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Examining the Effect of a Healthy Nutrition Program on the Nutritional Habits and Self-Esteem of Adolescent Children[1]

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Abstract

Especially today, increased fast- food consumption, coupled with the influence of technology, has led to a high prevelance of obesity. Obesity not only leads to health problems but can also significantly impact adolescents' self-esteem. With these considerations in mind, this study aimed to examine the effects of fast-food consumption and eating habits on obesity and self-esteem during adolesence. A pretest- posttest weak experimental design, a quantitative research method, was employed in the study. Data were collected from 80 adolescent children aged between 14 and 17 studying at Çankırı Health Vocational High School in the spring of 2024-2025. Data were collected using a "General Information Form", the "Eating Habits Scale for Adolescents", and the "Scale for Psychological Development in Adolescence". In addition, a "Healthy Nutrition Education Program" was developed and implemented for adolescent children. Before implementing the "Healthy Nutrition Education Program," the "Eating Habits for Adolescents" and the "Scale of Psychological Development in Adolescence" were administered as pre-tests. After 10 weeks of training, the same scales were re-administered as post-tests. The study found that children's post-test scores on their eating habits were higher than their pre-test scores. Post-test scores on the psychological development scale were also significantly higher. Therefore, it was concluded that the implemented educational program influenced their eating habits. Based on the results of the study, it is recommended that healthy eating programs be developed and implemented over the long term to include different age groups.

Keywords: Nutrition, Nutrition Disorders, Obesity, Adolescence, Self- Esteem

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Introduction

Adolescence can be considered as a period of rapid growth and development, and the attainment of physical, psychological, and social maturity. In other words , it is the transition from childhood to adulthood (Demirezen and Coşansu, 2005; Flipponi et.al., 2022). Adolescents are in search of identity, striving for independence and acceptance, and are highly concerned with their appearence while adolescents strive to adapt to their changing body image, they also strive to increase and maintain their self-esteem (Kaynak et al., 2022; Minev et al.., 2018). The age range between, 15 and 17 is a period when lifestyle development is determined, and eating habits, which are a part of lifestyle, are formed during this period. Adolescents' self-esteem and self-assertion can be important predictors of eating behaviors (Çam, 2018; Demir and Kumcağız, 2020; Flipponi et al.., 2022; Gönenir Erbay and Seçkin, 2016; Önal Sönmez, 2017). Adolescents especially those who are immersed in technology, can take the people they encounter and take as role models, and this can pave the way for the development of eating disorders (Akyasan and Çokluk Filizağaoğlu, 2025; Derenne and Beresin, 2018; Erkul, 2024; Mora et al., 2022; Suhag and Rauniyar, 2024; Uchoa et al., 2019). While media is one significant factor in the development of eating disorders, fast food is another.

The "fast- food" diet, also known as shacking on the go, is often associated with unhealthy eating habits such as skipping breakfast, snacking instead of lunch, and increased soft drink consumption (Erten, 2021; Gümüş and Yardımcı, 2020; Li et al., 2020; Stager et al., 2023; Tümer, 2018). During adolescence, children's desire to spend most of their time outside with their peers and their preference for fast food for their nutritional needs significantly affects their eating habits, which in turn increases the prevalence of obesity (Erten, 2021; Lestari et al., 2021; Li et al., 2020; Man et al., 2021; Taşpınar, 2018). Obesity not only leads to the development of immediate and future health problems in children, but can also have devastating effects on children's self-esteem (Gümüş and Yardımcı, 2020; Jacob et. al., 2020; Köseoğlu and Tayfur, 2017; Ok et. al.,2022; Smith et. al., 2022).

Self-esteem can be defined as an objective assessment of who one is, what one can and cannot do self-esteem can be shaped, particularly by one's communication with those around them (Işık and

Aslan, 2022; Minev et. al., 2018; Uzel et. al., 2018). Having self-esteem in the desired direction, which begins very early, can also lead to a child's interaction with those aruond them. This can become even more important for children during adolescence, due to their developmental characteristics (Barbot, 2020; Çiftçi, 2023; Kaynak et. al., 2022; Perrin et. al., 2010). As is well known, during adolescence, being admired by others and developing peer relationships are vitally important. Physically appearence is crucial for self-esteem, and being excluded by peers due to nutritional deficiencies can negatively impact a child's developing self-esteem (Gürler and Demirli, 2017; Işık and Aslan, 2022; Pazzaglia et. al., 2020). In this context, identifying the eating habits of adolescents and raising their self-esteem can be considered a crucial necessity.

Studies have shown that there are nutrition education programs for adolescent children (Devran and Saka, 2019; Meiklejohn et. al., 2016; Ongan et. al., 2023; Özgönel and Özden, 2019) but there is a limited number of studies determining whether the nutrition education program has an effect on self-esteem (Alimohammadi et. al., 2019; Erbaş and Kağnıcı, 2017; Meiklejohn et. al., 2016; Rabiei et. al., 2017). However, identifying children's eating habits during the crucial period of adolescence and instilling healthy eating habits is a significant investment, both now and in the future. Therefore, the aim of this study was to determine whether a healthy eating program impacts the eating habits and self-esteem of children during adolescence.

Method

The model, study group, data collection tools, data collection method and data analysis of the research conducted to determine whether the healthy nutrition program has an effect on the eating habits and self-perception of children in adolescence are given below.

Research Model

The study employed a single-group pretest-posttest design, a weak experimental technique. In a single- group pretest-posttest design, the specified experimental procedure is applied to one group. Knowledge levels are determined with a pretest, and posttests are administered after the experimental procedure to compare its effectiveness (Büyüköztürk et. al., 2016). This design was chosen because it was applied to all adolescent children and the results were intended to be seen across all children. Therefore, no control group was used in the study.

Study Group

The study used a purposive sampling method. Purposive sampling is the process of conducting research by reaching the group that best meets a specific purpose (Büyüköztürk et. al., 2016). In this context, the study included adolescent children attending the Health Vocational High School in Çankırı city center in Türkiye. The primary reason for selecting the Health Vocational High School was that these children would be trained as health professionals and that the knowledge they learned would have the potential to be applied both in their own lives and with their patients in the future (Bilge and Bilge, 2017). With these considerations in mind, the study included 80 adolescents.

60% of the children were girls, and 40% were boys. 42.5% of the children had three children, 30% had four children, 15% had five or more children, 8.8% had two siblings, 3.8% were only children, and 45% had five children, 23.8% had four children, 16.3% had seven or more children, and 15% had six children living in the household. 97.5% of the children have living parents, 93.8% live together, and all parents (100%) are their biological parents. 50% of the children's mothers are primary school graduates, 28.8% are middle school graduates, 16.3% are high school graduates, and 5% are university graduates, while 36.3% of the children's fathers are high school gradautes, 32.5% are middle school graduates, 25% are primary school graduates, and 6.3% are university graduates. 16.3% of the children's mothers are employed, while 83.8% are unemployed. While 83.8% of mothers are housewives, 11.3% are workers, 2.5% are self-employed and 2.5% are in the other occupations, 48.8% of fathers are in agriculture, 27.5% are workers, 7.5% are civil servants, 6.3% are retired, 5% are tradesmen, and 5% are in the other occupations. The monthly income of 37.5% of the children's families is 11.000 - 25.000 Turkish lira, 25% is 26.000- 40.000 Turkish liras, 20% is 10.000 or less Turkish liras, and 17.5% is 41.000 or more Turkish liras. 45% of children sometimes eat breakfast, while 38.8% always do so, and 16.3% never do so. 42.5% of children like meat dishes, 30% like sweets and chocolate, 18.8% like cakes, pastries, and pasta, and 8.8% like soups and stews. Fast food consumption among children is 96.3%. Among children who consume fast food, 45% consume it several days a week, 31.3% once a week, 15% are serving every day, and 8.8% two to three servings a day. Cola and soda consumption is seen in 56.3% of children several days a week, 25% once a week or less, 16.3% every day, and 2.5% two to three times a day.

Data Collection Tools

Data were collected using a "General Information Form" developed by the researchers, the "Eating Habits Scale for Adolescents", developed by Bester and Schnell (2004) and adopted into Turkish by Yılmaz (2021), and the "Psychological Development Scale in Adolescence" developed by DeVellis (2014) and a adopted into Turkish by Uzun (2018). The researchers also developed and implemented a "Healthy Nutrition Education Program".

General Information Form. This form was developed by the researchers to determine the sociodemographic characteristics of the children and their families participating in this study. The form includes questions about the children's gender, number of siblings, number of people living at home, whether the parents are alive or not, whether they are living together, whether they are biological parents, the parents' education level, the mother's employment status, the parents' occupation, income level, whether they eat breakfast, what kind of food they prefer, fast food consumption and frequency, and cola consumption.

Eating Habits Scale for Adolescents. The scale developed by Bester and Schnell (2004) to determine the eating habits of adolescent children, was adapted to Turkish by Yılmaz (2021). The scale consists of 64 items, a 4-point Likert-type scale, and four sub-dimensions. In the adaptation study to Turkish, Cronbach's alpha values were found to be .91 for the Body Image sub-dimension, .83 for the External Factors sub-dimension, .78 for the Nutrition sub-dimension, .74 for the Exercise sub-dimension, and .84 for the entire scale. In the reliability analysis conducted within the scope of the research, Cronbach's alpha values for the pretest were .87 for the Body Image sub-dimension, .75 for the External Factors sub-dimension, .84 for the Nutrition sub-dimension, .76 for the Exercise sub-dimension, and .93 for the entire scale; for the posttest it was found to be .81 for the Body Image sub-dimension, .80 for the External Factors sub-dimension, .81 for the Nutrition sub-dimension, .60 for the Exercise sub-dimension, and .94 for the entire scale.

Adolescent Psychological Development Scale. The scale developed by DeVellis (2014) to determine the psychological states of children in adolescence, was adapted to Turkish by Uzun (2018). It consists of 15 items, two sub-dimensions, and a 5-point Likert-type scale. In the adaptation to Turkish Cronbach's alpha values were found to be .82 for the Personal Lack of Control sub-dimension, and .76 for the Shyness sub-dimension. Within the scope of the study, Cronbach's alpha values for the pretest were found to be .85 for the Personal Lack of Control sub-dimension, .60 for the Shyness sub-dimension, and .80 for the total scale; in the posttest, they were found to be .78 for the Personal Lack of Control sub-dimension, .60 for the Shyness sub-dimension, and .64 for the total score.

Healthy Nutrition Program. The Healthy nutrition education program was developed by researchers. The program was developed using books and research on nutrition. Research was conducted on the importance of nutrition during adolesence, nutritional problems, potential problems arising from nutritional problems, the definition and importance of healthy nutrition, and the impact of nutritional habits on self-esteem. The program was developed based on this research. The program was submitted for expert review and necessary adjustments were made based on these expert opinions. The program included methods that involved children actively participating. Techniques such as brainstorming, demonstration, and drama were used. In the first week of the 10-week program, researchers introduced the children to the program using ice-breaking techniques and provided information about the program. The second week of the program covered nutrition and healthy eating; the third week covered nutritional problems and the problems caused by poor nutrition; the fourth week covered how to achieve healthy eating, key points, and the relationship between nutrition and mental health; the fifth week covered self-esteem and the importance of self-esteem; the sixth week covered how to strengthen self-esteem; the seventh week covered a healthy self-perception; the eight week covered activities to strengthen self-esteem; and the ninth week covered the relationship between self and nutrition, with children actively participating. Sample sessions from the Health Nutrition Education Program are included in the appendix.

Data Collection Method

To collect data for the study, approval was first obtained from the Çankırı Karatekin University Health Sciences Ethics Committee. Following this approval, a study permit was obtained from the Çankırı Provincial Directorate of National Education. After obtaining the permits, the school was identified using a purposive sampling method. Following the selection of the school, the school administration, was visited, briefed about the study, and the adolescents were met. Families were contacted through the school and informed about the study. Consent forms were distributed to families who agreed to allow their children to participate in the study and to children who volunteered to participate. The children were interviewed their height and weight were measured, and pretests were administered by the researchers. The ten week training sessions were administered once a week for 60 minutes at the end of the children's classes. Posttests were administered to the children after the ten-week training.

Data Analysis

The responses provided by adolescent children in the study were transferred to the SPSS 29,0 package program. Descriptive statistics were applied to determine the sociodemographic characteristics of the children and their families. Because the sample size was over 50, skewness and kurtosis values were examined using the Kolmogorov- Smirnov test (Büyüköztürk, 2020). the skewness and kurtosis values in the adolescent children's responses were between +2 and -2, indicating a normal distribution. In this context, a dependent samples t-test, a nonparametric technique, was used to analyze the data (Table 1).

Results

The findings of the study, which was conducted to determine the effects of a healthy nutrition program implemented for adolescent children on their eating habits and self-esteem, are presented below.

As can be seen in the table (Table 2), significant difference were found in the Body Image sub-dimensions of the Nutrition Scale with a high effect level [$t(79)= -5,89$; $p<.05$; $\eta^2=.50$], in the

Nutrition sub-dimension with a medium effect level [$t(79)= -4,22$; $p<.05$; $\eta^2=.30$], in the Exercise sub-dimension with a high effect level [$t(79)= -2,46$; $p<.05$; $\eta^2=.90$], and in the total nutrition dimensions with a high effect level [$t(79)= -4,48$; $p<.05$ $\eta^2=.73$]. In the Body Image sub-dimension, children's posttest scores (x=38,61) were higher than their pretest scores (x=30,87), in the Nutrition sub-dimension, posttest scores (x=23,82) were higher than their pretest scores (x=20,14), in the Exercise sub-dimension, posttest scores (x=7,84) were higher than their pretest scores (x=6,85), and in the total Nutrition sub-dimensions posttest scores (x=163,59) were higher than their pretest scores (x=143,75). In other words, children's eating habits changed after the implemented training program.

As can be seen in the table (Table 3), a significant difference was found in the Personal Lack of Control sub-dimension with a high effect level [$t(79)= -3,69$; $p<.05$; $\eta^2=..91$], in the Shyness sub-dimensions with a high effect level [$t(79)=-3,90$; $p<.05$; $\eta^2=.49$], and in the total score with a high effect level [$t(79)= -38,72$; $p<.05$; $\eta^2=.50$]. In the Personal Lack of Control sub-dimension, the posttest scores (x=35,66) were found to be higher than the pretest results (x=30,29), in the Shyness sub-dimension, the posttest results (x=15,52) were found to be higher than the pretest results (x=13,12); and in the total scale, the posttest score (x=163,59) was found to be higher than the pretest score (x=43,41).

Discussion

A study conducted to determine whether a healthy nutrition program impacts the eating habits and self-esteem of adolescent children found that the implemented nutrition education program had an impact on children's eating habits. This result can be explained by the content of the healthy nutrition education program and the implementation of learning activities based on hands-on learning. Indeed, in the training program researchers initially introduced the topic to children actively using question-and-answer and six-thinking hats technique. In other words, the training was conducted in a way that prioritized the children's own experiences, and case study were included in each training session. This ultimately contributed to the children's participation in the program. As is well-known, learning by doing ensures the active participation of learners in learning environments, thus ensuring complete learning (Aral and Duman, 2017). At the same time, using the six thinking hats technique, learners learn the necessary statistics about the topic, receive positive and negative feedback, and also reflect on it themselves (Aral and Temel, 2018). In this context, learners approach events more objectively and have the opportunity to structure what they have learned. It is believed that the implemented education program, specifically regarding the aforementioned characteristics, has an impact on adolescent children and increases their posttest scores. Similarly, studies have found the nutritional education program to be effective (Ongan et. al., 2023; Özgönel and Özden, 2019; Tallon et. al., 2019; Wang et. al., 2015) supporting the research findings.

The study found that posttest scores on the subscales of psychological development in adolescence and on the total score were significantly higher than pretest scores. The high posttest scores, particularly on the sub-dimension of Personal Lack of Control and Shyness, can be explained by characteristics of adolescence. Adolescence, as is well known, is a period characterized by intense emotional turmoil. During this period, adolescents transition from boldness to shyness (Çiftçi, 2023; Kaynak et. al., 2022). Risk- taking behavior, a characteristics of adolescence, can sometimes cause adolescents to act out of control. The scores obtained on the total scale also reflect this. While the training program includes sessions focused on self-esteem these sessions are believed to have been limited to four weeks and, given the characteristics of adolescence, may not have had the expected impact. Self-esteem is a concept that continues to develop from infancy to adolescence and cannot be reduced to a single dimension (Işık and Aslan, 2022; Minev et. al., 2018; Uzel et. al., 2018). In this context, although self-esteem-oriented activities were implemented with the active participation of adolescent children in the program, attention must be paid to the long-term and the school family-child triangle in order for children to maintain in this support (Özenoğlu and Ünal, 2016). However, although school-family collaboration was established, the lack of family-oriented activities can be considered a limitation of the study. This limitation is believed to be reflected in the results. Indeed, the literature review indicates that a nutrition education program implemented over a longer period with school-family-child collaboration has a positive effect on self-esteem (Gonzalez Fernandez et. al., 2024; Rabiei et. al., 2017; Rabiei et. al., 2018), which supports the results obtained.

Conclusions and Recommendations

The study, conducted to determine whether a healthy nutrition program has an impact on the eating habits and self-esteem of adolescent children, concluded that the healthy nutrition education program has an impact on children's eating habits and created a significant difference in the total score and subscales of the psychological development scale. Based on the results, the following recommendations can be made.

1- The Healthy Nutrition Education Program is limited to children attending Health Vocational High Schools. The program should be implemented across different high school types and age groups.

2- The program should be implemented within the family-school-child triangle, offering activities that children can engage in with their families to enhance their self-esteem.

3- Supportive activity recommendations should be developed and guided for the school and teachers to enhance their self-perception.

4- The research was conducted using quantitative methods. It is recommended that mixed methods research be designed and implemented, supported by qualitative research.

Tables

Table 1. Pretest and Posttest Normality Distribution Results for Responses of Adolescent Children to the Eating Habits Scale for Adolescents and the Psychological Development Scale in Adolescence

		Pretest Results				**Posttest Results**			
Scale	**Sub-Dimension**	**x**	**Skewness**	**Kurtosis**	**p**	**x**	**Skewness**	**Kurtosis**	**p**
	Body Image	30,87	0,22	-1,28	.00	38,61	-0,69	0,71	.00

Eating Habits Scale for Adolescents	External Factors	35,60	-0,09	-0,38	.20	37,77	-0,44	1,69	.00
	Nutrition	20,14	-0,23	-0,97	.01	23,82	-0,85	1,44	.00
	Exercise	6,85	0,00	-1,04	.01	7,84	-0,42	0,45	.00
	Total	143,75	-0,15	-0,55	.20	163,59	-0,96	2,37	.00
Adolescent Psychological Development Scale	Personal Lack of Control	30,29	-0,15	-0,55	.20	35,66	-0,53	0,77	.04
	Shyness	13,12	-0,01	-0,56	.05	15,52	-0,15	-0,52	.00
	Total	43,41	-0,45	0,33	.07	51,19	-0,55	0,71	.20

Table 2. Dependent Samples t-Test Results for the Pretest and Posttest Results of the Adolescent Eating Habits Scale and its Sub-Dimensions (n=80)

Sub-Dimensions	**Measurement**	**x**	**ss**	**df**	**t**	**p**	**η^2**
Body Image	Pretest	30,87	9,92				
	Posttest	38,61	7,95	79	-5,89	.00	.50
External Factors	Pretest	35,60	7,47				
	Posttest	37,77	7,32	79	-1,91	.06	
Nutrition	Pretest	20,14	5,87				

	Posttest	23,82	5,34	79	-4,22	.00	.30
Exercise	Pretest Posttest	6,85 7,84	2,51 1,98	79	-2,46	.02	.90
Total	Pretest Posttest	143,75 163,59	28,08 28,23	79	-4,48	.00	.73

Table 3. Dependent Sample t-Test Results of the Pretest and Posttest Results of the Adolescent Psychological Development Scale and its Sub-Dimensions (n=80)

Sub-Dimensions	**Measurement**	**x**	**ss**	**df**	**t**	**p**	**η^2**
Personal Lack of Control	Pretest Posttest	30,29 35,66	9,81 7,12	79	-3,69	.00	.91
Shyness	Pretest Posttest	13,12 15,52	4,07 3,95	79	-3,90	.00	.49
Total	Pretest Posttest	43,41 163,59	11,35 28,23	79	-38,72	.00	.50

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References

Akyasan, E., & Çokluk Filizağaoğlu, G. (2025). Adölesanlarda sosyal medya kullanımının anoreksiya nervoza görülme sıklığına etkisi. *İstanbul Gelişim Üniversitesi Sosyal Bilimler Dergisi,* 12(1), 415-430. https://doi.org/10.17336/igusbd.1356103

Ali, L.A.E.H., Kader, N.M.A., & Mahgoub, N.A. (2021). Dietary/exercise guiding program for improvement of nursing students body image, self esteem and overweight prevention: A randomized controlled study. *PJMHS,* 15(1), 388-392.

Alimohammadi, M., Neisani, S.L., Khanjari, S., & Haghani, H. (2019). The effects of multimedia-based puberty health education male students' self-esteem in the middle school. *Int. J. Community Based Nurs Midwifery,* 7(2), 109-117. https://doi.org/10.30476/IJCBNM.2019.44882

Aral, N., & Duman, T. (2017). *Eğitim psikolojisi*. Ankara: Pegem Publication.

Aral, N., & Temel, Z.F. (2018). *Gelişimsel destek programları*. Ankara: Hedef Publication.

Barbot, B. (2020). Creativity and self-esteem in adolescence: A study of their domain specific, multivariate relationships. *Journal of Creative Behavior*, 54(2), 279-292. https://doi.org/10.1002/jocb.365

Çam, H.H. (2017). Ergenlerde yeme bozukluğu görülme sıklığı ve ruhsal semptomlarla ilişkisi. *Turk J. Public Health*, 15(2), 96-105.

Çiftci, A. (2023). Ergenlik dönemi ve aile ilişkilerinin benlik algısı ve sosyal anksiyete üzerindeki etkileri: Türkiye'deki araştırmaların incelenmesi. *Kapadokya Sağlık Bilimleri Dergisi,* 2(1), 219-225. https://doi.org/10.58241/ksbd.19

Bester, G., & Schnell, N.D. (2004). "Endogenous factors that relate to the eating habits of adolescents", South African Journal of Education, 24(3), 189-193. https://doi.org/10.4314/saje.v24i3.24987

Bilge, Y., & Bilge, Y. (2017). Empati eğitim programının empatik eğilim düzeyi üzerindeki etkisinin incelenmesi: Sağlık Meslek Lisesi örneği. *Uluslararası Sosyal Araştırmalar Dergisi*, 10(52), 607-614. https://doi.org/10.17719/jisr.2017.1920

Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö.E., Karadeniz, Ş., & Demirel, F. (2016). *Bilimsel araştırma yöntemleri.* (20th Edition). Ankara: Pegem Publication.

Büyüköztürk, Ş. (2020). Sosyal bilimler çin veri analizi el kitabı. (27th Edition). Ankara: Pegem Publication.

Demir, Y., & Kumcağız, H. (2020). Ergenlerde yeme tutum bozukluğunun öznel iyi oluş, depresyon, anksiyete ve stres üzerine etkisi. *International Journal of Field Education*, 6(1), 24-36. https://doi.org/10.32570/ijofe.696583

Demirezen, E., & Coşansu, G. (2005). Adölesan çağı öğrencilerde beslenme alışkanlıklarının değerlendirilmesi. *Sted,* 14(8), 174-178. https://www.ttb.org.tr/sted/sted0805/adolesan.pdf

Derenne, J., & Beresin, E. (2018). Body image, media and eating disorders-a-10 year update. *Acad Psychiatry,* 42, 129-134. https://doi.org/10.1007/s40596-017-0832-z

DeVellis, R.F. (2014). *Ölçek geliştirme kuram ve uygulamalar.* Ankara: Nobel Publication.

Devran, B.S., & Saka, M. (2019). Lise öğrencilerine verilen beslenme eğitiminin beslenme alışkanlıkları, beslenme bilgi düzeyi ve fiziksel aktivite üzerine etkisi. *Beslenme ve Diyet Dergisi,* 47(3), 5-14. https://doi.org/10.33076/2019.BDD.1081

Erbaş, M.M., & Kağnıcı, D.Y. (2017). Seçim kuramına dayalı psikoeğitim programının ergenlerin riskli davranışları ve iyilik hali üzerindeki etkisinin incelenmesi. *Elektronik Sosyal Bilimler Dergisi,* 16(64), 1594-1615. https://dergipark.org.tr/en/download/article-file/339189

Erkul, S. (2024). Aile tutumları ve medya faktörünün, ergenlik dönemindeki kadın bireylerin yeme tutumları ve beden imaj kaygısına etkisinin yeme bozuklukları ile ilişkisinin incelenmesi. *Dünya İnsan Bilimleri Dergisi*, 1, 152-166. https://doi.org/10.55543/insan.1219761

Erten, R. (2021). Orta ergenlik dönemindeki öğrencilerin farklı değişkenler açısından beslenme bilgi düzeylerinin incelenmesi. *Sportive,* 4(2), 107-116. https://doi.org/10.53025/sportive.949805

Flipponi, C., Visentini, C., Flippini, T., Cutino, A., Ferri, P., Rovesti, S., Latella, E., & Di Lorenzo, R. (2022). The follow-up of eating disorders from adolescence to early adulthood: A systematic review. *Int. J. Environ, Res. Public Health,* 19(23), 16237. https://doi.org/10.3390/ijerph192316237

Gonzalez Fernandez, E., Xandri Martinez, R., Gomez Diaz, M., & Novas Lopez, J. (2024). Nutritional and psychosocial intervention to improve the self-concept of body image and increase the self-esteem of overweight ad obese individuals: A quasi experimental study. *Nutrients,* 16(16), 2708. https://doi.org/10.3390/nu16162708

Gönenir Erbay, L., & Seçkin, Y. (2016). Yeme bozuklukları. *Güncel Gastroenteroloji,* 20(4), 473-477.

Gümüş, A.B., & Yardımcı, H. (2020). Erken ve orta adölesan dönemdeki bireylerin ana öğün tüketim durumları ve yeme tutumları. *Ankara Sağlık Bilimleri Dergisi*, 9(1), 176-184.

Gürler, A., & Demirli, C. (2017). Ergenlerde sosyal dışlanma ve benlik saygısı arasındaki ilişki. *Sosyal Bilimler Dergisi*, 4(11), 941-951. https://doi.org/10.16990/SOBIDER.3453

Işık, F., & Aslan, S. (2022). "Ergenlik dönemi oniomanianın depresyon ve benlik saygısı aracılığıyla yordanması üzerine bir derleme çalışması", Uluslararası Anadolu Sosyal Bilimler Dergisi, 6(2), 663-677.

Jacob, L., Stubbs, B., Firth, J., Smith, L., Haro, J.M., & Koyanagi, A. (2020). Fast-food consumption and suicide attempts among adolescents aged 12-15 years from 32 countries. *Journal of Affective Disorders,* 266, 63-70. https://doi.org/10.1016/j.jad.2020.01.130

Kaynak, D., Irgıt, Y., & Çakmak, S. (2022). Ergenlik dönemindeki kız çocuklarında benlik saygısı ve yordayıcılarının kültürle ilişkisi. *Psikiyatrik Güncel Yaklaşımlar*, 14(3), 358-370. https://doi.org/10.18863/pgy.1009942

Köseoğlu, S.Z., A., & Tayfur, A.Ç. (2017). Adölesan dönemi ve beslenme sorunları. *Güncel Pediatri*, 15(2), 50-62.

Lestari, K.B., Lestari, I.F.D., & Santoso, I. (2021). The impact of health education using online learning on adolescent knowledge of anaemia. I*nternational Seminar on Language, Education and Culture,* 209-220. https://doi.org/10.18502/kss.v5i3.8541

Li, L., Sun, N., Zhang, L., Xu, G., Liu, J., Hu, J., Zhang, Z., Lou, J., Deng, H., Shen, Z., & Han, L. (2020). Fast- food consumption among young adolescents aged 12-15 years in 54- low and middle income countries. *Global Health Action,* 13(1). https://doi.org/10.1080/16549716.2020.1795438

Man, C.S., Hock, L.K., Ying, C.Y., Cheong, K.C., Kvay, L.K., Hvey, T.C., Baharudin, A. & Aziz, N.S.A. (2021). Is fast food consumption a problem among adolescents in Malaysia? An analysis of the National school-based nutrition survey, 2012. *Journal of Health, Population and Nutrition*, 40(31), 1-9. https://doi.org/10.1186/s41043-021-00254-x

Meiklejohn, S., Ryan, L., & Palermo, C. (2016). A systematic review of the impact of multi-strategy nutrition education programs on health and nutrition of adolescents. *Journal of Nutrition Education and Behavior,* 48(9), 631-646. https://doi.org/10.1016/j.jneb.2016.07.015

Minev, M., Petrova, B., Mineva, K., Petkova, M., & Strebkova, R. (2018). Self-esteem in adolescents. *Trakia Journal of Sciences*, 2, 114-118. https://doi.org/10.15547/tjs.2018.02.007

Mora, F., Alvares- Mon, M.A., Fernandez- Rojo, S., Ortega, M.A., Felix- Alcantara, M.P., Morales-Gil, I., Rodriguez- Quiraga, A., Alvarez- Mon, M., & Quintero, J. (2022). Psychosocial factors in adolescence and risk of development of eating disorders. *Nutrients,* 14(7), 1481. https://doi.org/10.3390/nu14071481

Ok, E., Ak, G., & Durmuş, S. (2022). Lise öğrencilerinin fast-food tüketim, tutum ve davranışlarının obeziteye etkisi. *Socrates Journal of Interdisciplinary Social Researches*, 8(15), 137-151.

Ongan, D., Uyanık, G., Ağartıoğlu Kundakçı, G., Yılmaz, M., Buharalıoğlu, C., & Aslan, C.B. (2023). İlkokul öğrencilerinde ağırlık yönetiminde oyun destekli beslenme eğitimi programının etkililiği. *İzmir Katip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi*, 8(1), 145-153.

Önal Sönmez, A. (2017). Çocuk ve ergenlerde yeme bozuklukları. *Psikiyatride Güncel Yaklaşımlar,* 9(3), 301-316.

Özenoğlu, A. & Ünal, G. (2016). The effect of self-esteem and incidence of orthorexia nervosa among university students of health education. *Journal of International Research in Medical and Pharmaceutical Sciences*, 6(4), 173-182.

Özgönel, M., & Özden, F. (2019). Deneysel ölçüme dayalı beslenme eğitiminin ortaokul öğrencilerinin beslenme davranışlarına ve beslenme öz yeterliliklerine etkisinin incelenmesi. *Anemon Muş Alparaslan Üniversitesi Sosyal Bilimler Dergisi*, 7(3), 181-189. https://doi.org/10.18506/anemon.472878

Pazzaglia, F., Moe, A., Cipolletta, S., Chia, M., Galozzi, P., Masiera, S., & Punzi, L. (2020). Multiple dimensions of self-esteem and their relationship with health in adolescence. *Int. J. Environ. Res. Public Health,* 17(8), 2616. https://doi.org/10.3390/ijerph17082616

Perrin, E.M., Boone- Heinonen, J. Field, A.E., Coyne Beasley, T. & Gordon- Larsen, P. (2010). Perception of overweight and self-esteem during adolescence. *International Journal of Eating Disorders,* 43(5), 447-454. https://doi.org/10.1002/eat.20710

Rabiei, L., Masoudi, R., & Lotfizadeh, M. (2017). Evaluation of the effectiveness of nutritional education based on health belief model on self-esteem and BMI of overweight and at risk of overweight adolescent girls. *Int. J. Pediatr*, 5(8), 5419-5430.

Rabiei, L., Heyderabadi, A.B., Tavassoli, E., Abbasi, M., Khayeri, F. & Masoudi, R. (2018). Evaluation of the effect of physical activity programs on self-esteem and body mass index of overweight adolescent girls, based on health belief model with school-centered approach. *International Journal of Pediatrics,* 4(5), 7103-7116. https://doi.org/10.22038/ijp.2017.24653.2080

Smith, L., Barnett, Y., Lopez- Sanchez, G.F., Shin, J.I., Jacob, L., Butter, L., Cao, C., Yang, L., Schuch, F., Tully, M., & Koyanagi, A. (2022). Food insecurity (hunger) and fast-food consumption among 180164 adolescents aged 12-15 years from sixty-eight countries. *British Journal of Nutrition,* 127(3), 470-477. https://doi.org/10.1017/S0007114521001173

Stager, L.M., Watson, C., Long, D., & Fobian, A.D. (2023). Parenting factors predicting longitudinal fast-food consumption from adolescence. *American Journal of Lifestyle Medicine,* 17. https://doi.org/10.1177/15598276231208032

Suhag, K., & Rauniyar, S. (2024). Social media effects regarding eating disorders and body image in young adolescents. *Cureus,* 16(4), e58674. https://doi.org/10.7759/cureus.58674

Tallon, J.M., Saavedra Dias, R., Costa, A.M., Leitao, J.C., Barros, A., Rodrigues, V., Monteiro, M.J., & Almeida, A. (2019). Impact of technology and school-based nutrition education programs on nutrition knowledge and behavior during adolescence: A systematic review. *Scandinavian Journal of Educational Research*, 65(1), 169-180. https://doi.org/10.1080/00313831.2019.1659408

Taşpınar, O. (2018). Fast-food tüketiminde ailenin rolü. Çanakkale örneği. *MANAS Sosyal Araştırmalar Dergisi,* 7(3), 879-892.

Tümer, E.İ. (2018). Lise ve dengi okullardaki öğrencilerin fast-food tüketim kararları. *KSÜ Doğa Bilimleri Dergisi*, 21(1), 1-6. https://doi.org/10.18016/ksudobil.348267

Uchoa, F.N.M., Uchoa, N.M., da Costa Daniele, T.M., Lustosa, R.P., Garrido, N.D., Deana, N.F., Aranha, A.C.M., & Alves, N. (2019). Influence of the mass media and body dissatisfaction on the risk in adolescents of developing disorders. *Int. J. Environ. Res. Public Health,* 16(9), 1508. https://doi.org/10.3390/ijerph16091508

Uzel, B., Dönmez, D., & Otrar, M. (2018). Orta ergenlik dönemindeki öğrencilerin benlik algılarının mükemmeliyetçilik düzeylerini yordama gücü. *HUMANİTAS* 6(12), 235-254. https://doi.org/10.47525/ulasbid.1087016

Uzun, G. (2018). *Lise öğrencilerinin ruhsal gelişimi ve ergenliğe bağlı negatif etkilerin giderilmesinde müziğin rolü.* [Master thesis], Üsküdar University, Türkiye.

Wang, D., Stewart, D., Chang, C., & Shu, Y. (2015). Effect of a school- based nutrition education program on adolescents' nutrition- related knowledge, attitudes and behavior in rural areas of China. *Environ Health Prev. Med.,* 20, 271-278. https://doi.org/10.1007/s12199-015-0456-4

Yılmaz, A.G. (2021). *Adölesanlar için beslenme alışkanlıkları ölçeği geçerlik ve güvenirliği*. [Master thesis], Marmara University, Türkiye.

APPENDIX

Sample Sessions

Session-3: Nutritional Problems

Aim	What are nutritional problems? The goal is to raise awareness about what can happen if a healthy diet isn't achieved and what needs to be done about it.
Method	Six Thinking Hats Technique
Implementation	The educator asks the children "Do you eat breakfast, children? Which foods do you like best?" The educator then introduces the six hats and their colors. The educator explains that a game will be played, in which each hat has a different meaning, and asks the wearer to express their thoughts on the meaning of the hat. After all the children have tried on all the hats, the notes taken while the children were wearing them are shared. The educator concludes the sessions by discoussing nutritional issues and important points to consider.

Session 9: The Relationship between Self and Nutrition

Aim	It is to raise awareness about the importance of nourishment in the self
Method	Case Study
Implementation	The educator shows the children a video of a child ostracized by his peers for being obese. After the video, the children are asked to mime how the obese child feels, whether they have experienced

	such situations from time to time, and if so, what they feel. After the video, all the children are informed about the importance of appearence in self-esteem.