance for the preservation of both physical and psychosocial health, as well as for the improvement of public health indicators. The interventions conducted by nurses working in the field of pediatric health, particularly those focused on nutrition, are recognized as critically valuable from a societal perspective in fostering the development of healthy generations and preventing nutrition-related issues (Alexander, 2020). In the study by Leme et al. a systematic review of research aimed at preventing obesity in adolescents revealed that energy calculation systems did not have a long-term impact on weight maintenance or diet. However, awareness training on obesity, risk factors, diet, and body dissatisfaction resulted in behavior change. The study also emphasized the need for further research in this area to achieve more effective outcomes. The implementation of awareness training, screenings, and the development and utilization of diverse assessment tools within the scope of preventive healthcare services and school nursing will contribute to enhancing the outcomes in this field (Leme et. al., 2020).

Therefore, this study aims to investigate the eating behaviors and associated factors among adolescents. Gaining an in-depth understanding of the factors influencing adolescent eating behaviors is of paramount importance for advancing research, informing clinical practice, and enhancing health promotion and development initiatives.

MATERIALS AND METHODS

Study type

This cross-sectional descriptive study was conducted using a structured questionnaire administered online between October 2021 and February 2022.

Study Population and Sample

The study population consisted of adolescents aged 12-18 years living in a provincial center in the Western Black Sea region of Turkey. The sample size was calculated using the sample size formula for known population size (14,103,881) with the "G. Power-3.1.9.2" program, at a 95% confidence level, with a α = 0.05 margin of error and 0.95 theoretical

power. The minimum sample size was determined to be 470. A total of 506 individuals were included in the study

Data Collection Tools

In this study, data were collected using the Sociodemographic and Behavioral Data Form and the Eating Behaviors Scale.

Sociodemographic and behavioral data form: ,

The form, developed by the researchers, consists of 32 questions covering adolescents' sociodemographic characteristics and eating behaviors.

Eating Behaviors Scale

The scale was developed by Özdoğan. It consists of 58 questions and is a Likert-type metric scale used to assess eating behaviors. Participants are asked to evaluate their eating behaviors on a scale from "never" (0) to "always" (Özdoğan, 2013). The response scale for positive items begins from the left (0), while for negative items, it starts from the right (10), with scores not being assigned between 0 and 10. Scores obtained from the Eating Behaviors Scale are interpreted as follows: ≤145 points is classified as poor, 146-290 points as moderate, 291-435 points as good, and ≥436 points as very good. The reliability coefficient of the Eating Behaviors Scale was calculated to be $\alpha = 0.85$.

Data Collection

The participants of this study were 506 adolescents living in a provincial center in the Western Black Sea region of Turkey. A snowball sampling strategy was used, focusing on creating a pool of adolescents aged 12-18 years from the Western Black Sea region of Turkey. Prior to the main study, a pilot study was conducted with 20 individuals who were not part of the sample. Based on their feedback, necessary adjustments were made to the survey, and data collection proceeded thereafter. The online survey, created via Google Forms, was distributed to willing participants through email and online platforms such as Facebook, WhatsApp, and LinkedIn. Initially, the survey was distributed to adolescents aged 12-18 years, who were encouraged to share it with their peers. No incentives or financial support were provided to participants for completing the survey. The survey was conducted with specific instructions and flow guidelines. It was clarified that participants could continue to the next question if they did not respond to a particular item. To increase participation, the survey link was shared four times at different intervals on social media platforms to encourage greater involvement.

Statistical analysis of data

The data obtained in the study were analyzed using the SPSS (Statistical Package for Social Sciences) for Windows 25.0 program. Descriptive statistical methods were used to evaluate the data. The normality of the data distribution was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. For normally distributed data, differences between two independent groups were tested using the independent samples t-test, while analyses for three or more groups with normally distributed measurements were performed using repeated-measures ANOVA. In cases of statistically significant differences, Bonferroni analysis was used to determine which specific time points differed. Reliability analysis of the scales and subscales used in the study was conducted using Cronbach's Alpha.

Ethical considerations

Ethical approval for the study was obtained from the Ethics Committee of the Human Research Ethics Board of Zonguldak Bülent Ecevit University on January 14, 2021, with approval number 2021/11. The study was conducted in accordance with the principles of the Helsinki Declaration. After the research objectives were clearly explained in writing to the participants, informed consent was obtained. Participants who provided consent and completed the survey were included in the research group. No descriptive information related to this study has been included in any reports or publications. Informed consent was provided by all participants.

RESULTS

The mean age of the participants was found to be 17.38 ± 0.13, the mean Body Mass Index (BMI) was 21.70 ± 4.04, and the mean score on the Eating Behaviors Scale was 255.33 ± 2.57 (Table 1).

Table 1. Distribution of Participants Based on Descriptive Characteristics (n=506).

Characteristics	Min	Mean	Max	Ss	Median
Age (years)	11.00	15.38	18.00	0.13	15.00
Height (cm)	130.00	165.65	193.00	0.39	165.00
Weight (kg)	30.00	59.82	141.00	0.58	57.00
Number of Siblings	1.00	2.43	9.00	0.04	2.00
Child Order	1.00	1.69	7.00	0.04	1.00
BMI	12.49	21.70	61.84	4.04	21.22
Eating behaviour scale	86.00	255.33	511.00	2.57	255.00

BMI: Body Mass Index, **Min**: Minimum, **Mean**: Average, **Max**: Maximum, **SD**: Standard Deviation

The analysis revealed that 23.7% of the participants were male, 29.2% of their mothers had attained a primary school education, 28.5% of their fathers had completed high school, 81.6% of the participants belonged to nuclear families, and 64.2% reported that their household income was equal to their expenses.

Table 2. Distribution of participants based on some eating characteristics (n=506).

Characteristics	Options	n	%
Breakfast	Yes	443	87.5
	No	63	12.5
Number of Meals	None	18	3.6
	One	231	45.7
	Two	229	45.3
	Three	28	5.5
Snacking Time	Never	5	1.0
	When Sad	25	4.9
	When Excited	2	0.4
	When Happy	22	4.3
	In Social Settings	47	9.3
	When Bored	111	21.9
	Multiple Situations	294	58.1
Night Eating	Yes	270	53.4
	No	236	46.6
Preferred Snack	Chocolate	54	10.7
	Chips	23	4.5
	Fast Food	15	3.0
	Nuts	1	2.6
	Pastries	11	2.2
	Sugary Desserts and Cakes	14	2.8
	Carbonated Drinks	8	1.6
	Multiple Types	368	72.7
Satisfaction with Physical Appearance	Yes	299	59.1
	No	207	40.9
Satisfaction with Body Weight	Yes	260	51.4
	No	246	48.6
Weight Tracking	Yes	304	60.1
	No	202	39.9
Dieting	Yes	103	20.4
	No	403	79.6
Exercise	Yes	220	43.5
	No	286	56.5
Taking Supplements	Yes	111	21.9
	No	395	78.1
Family's Satisfaction with Physical Appearance	Yes	127	25.1
	No	379	74.9
Comparison with Others	Yes	388	76.7
	No	118	23.3
Academic Success	Successful	228	45.1
	Average	255	50.4
	Unsuccessful	23	4.5
Having a Special Friend of the Opposite Sex	Yes	191	37.7
	No	315	62.3
Acceptance by Friends	Yes	478	94.5
	No	28	5.5
Screen Time	None	5	1.0
	1-2 hours	91	18.0
	3-4 hours	197	38.9
	5-6 hours	132	26.1
	7 hours	81	16.0
	Total	506	100.0
Physical Disability	Yes	48	9.5
	No	458	90.5
Knowledge of Eating Disorders	Yes	232	45.8
	No	274	54.2
Eating Behavior Scale	Poor	15	3.0
	Average	362	71.5
	Good	128	25.3
	Very Good	1	0.2
	Total	**506**	**100.0**

n: Count, **%:** Column percentage.

Moreover, 87.5% of the participants reported consuming breakfast, 45.7% adhered to a single-meal pattern per day, and 53.4% exhibited nighttime eating habits. Additionally, 40.9% expressed dissatisfaction with their physical appearance, 60.1% actively monitored their weight, 56.5% did not engage in physical exercise, 38.9% had a screen time of 3-4 hours per day, and 71.5% demonstrated moderate eating behaviors (Table 2). Father's education (p=0.021), family attitude (p=0.015), number of meals, and screen time were found to have a significant difference with the Eating Behavior Scale score. Further analysis revealed that this difference was due to middle school graduates scoring higher than primary school graduates (p<0.0001). Regarding family attitudes, the difference between democratic families and overprotective or authoritarian family attitudes was found to be the source of the difference (p<0.0003). A statistically significant difference was found between participants' screen time (p=0.005) and the number of meals (p=0.001) with the Eating Behavior Scale score. Further analysis showed that those who ate 2 or 3 meals a day had higher Eating Behavior Scale scores than those who ate none or 1-2 meals (p<0.0007). Additionally, those with shorter screen time had higher Eating Behavior Scale scores compared to those with 3 or more hours of screen time (p<0.0001) (Table 3). No significant difference was found between mother's education, gender, academic achievement, or income level and the Eating Behavior Scale score (p>0.05).

Table 3. Comparison of participants' eating behavior assessment scale scores based on certain characteristics (n=506).

Characteristic		n	Mean	SD	Test Statistic	p	Bonferroni
Father's Education	literate	7	241.00	25.72	2.511	0.021	Middle School> Elementary
	Elementary school	112	244.64	61.79			
	Middle school	78	270.37	59.91			
	High school	144	269.61	56.59			
	University	165	262.65	53.53			
Family Attitude	Neglectful	11	254.81	48.19	2.855	0.015	Democratic> Overprotective Democratic> Authoritarian
	Tolerant	308	255.00	54.48			
	Overprotective	76	247.88	58.00			
	Authoritarian	41	255.90	80.77			
	İnconsistent	36	251.94	49.88			
	Democratic	34	259.44	57.14			
Number of Meals	None	18	214.05	68.35	6.865	0.0001	None <2-3, 1 <3
	1	231	249.46	63.00			
	2	229	261.24	58.32			
	3	28	282.07	70.26			
Screen Time	None	5	261.20	79.62	3.744	0.005	1-2> 3-4, 5-6, 7 and more
	1-2 hours	91	234.66	59.27			
	3-4 hours	197	258.31	56.90			
	5-6 hours	132	259.85	54.82			
	7 hours and more	81	263.63	58.31			

Test Statistic: One-way ANOVA, p < 0.05

A significant difference was found between the Eating Behavior Scale scores and characteristics such as late-night eating habits, dieting, use of dietary supplements, physical activity, having a special friend of the opposite sex, and knowledge of eating disorders (p<0.05). Those with late-night eating habits (p=0.001), individuals who dieted (p=0.006), those who used dietary supplements (p=0.003), participants who engaged in physical activity (p=0.001), individuals with a special friend of the opposite sex (p=0.016), and those knowledgeable about eating disorders (p=0.018) were found to have higher average Eating Behavior Scale scores (Table 4). As a result of the correlation analysis conducted to determine the relationship between the participants' quantitative data, a weak positive correlation was found between age (p=0.006), weight (p=0.005), and the total Eating Behavior Scale score. It was also observed that as age increased, height, weight, and BMI score also increased (Table 5).

Table 4. Comparison of participants' Eating Behavior Scale scores with some characteristics (n=506).

Behavior		n	Mean	SD	Test Statistic	p
Night Eating	Yes	270	267.17	58.90	5.036	0.001
	No	236	241.80	53.66		
Dieting	Yes	103	269.26	55.09	2.754	0.006
	No	403	251.78	58.08		
Taking Supplements	Yes	111	269.69	61.70	2.981	0.003
	No	395	251.30	56.16		
Exercise	Yes	220	265.92	57.65	3.652	0.001
	No	286	247.19	56.79		
Having a Special Friend of the Opposite Sex	Yes	191	263.26	61.00	2.409	0.016
	No	315	250.53	55.42		
Knowledge of Eating Disorders	Yes	232	261.87	53.25	2.349	0.018
	No	274	249.80	61.05		

n: number**, SD:** Standard Deviation

Table 5. Correlation between numerical variables (age, height, weight, number of siblings, BMI) and the total score of the Eating Behavior Scale (n=506).

Variable		Age	Height	Weight	BMI	Eating Behavior Scale
Age	**r**	1.000	.168**	.261**	.210**	-.004
	p	.	.000	.000	.000	.932
Height	**r**	.168**	1.000	.571**	.110*	.010
	p	.000	.	.000	.013	.814
Weight	**r**	.261**	.571**	1.000	.852**	.122**
	p	.000	.000	.	.000	.006
BKİ	**r**	.210**	.110*	.852**	1.000	.126**
	p	.000	.013	.000	.	.005
Eating Behavior Scale	**r**	-.004	.010	.122**	.126**	1.000
	p	.932	.814	.006	.005	.

***BMI:** Body Mass Index**, *p < 0.01**

DISCUSSION

Adolescence is a critical period for the establishment of healthy eating behaviors, as these behaviors significantly influence overall well-being and health outcomes. Adopting healthy dietary habits during this stage can reduce the risk of chronic diseases in adulthood and improve health-related quality of life. (Costarelli et. al., 2013) Furthermore, extensive global evidence indicates that behaviors formed during adolescence frequently persist into adulthood, highlighting the long-term impact of adolescent eating patterns. (Rachmi et. al 2021) Therefore, in this study, adolescent eating behaviors were examined, and eating behaviors were compared with certain socio-demographic and dietary characteristics. The study found that factors such as father's education, family attitude, number of meals, and screen time significantly influenced the participants' eating behavior scores. Tanrıverdi et al. (2011) identified that snacking while watching TV, studying, and the consumption of fast food influenced eating attitudes. Similarly, studies by Gülesce et al. (2023) and Melvin (2023) highlighted that screen time, particularly social media usage, affected eating habits. In another comparable study, skipping meals was found to have a negative impact on eating attitudes (Ulaş et. al., 2013). The study found that adolescents with democratic family attitudes had higher average Eating Behavior Scale scores compared to adolescents with overprotective and authoritarian family attitudes. Supporting this finding, Byrne et al. (2023) linked family attitude to eating attitude, while Günaydın and Kumcağız (Günaydın & Kumcağız, 2020) determined that family functionality affects eating attitudes. Based on these findings, it is suggested that primary prevention, which aims to improve risk factors while considering individual differences through a multidisciplinary approach, could provide beneficial support. According to the research findings, no significant difference was found between the average Eating Behavior Scale scores and gender. However, other studies have reported that gender influences eating behaviors. (Günaydın & Kumcağız, 2020; Yıldırım et. al., 2017) Some research has suggested that, particularly during adolescence, girls place more importance on their appearance and body measurements, which in turn affects their eating behaviors. (Özvurmaz et. al.,

2018) However, in recent years, this perception is being challenged, and studies have shown that males are also changing their lifestyle, including eating behaviors, in order to increase muscle mass. (Pope et. al., 2020) Additionally, it is suggested that adolescent boys and girls should be evaluated separately, as there are significant differences between them in terms of disordered eating attitudes and behaviors. (Murray et.al., 2017). The study found that participants' habits of eating at night, dieting, using dietary supplements, exercising, having a special friend of the opposite sex, and knowledge of eating disorders all influenced the average Eating Behavior Scale scores. In the literature, it is suggested that individuals with obesity who successfully follow a diet develop a healthy relationship with food and eating attitudes (Wadden et. al., 2024). Additionally, it has been argued that young people who engage in exercise are less exposed to screen-related activities, which reduces snacking behaviors and promotes healthier meal choices, leading to healthier eating habits (Soltero et.al.,2021). Furthermore, some studies suggest that the absence of emotional emptiness decreases the risk of snacking and eating disorders (Ambwani & Strauss, 2007). It is also thought that adolescents who share emotional connections with a special friend pay attention to their appearance due to their desire for approval and attention, leading them to maintain a regular and balanced diet. The study found that participants' weight and BMI values have a very weak positive influence on the average Eating Behavior Scale scores. While it is expected that eating behaviors would be related to weight status, Rodriguez et al. (2009) and Tanrıverdi et al. (2011) did not find a relationship between BMI and eating attitudes. However, Arslan (2020) identified a significant difference between BMI and eating attitudes. In another study, a positive connection was observed between BMI and eating behaviors, as BMI was found to predict more measured eating (Snoek et. al., 2008). Marques et al. (2018) demonstrated that individuals with healthy eating behaviors (realistic positive) had significantly higher normal weight proportions compared to those with unhealthy eating behaviors (realistic negative). This suggests that adolescents are highly concerned about their body image and that there is a connection between body weight, BMI perception, and eating behaviors.

Study Limitations and Strengths

The study has several limitations as well as strengths. First, the cross-sectional design of the study limits any causal inferences. Second, the study was conducted in a provincial center in the Western Black Sea region of Turkey and involved adolescents aged 12-18, with data collected via an online survey. In this context, the sample is limited to individuals who use social networks and agreed to participate in the study. Third, eating habits and practices based on self-reporting may be subject to recall bias. However, self-reporting is considered a suitable method for population-based or epidemiological studies due to its ease of use and low cost. Additionally, height and weight were self-reported by participants and are subject to bias. Nevertheless, in epidemiological research, self-reported height and weight are considered a valid tool for estimating BMI.

CONCLUSION

In conclusion, the average Eating Behavior Scale scores among adolescents aged 12-18 in the Western Black Sea region of Turkey were found to be at a moderate level, with only one-quarter of the adolescent students classified as having good eating behaviors. In this study, significant relationships were found between eating behavior and factors such as father's education, family attitude, number of meals, screen time, late-night eating habits, dieting, use of dietary supplements, physical activity, having a special friend of the opposite sex, and knowledge of eating disorders. There is a significant positive relationship between adolescents' eating behaviors and their weight and BMI. When addressing eating behaviors, weight and BMI should be considered. Efforts should be made to increase adolescents' awareness of risk factors associated with eating behaviors and to reduce the prevalence of non-communicable diseases resulting from these behaviors. Recommendations include a health education program that emphasizes lifestyle changes and behavioral modifications. In general, positive environmental interventions in schools could be effective in promoting healthy eating behaviors among adolescents as part of a broader set of actions. School curricula in Turkey should include lessons that encourage healthy eating habits, regular exercise, and physical activity. Furthermore, more research is needed to investigate other potential influencing factors related to eating behaviors that were not addressed in this study.

Acknowledgement

We would like to thank the participants who contributed to our study.

Conflict of Interest

The authors declare no conflict of interest.

Author Contributions

Plan, design: MS, NT, FÜT, TAK; **Material, methods and data collection:** MS, NT, TAK**; Data analysis and comments:** MS, NT, FÜT, TAK FD, AK; **Writing and corrections:** MS, NT, FÜT, TAK.FD, AK, AP.

Funding

No financial support was received for this study.

Ethical Approval

Institution: Zonguldak Bülent Ecevit University Ethics Committee
Date: 14/01/2021
Approval no: 2021/11

REFERENCES

Acar, M. (2020). Adölesanların sosyal medyada ve günlük yaşamda fiziksel görünüm karşılaştırmalarının yeme tutum bozukluğu ile ilişkisi (Yayınlanmamış doktora tezi). Hacettepe Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara.

Alexander, G. K. (2020). Supporting food literacy among children and adolescents: Undergraduate students apply public health nursing principles in clinical practice. *Journal of Professional Nursing*, *36* (6), 616-24. https://doi.org/10.1016/j.profnurs.2020.08.018

Altay, M., Cabar, H. D., & Altay, B. (2018). Adölesan dönemi çocuklarda beslenme ve okul sağlığı. *Sinop Üniversitesi Sosyal Bilimler Dergisi*, *2*(1), 173-80

Ambwani, S., & Strauss, J. (2007). Love thyself before loving others? A qualitative and quantitative analysis of gender differences in body image and romantic love. *Sex Roles, 56* (1-2), 13-21. https://doi.org/10.1007/s11199-006-9143-7

Arslan, M. (2020). Lise öğrencilerinin beden algısı ve yeme tutumunun incelenmesi ve bunların Beden Kitle Indeksi ile ilişkisinin değerlendirilmesi. *Süleyman Demirel Üniversitesi Vizyoner Dergisi*,*11*(26), 107-17. https://doi.org/10.21076/vizyoner.651699

Byrne, S. E., Basten, C. J., & Mc Aloon, J. (2023). The development of disordered eating in male adolescents: a systematic review of prospective longitudinal studies. *Adolescent Research Review*, *9*, 227–252 (2024). https://doi.org/10.1007/s40894-023-00217-9

Costarelli, V., Koretsi, E., & Georgitsogianni E. (2013). Health-related quality of life of Greek adolescents: the role of the Mediterranean diet. *Quality of Life Research, 22,* 951-956. https://doi.org/10.1007/s11136-012-0219-2

Çakır, E. (2018). Lise son sınıfa devam eden kız öğrencilerde yeme bağımlılığı ile kaygı arasındaki ilişkinin incelenmesi (Yayımlanmamış yüksek lisans tezi). İstanbul Okan Üniversitesi Sağlık Bilimleri Enstitüsü, İstanbul.

Dinç, U. S. Y., & Koçhan, U. K. (2016). Yeme bozuklukları tedavisinde aile terapisi yaklaşımı ile ilgili araştırmalar: bir gözden geçirme. *The Journal of Academic Social Science Studies*, *50*, 541-51.

Gülesce, S. A., Ersoy, B., Yuksel, D., & Baysal, G. (2023). Investigation of the effect of eating attitude on depression and behaviors in the in adolescents and young individuals. *Journal of Biomedical Research & Environmental Sciences*, 2766-76.

Günaydın, M., & Kumcağız, H. (2020). Ergenlerde yeme tutumunun aile işlevleri açısından incelenmesi. *Journal of Psychiatric Nursing*, *11* (3), 212-9. DOI: 10.14744/phd.2020.45762

Leme, A. C. B., Haines, J., Tang, L., Dunker, K. L., Philippi, S. T., Fisberg, M., … Fisberg, R. M. (2020). Impact of strategies for preventing obesity and risk factors for eating disorders among adolescents: A systematic review. *Nutrients*,*12* (10), 3134. https://doi.org/10.3390/nu12103134

Marques, A., Naia, A., Branquinho, C. S. D. S., & Matos, M. G. (2018). Adolescents' eating behaviours and its relationship with family meals, body mass index and body weight perception. *Nutrición Hospitalaria*, *35* (3), 550-6. http://hdl.handle.net/10451/36422

Melvin, K. (2023). The associations between adolescent motives for social media use with body dysmorphia, eating disorder, and anxiety and depression symptoms (Honors Theses). University of Mississippi, USA.

Murray, S. B., Nagata, J. M., Griffiths, S., Calzo, J. P., Brown, T. A., Mitchison, D., … Mond, J. M. (2017). The enigma of male eating disorders: A critical review and synthesis. *Clinical Psychology Review*, *57*,1-11. https:// doi. org/ 10. 1016/j. cpr.2017. 08. 001

Özdoğan, Y. (2013). Adölesanların yeme davranışı ve beslenme bilgilerini saptamaya yönelik ölçek geliştirme çalışması (Yayınlanmamış doktora tezi). Ankara Üniversitesi Fen Bilimleri Enstitüsü, Ankara.

Özvurmaz, S., Mandıracıoğlu, A., & Lüleci E. (2018). Üniversite öğrencilerinde yeme tutumu ve yeme tutumuna etki eden faktörler. *Adıyaman Üniversitesi Sağlık Bilimleri Dergisi*, *4* (2), 841-9.

Pope, H., Phillips, K. A., & Olivardia, R. (2020). *The Adonis complex: The secret crisis of male body obsession.* Simon and Schuster (The Free Press,158p.) New York.

Rachmi, C. N., Jusril, H., Ariawan, I., Beal, T., & Sutrisna, A. (2021). Eating behaviour of Indonesian adolescents: a systematic review of the literature. *Public Health Nutrition*, *24* (S2), 84-97. https://doi.org/10.1017/S1368980020002876

Rodríguez Santamaría, A., Amigo Vázquez, I., Paz Caballero, D., & Fernández Rodríguez, C. (2009). Eating habits and attitudes and their relationship with Body Mass Index (BMI). *The European Journal of Psychiatry, 23* (4), 214-24.

Snoek, H. M., Van Strien, T., Janssens, J. M., & Engels, R. C. (2008). Restrained eating and BMI: a longitudinal study among adolescents. *Health Psychology*, *27* (6), 753-9.

Soltero, E. G., Jáuregui, A., Hernandez, E., Barquera, S., Jáuregui, E., López-Taylor, J. R., … Lee, R. E. (2021). Associations between screen-based activities, physical activity, and dietary habits in Mexican schoolchildren. *International Journal of Environmental Research and Public Health*, *18*(13), 6788. https://doi.org/10.3390/ijerph18136788

Tanrıverdi, D., Savaş, E., Gönüllüoğlu, N., Kurdal, E., & Balık, G. (2011). Determination of high school students' eating attitudes, eating behavior and self-esteem. *European Journal of Therapeutics*, *17*(1), 33-9. https://doi.org/10.58600/eurjther.2011-17-1-749-arch

The psychology of eating. (2023). My Cleveland Clinic. https://my.clevelandclinic.org/health/articles/10681-the-psychology-of eating.

Ulaş, B., Uncu, F., & Üner, S. (2013). Sağlık yüksekokulu öğrencilerinde olası yeme bozukluğu sıklığı ve etkileyen faktörler. *Annals of Health Sciences Research, 2*(2), 1-8.

Uyanık, G. (2019). Beden kitle indeksi (BKİ) 18,5'in altında olan üniversite öğrencilerinin yeme tutumları ile sağlık ve beslenme durumları arasındaki ilişkinin değerlendirilmesi (Yayımlanmamış yüksek lisans tezi). Haliç Üniversitesi Sağlık Bilimleri Enstitüsü, İstanbul.

Wadden, T. A., Foster, G. D., Sarwer, D. B., Anderson, D. A., Gladis, M., Sanderson, R. S., … Phelan, S. (2024). Dieting and the development of eating disorders in obese women: results of a randomized controlled trial. *The American Journal of Clinical Nutrition*, *80* (3), 560-8. https://doi.org/10.1093/ajcn/80.3.560

Yıldırım, S., Uskun, E., & Kurnaz, M. (2017). Eating attitudes of students in high schools in a province center, and related factors. *The Journal of Pediatric Research, 4* (3), 149-55. DOI:10.4274/jpr.97659