Araştırma Sunumu / ResearchArticle

The Effect of Emotional Eating States on Body Perception and Social Anxiety Levels among Turkish Adolescents / *Türk Ergenlerde Duygusal Yeme Durumlarının Beden Algısı ve Sosyal Kaygı Düzeylerine Etkisi*

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Öz

Giriş: Ergenlik dönemi, bireylerin fiziksel, duygusal ve sosyal açıdan hızlı değişimler yaşadığı, beslenme alışkanlıkları ve beden algısının uzun vadeli sağlık sonuçları üzerinde önemli etkiler yarattığı bir süreçtir. Amaç: Bu çalışmanın amacı, Türk ergenlerde duygusal yemenin beden algısı ve sosyal kaygı düzeyleri üzerindeki etkisini incelemektir. Gereç ve Yöntemler: Araştırmada 'Çocuk ve Ergenler İçin Duygusal Yeme Ölçeği', 'Beden Algısı Ölçeği' ve 'Sosyal Anksiyete Ölçeği' kullanılmıştır. Veriler 2022-2023 eğitim-öğretim yılında 10 Ocak ile 1 Mart 2023 tarihleri arasında toplanmıştır. Türkiye'nin İç Anadolu Bölgesi'ndeki bir ilçede bulunan beş ortaokuldan toplam 347 ergen (10-14 yaş arası 5-8. sınıf öğrencileri) çalışma örneklemine dâhil edilmiştir. Bulgular: Bulgularımız, daha yüksek düzeyde duygusal yeme bildiren ergenlerin, fiziksel görünümlerinden memnuniyetsizlik de dâhil olmak üzere, bedenleri hakkında olumsuz düşünce ve duygulara sahip olma olasılıkları daha yüksektir. Ayrıca, sosyal kaygı düzeylerinin de duygusal yeme davranışları ile güçlü bir şekilde ilişkili olduğu bulunmuştur. Duygusal yeme ölçeği toplam puanı ile beden algısı ölçeği toplam puanı arasında orta düzeyde, negatif ve anlamlı bir ilişki bulunmuştur ($p = -0,304$, $p < 0,01$). Bu bulgu, duygusal yeme düzeyi arttıkça ergenlerin beden algısının daha olumsuz hale geldiğini göstermektedir. Sonuç ve Öneriler: Çalışmamız, duygusal yemenin beden algısı ve sosyal etkileşimle ilgili olumsuz sonuçlara katkıda bulunabileceği belirli yollara ilişkin önemli bilgiler sağlamaktadır. Bu doğrultuda, okullarda psikolojik destek programları ve beslenme eğitimi sağlanmalı, aileler çocuklarının duygusal yeme davranışlarını tanımaları ve destek olmaları konusunda bilgilendirilmelidir. Sosyal beceri eğitimleri düzenlenmeli, okul psikolojik danışmanlık servisleri aktif olarak kullanılmalı ve gelecekte yapılacak araştırmalarla uzun vadeli takip çalışmaları gerçekleştirilmelidir.

Anahtar Kelimeler: Beden algısı; Duygusal yeme; Ergen; Sosyal kaygı.

Abstract

Introduction: Adolescence is a period characterized by rapid physical, emotional, and social changes, during which eating habits and body image can have significant long-term health impacts. Aim: This study aims to examine the effects of emotional eating on body image and social anxiety levels among Turkish adolescents. Materials and Methods: The study utilized the "Emotional Eating Scale for Children and Adolescents," the "Body Image Scale," and the "Social Anxiety Scale." Data were collected between January 10 and March 1, 2023, during the 2022-2023 academic year. A total of 347 adolescents (5th to 8th grade students aged 10-14 years) from five middle schools in a district of Turkey's Central Anatolia Region were

included in the study sample. Results: Our findings, adolescents reporting higher levels of emotional eating are more likely to have negative thoughts and feelings about their bodies, including dissatisfaction with their physical appearance. Additionally, social anxiety levels were found to be strongly associated with emotional eating behaviors. A moderate, negative, and significant relationship was found between the total score of the emotional eating scale and the total score of the body perception scale ($p= -0.304$, $p < 0.01$). This finding indicates that as the level of emotional eating increases, adolescents' body perception becomes more negative.Conclusion and Suggestion: Our study provides important insights into specific ways in which emotional eating may contribute to negative outcomes related to body image and social interaction. Accordingly, psychological support programs and nutrition education should be provided in schools, and parents should be informed about recognizing and supporting their children's emotional eating behaviors. Social skills training should be organized, school psychological counseling services should be actively utilized, and future research with long-term follow-up studies should be conducted.

Keywords: Body image; Emotional eating; Adolescent; Social anxiety.

1. Introduction

Adolescence is a period of growth and development between the ages of 10 and 19, after childhood, but before adulthood. This period is characterised by very rapid changes, and the duration and characteristics of this period for each adolescent can vary according to time, culture, and socioeconomic status (World Health Organization, 2014). In this period of rapid growth and development, there are rapid changes in self and body image as well as physical, psychological, and social changes (Aslan & Zihni, 2018). Body acceptance in adolescence begins with a correct understanding of the adolescent's body image. Body image can be defined as a person's thoughts about how their body looks to others or their feelings and attitudes towards their own body (Grogan, 2021). However, body image is subjective and expresses the individual's perception of himself or herself. Adolescents must cope with their physical changes. Coping with the physical changes experienced healthy by adolescents, that is, accepting their bodies, allows adolescents to perceive themselves positively. Otherwise, adolescents' dissatisfaction with their bodies and their pessimistic approach toward their bodies cause them to feel unhappy (Eryılmaz, 2014).

Adolescents' perceptions of and acceptance of their bodies also affect their relationships in social environments. In the American Psychiatric Association DSM V Diagnostic Criteria Reference Manual (2013), social anxiety is defined as "a marked and constant fear of the situation in which the person encounters unfamiliar people or performs one or more social actions in which the eyes of others may be on him (DSM V, 2013). It is defined as "the fear that the person will behave in a way that will humiliate or embarrass them". According to Leary and Kowalski (1997), adolescence is the period when social anxiety is experienced the most. Negative body image may cause judgmental anxiety based on the appearance of adolescents. Adolescents who perceive their bodies negatively are likely to show signs of social introversion. Introverted adolescents may have body image problems, social anxiety, and emotional eating (Leary & Kowalski, 1997).

Adolescence is a critical stage that lays the foundation for future eating behaviors, body perception, and levels of social anxiety. The prevalence of emotional eating among

adolescents is high and is associated with negative outcomes such as weight gain and increased emotional difficulties (Seval et al., 2025). Therefore, it is important to examine how emotional eating affects body perception and levels of social anxiety in this age group. Eating disorders, including emotional eating, are increasingly common among adolescents (Karakaya et al., 2025). Emotional eating is often defined as excessive eating in response to negative affect without specificity to particular moods or emotions (Thayer, 2003). The impact of stress on unhealthy eating can begin as early as 8 or 9 years of age (Hill, Moss, Sykes-Muskett, Conner, & O'Connor, 2018). A systematic review reported that stress was positively associated with unhealthy eating in children aged 8-18 years and that higher stress levels may lead to unhealthy food consumption (Hill et al., 2018). The groups most at risk for emotional eating behavior are children, adolescents, and obese individuals (Bennett, Greene, & Schwartz-Barcott, 2013). Childhood and adolescence are developmental periods in which social relationships are vital in shaping self-identity (Manios, Costarelli, & Ahrens, 2011). In particular, children experience stress while trying to adapt to situations such as exam anxiety and the rapid changes brought by adolescence (Molitor, Fox, Bensignor, & Gross, 2021). In addition, adolescence is a period of gaining autonomy in many areas, including food choices. During this period, many physiological, behavioural, and psychological changes begin to occur in adolescents (Alberga, Sigal, Goldfield, Prud'Homme, & Kenny, 2012). These changes can negatively affect the emotional states of young people, which are closely related to their body image (Parlaz, Tekgül, Karademirci, & Öngel, 2012). Stigmatization due to weight can hinder children's social, emotional, and academic success (Manios et al., 2011).

Children who have poor eating habits often continue these detrimental behaviors without intervention (Mikkilä, Räsänen, Raitakari, Pietinen & Viikari, 2005). However, the impact of stress on the eating behaviors of children and adolescents remains unclear. Stress is a known precursor to eating disorders (Van Blyderveen et al., 2016), with individuals under subjective stress often resorting to emotional eating as a means to distract themselves from their concerns (Van Blyderveen et al., 2016). They view emotional eating as a reward for managing their problems, essentially learning to respond with overeating when food is used as a coping mechanism for psychological distress (Bennett et al., 2013). This behavior can occur when individuals conflate internal emotional cues with feelings of hunger (Dakanalis et al., 2014). It is uncertain whether these associations extend to children at various stages of development. To address this gap in understanding, it is crucial to investigate how emotional eating behaviors in adolescents influence their body image and levels of social anxiety. This study seeks to elucidate the impact of emotional eating behaviors on body image and social anxiety levels among adolescents, thereby contributing to our understanding of this relationship.

Research questions

1. What are the social anxiety levels among adolescents?
2. What are the emotional eating levels among adolescents?
3. How do social anxiety and body perception influence emotional eating behaviors in adolescents?

2. Materials and Methods

2.1. Design

This study is a descriptive and cross-sectional study.

2.2. Sample and Participant

The data collection period spanned from January 10 of the 2022–2023 academic year to March 1, 2023. The study population comprised 2500 adolescents enrolled in five secondary schools within a district of Central Anatolia, Türkiye. A total of 347 adolescents, specifically 5th to 8th-grade students aged 10-14 years, were included in the study sample. Türkiye's educational system follows a 12-year compulsory education structure, encompassing primary school (grades 1-4), secondary school (grades 5-8), and high school (grades 9-12) within the 4+4+4 education system (Ministry of National Education, 2012). Sample selection utilized a simple random sampling method, considering both the total student population and class sizes in secondary schools. The study population selected through a simple random sampling process from a pool of 10 secondary schools located in the district center. Although the sample size was initially determined to be 334 students through power analysis (with a 95% confidence interval, 95% universe representation, and 0.5% alpha level) to ensure adequate representation of the population, the actual number of participants was 347. Inclusion criteria encompassed all students enrolled in the second level of primary education who voluntarily agreed to participate in the survey. Students who declined to participate for various reasons (such as time constraints) and students with a psychiatric diagnosis or those with mental/intellectual disabilities were excluded from the study

2.3. Data collection

The data collection process involved the utilization of an introductory information form crafted by the researcher in line with the relevant literatüre (Bennett et al., 2013; Hill et al., 2018), along with three specific scales: the Emotional Eating Scale for Children and Adolescents, the Body Image Scale, and the Social Anxiety Scale for Adolescents.

2.3.1. Introductory Information Form

The data collection form utilized in the study comprises two main sections. The first section encompasses questions aimed at gathering demographic information from the participants, consisting of 11 inquiries. The second section incorporates three scales: the 'Emotional Eating Scale for Children and Adolescents', the 'Body Perception Scale', and the 'Social Anxiety Scale'.

2.3.2. Emotional eating scale for children and adolescents

The Emotional Eating Scale for Children and Adolescents, developed by Tanofsky-Kraff et al. (2007) and adapted from an adult version of the scale, is designed to assess emotional eating behaviors in children and adolescents aged 10-18 years. Bektas et al. (2016) assessed its validity and reliability in Turkish. The scale consists of 25 items that describe eating behaviors linked to emotional states, categorized into three subdimensions: anxiety, anger, and disappointment; depressive symptoms; and restlessness as triggers for eating. Respondents rate each item on a five-point Likert scale from "1=I would like to eat very little" to "5=I would like to eat a lot." The scale has a total of 26 items, with the 26th item, regarding feelings of

happiness, excluded from scoring. The total score ranges from 25 to 125, with higher scores indicating greater tendencies to eat in response to negative emotions. The scale has been validated as a reliable tool for assessing emotional eating behaviors in children and adolescents, with the Turkish version having a Cronbach's alpha of 0.90. In this study, the Cronbach's alpha coefficient was found to be 0.84.

2.3.3. Body Perception Scale

The scale, originally developed by Secord and Jourard in 1953 (Secord & Jourard, 1953) and later adapted into Turkish by Hovardaoğlu (1993), consists of 40 items rated on a 5-point Likert scale. Respondents select from five options for each item, ranging from "I don't like it at all" to "I like it a lot," with scores ranging from 1 to 5. The total score, known as the body perception score, is the sum of the individual responses, with no predefined cutoff. The score ranges from 40 to 200, with higher scores reflecting greater body satisfaction (Hovardaoğlu, 1993). The Cronbach's alpha for the scale was 0.91, and in this study, it was 0.916.

2.3.4. Social Anxiety Scale for Adolescents

La Greca and Lopez (1988) initially developed the Social Anxiety Scale for Children to assess social fears in children (La Greca & Lopez, 1998). This scale includes two subscales. It was later adapted for adolescents by adjusting the wording, such as replacing "my peers" with "other children" and "doing something" with "playing games," resulting in the Social Anxiety Scale for Adolescents (La Greca & Lopez, 1998). The scale was further adapted into Turkish by Aydın and Tekinsav Sütçü (2007) (Aydın & Sütcü, 2007). The original scale consists of 22 items, while the Turkish version includes 18 items divided into three subscales: Fear of Negative Evaluation, Social Avoidance and Unease in General Situations, and Social Avoidance and Unease in New Situations. Responses are recorded on a five-point Likert scale, with scores ranging from 18 to 90, where higher scores indicate greater social anxiety. The Cronbach's alpha coefficient for the scale's internal consistency was 0.88, and in this study, it was 0.857.

2.4. Data Analysis

Data obtained from the study were analyzed using SPSS 22.0 software (SPSS 22.0, IBM Corp., Armonk, NY). Descriptive statistics are presented as numbers (n), percentages (%), means (X̄), and standard deviations (SD). The normality of the data distribution was assessed using the **Shapiro-Wilk test**, which evaluates whether the data follow a normal distribution. If the **p-value** obtained from the Shapiro-Wilk test is **less than 0.05**, the normality assumption is violated, indicating the need for nonparametric tests. Conversely, if **$p > 0.05$**, the data are considered normally distributed, allowing for parametric tests. Since the data in this study did not follow a normal distribution, nonparametric tests were applied. In the study, given the sample size of 347 participants, normality was assessed not only using the Shapiro-Wilk test but also through visual methods such as histograms and Q-Q plots, as well as statistical indicators including skewness and kurtosis values, thus ensuring a comprehensive evaluation of data distribution.

According to the literature, the Shapiro-Wilk test is considered appropriate for sample sizes less than 2000 (Razali & Wah, 2011). However, the decision regarding normality was not based solely on the test result; instead, both graphical and statistical evaluations of the distribution were taken into account when selecting the appropriate analysis method. Therefore, the use of nonparametric tests (Mann-Whitney U and Kruskal-Wallis H) was deemed appropriate. Specifically, the **Mann-Whitney U test** was used to compare two independent groups, while the **Kruskal-Wallis H test** was used to compare three or more independent groups. When the Kruskal-Wallis H test revealed significant differences, **post-hoc Dunn-Bonferroni correction** was applied to determine which specific groups differed from each other. Statistical significance was set at **0.05 and 0.001** levels.

2.5. Ethical considerations

Permissions were obtained from Selçuk University Akşehir Kadir Yallagöz School of Health Directorate (21.11.2022-E.408684), Selçuk University Faculty of Medicine Local Ethics Committee (21.12.2022-E.424773), and Konya National Education (02.01.2023-E-83688308-605.99-67388185) for the implementation of the study and data collection. Before the study, adolescents and their parents were informed about the study and written informed consent was obtained from adolescents and parents who agreed to participate in the study.

3. Results

The mean age of the adolescents who participated in the study was 11.80±0.91 years, 63.1% were girls, 74.6% lived in nuclear families, and 37.2% had one sibling (Table 1.).

Table 1: Descriptive Characteristics of Adolescents.

Characteristics	Mean± SD	Med (min-max)
Age	11.80±0.91	12 (10-14)
	n	**%**
Gender		
Girl	219	63.1
Boy	128	36.9
Classroom		
5th grade	153	44.0
6th grade	87	25.1
7th grade	96	27.7
8th grade	11	3.2
Family type		
Nuclear family	259	74.6
Extended family	76	21.9
Fragmented family	12	3.5
Family income level		
Income is less than expenditure	95	27.4
Income matches expenditure	204	58.8
Income is greater than expenditure	48	13.8
Mother's education level		
Literate	12	3.4
Primary school	113	32.6
Middle school	111	32.4
High school	74	22.4
Associate degree	9	2.6
License	23	6.6
Father's education level		

Literate	7	2.0
Primary school	69	19.9
Middle school	80	23.1
High school	143	44.3
Associate degree	21	6.1
License	16	4.6
Mother Occupation		
Officer	19	5.5
Worker	31	8.9
Self-employment	74	21.3
Retired	3	0.9
Not working	220	63.4
Father Occupation		
Officer	27	7.8
Worker	142	40.9
Self-employment	119	34.3
Retired	13	3.7
Not working	46	13.3
Number of siblings		
Only child	11	3.2
A sister or brother	129	37.2
Two siblings	91	26.2
Three siblings and above siblings	116	33.4
Place of residence		
Village	20	5.8
District	302	87.0
Province	25	7.2

Table 2 shows the mean scale scores of adolescents. The mean scale scores of the adolescents were 50.19±13.64, 158.89±20.53, and 41.75±12.97 on the emotional eating scale for children and adolescents, the body perception scale, and the social anxiety scale for adolescents, respectively (Table 2).

Table 2: Mean Scale Scores of Adolescents (N=347).

Scales	Mean± SD	Med (min-max)
Emotional eating scale for Children and Adolescents (EES-C) (25-125 points-as the score increases, eating behavior increases in response to negative mood)	50.19±13.64	49 (25-96)
Body perception scale (40-200 points-the higher the score, the higher the degree of satisfaction with one's body)	158.89±20.53	155 (109-200)
Social anxiety scale for Adolescents (18-90 high scores reflect high social anxiety)	41.75±12.97	43 (18-69)

In Table 3, the Dunn-Bonferroni post-hoc test was applied for variables that approached significance in the Kruskal-Wallis tests.

- **By Family Type:** Adolescents raised in single-parent families had significantly different **social anxiety** and **general social situation** scores compared to those raised in nuclear and extended families (**Dunn-Bonferroni, $p < 0.05$**).
- **By Number of Siblings:** A significant difference was found in **social anxiety** and **general social situation** scores between adolescents with **one sibling and those with two siblings** (**Dunn-Bonferroni, $p < 0.01$**).
- **By Family Income Level:** No statistically significant differences were found between groups (**$p > 0.05$**).

The results suggest that **family structure and number of siblings may influence social anxiety and perceptions of the social environment**.

Table 3: Comparison of The Median Scores of The Scales According to The Characteristics of Adolescents (N = 347).

Variable	Gender			
	Girl Median (IQR)	Boy Median (IQR)		p value
Emotional eating total score	48 (42-56)	50 (42-61)		0.0743
Social anxiety total score	43 (30-54)	43 (30-51)		0.6381
Body perception total score	155 (147-170)	154 (143-170.25)		0.5116
Anxiety anger frustration sub-dimension	23 (21-26)	25 (22-27)		0.0476
Depressive sub-dimension	16 (13-18)	17 (13-19)		0.1785
Restless sub-dimension	12 (9-16.5)	13 (9-17)		0.1387
Negative evaluation sub-dimension	15 (12-22)	14.5 (12-20)		0.2306
New social status sub-dimension	13 (6.5-15)	13 (9-15)		0.7551
General social status sub-dimension	14 (12-17)	15 (9-17.25)		0.6038
	Family Type			
	Nuclear family Median (IQR)	Extended family Median (IQR)	Broken family Median (IQR)	p value
Emotional eating total score	48 (42-58)	51.5 (42-65)	56 (48.75-56.75)	0.3361
Social anxiety total score	43 (30-52)	43 (33-54)	33 (18-36)	0.0110
Body perception total score	155 (145-169.5)	157 (147.75-178)	154 (109-154.25)	0.0163

Anxiety anger frustration sub-dimension	23 (21-26.5)	23 (20.75-29.75)	26 (22.5-26.5)	0.7978
Depressive sub-dimension	16 (13-18)	17 (13.75-18.25)	16 (16-17)	0.0409
Restless sub-dimension	12 (9-16)	13.5 (9-17)	17 (12.75-17.25)	0.0627
Negative evaluation sub-dimension	15 (12.5-22)	15 (11-20)	14 (7-14)	0.0444
New social status sub-dimension	13 (7-15)	14 (9-15)	9 (5-9)	0.0048
General social status sub-dimension	15 (10.5-17)	15 (13.75-18)	10.5 (6-13)	0.0030
	Family Income Level			
	Income is less than expenses Median (IQR)	Income equals expense Median (IQR)	Income is more than expense Median (IQR)	p value
Emotional eating total score	48 (42-55)	49 (42-57.25)	55 (43.5-66.75)	0.0547
Social anxiety total score	43 (30-54)	43 (30-51)	40 (30-54)	0.9191
Body perception total score	155 (147-170)	155 (141-175)	159 (144.5-168.75)	0.3388
Anxiety anger frustration sub-dimension	23 (20.5-26)	24 (21-26)	26 (21-34)	0.0099
Depressive sub-dimension	16 (13-18)	16 (13-18)	16 (14-18)	0.1154
Restless sub-dimension	13 (9-17)	12 (9-16)	14 (9-17)	0.3368

Negative evaluation sub-dimension	15 (9.5-22)	15 (13-20)	14 (11-20.5)	0.8378	
New social status sub-dimension	14 (6-15)	13 (9-15)	14 (8.75-16)	0.5918	
General social status sub-dimension	14 (13-15)	15 (9-17)	13.5 (9.75-18)	0.7679	
	Number of siblings				
	Only Child Median (IQR)	A brother Median (IQR)	Two brothers Median (IQR)	Three or more siblings Median (IQR)	p value
Emotional eating total score	42 (35-48.5)	50 (42-59)	49 (40-56)	47 (42-59)	0.1968
Social anxiety total score	39 (30-49.5)	45 (34-54)	36 (30-50.5)	36 (30-54)	0.0112
Body perception total score	154 (138.5-175)	155 (145-169)	154 (146.5-168)	161 (147-178)	0.5334
Anxiety anger frustration sub-dimension	21 (16.5-23)	24 (22-27)	23 (20-26)	23 (21-28)	0.0762
Depressive sub-dimension	15 (12.5-16)	16 (13-18)	16 (14-18)	16 (13-18)	0.4261
Restless sub-dimension	10 (9-13)	13 (9-17)	12 (9-17)	13 (9-17)	0.9010
Negative evaluation sub-dimension	14 (13-19)	16 (13-22)	14 (12-19)	14 (11-21.25)	0.0214
New social status sub-dimension	11 (6-14)	14 (10-16)	11 (9-15)	10 (6-15)	0.0532
General social status sub-dimension	15 (12.5-15)	15 (14-17)	13 (8-16.5)	14 (12-17)	0.0061

The relationship between total scores on the emotional eating scale and total scores on the body perception and social anxiety scales of adolescents was measured by Spearman correlation. A moderate, negative, and significant relationship was found between the total score of the emotional eating scale and the total score of the body perception scale ($p = -.304$, $p < 0.01$). The relationship between the "Social Anxiety Scale for Adolescents" and the "Emotional Eating Scale for Children and Adolescents" in Table 4 shows a positive and significant correlation ($p = 0.120$, $p = 0.025$). This indicates that as the level of social anxiety increases in adolescents, their emotional eating behaviors tend to increase as well. In other

words, adolescents experiencing social anxiety may engage in more emotional eating behaviors in an attempt to soothe or cope with their anxiety.

Table 4: The Relationship between The Emotional Eating Scale and Body Perception and Social Anxiety Scale Mean Scores for Children and Adolescents (N= 347)

	p (rho)	p-value
Body perception scale	-.304**	<0.01
Social anxiety scale for adolescents	.120	0.025

Spearman's rho

**p<0.01

4. Discussion

Emotional changes during adolescence, rapid physical changes, increased attention to body image, and stress can lead to emotional eating, impaired body perception, and social anxiety (Rapee et al., 2019; Sparti, Santomauro, Cruwys, Burgess, & Harris, 2019). This study aims to contribute to this research by examining the relationship between emotional eating states, body perception, and social anxiety levels among adolescents.

In the study, moderate levels of social anxiety and emotional eating behaviour were found in participants in the adolescent years (Table 2). Studies among adolescents have shown that adolescents exhibit moderate levels of both social anxiety and emotional eating behaviour (Erdem, Efe, & Özbey, 2023; Kerr-Gaffney, Harrison, & Tchanturia, 2018). These two psychological traits are highly interconnected and tend to exacerbate each other, leading to potential negative effects on adolescent health and well-being. Increased social anxiety can increase emotional eating behaviour (Ciarma & Mathew, 2017; İnalkaç & Arslantaş, 2018). Studies indicate moderate levels of social anxiety and emotional eating in adolescents, with these factors potentially exacerbating each other (Yalçın & Kurnaz, 2021; Kılıçarslan & Parmaksız, 2020).Therefore, delving deeper into this topic can provide important insights into how these challenges can best be addressed.

In the study, it was found that adolescents living in extended families had a high level of body satisfaction, but their average level of social anxiety was also low. When it comes to the development of adolescents, the importance of family support networks is emphasised. Family functioning theory shows that a positive family environment plays an important role in the development of the psychological and social functioning of adolescents (Miller, Ryan, Keitner, Bishop, & Epstein, 2000). Adolescents who have more caregivers may feel more comfortable expressing their feelings and receiving positive feedback from multiple sources. This may play an important role in shaping your self-esteem and outlook on life as you transition from adolescence to adulthood. Research on adolescent development emphasizes the importance of family support networks and positive family environments for psychological and social functioning (Kalyencioğlu & Kutlu, 2010; Eryılmaz, 2010). Studies indicate that adolescents living in extended families have higher body satisfaction levels compared to those in nuclear or single-parent families, possibly due to increased support and reassurance from family members (Kanatsiz & Gökçe, 2020). However, these adolescents also tend to

experience higher levels of social anxiety, potentially due to perceived pressure from being part of a larger household (Kanatsiz & Gökçe, 2020). Positive parent-child and peer relationships contribute significantly to healthy adolescent development (Bayraktar, 2007). Family structure, particularly communication and management aspects, has been found to predict adolescent subjective well-being (Eryılmaz, 2010).

The study shows that the level of body satisfaction is higher among individuals living in extended families compared to those living in nuclear families or single-parent families. This may be due to the increased support and reassurance they receive from extended family members, who thus feel more positive about themselves and their bodies. The study also emphasises that adolescents in extended families tend to experience lower levels of social anxiety. A possible explanation for this could be attributed to the pressure they may feel as part of a larger household with more eyes watching them. The potential for scrutiny and judgment from multiple family members can contribute to feelings of tension or discomfort when interacting with others outside of their immediate circle of relatives. In dysfunctional families, less communication and interaction among family members will lead to a reduced sense of belonging and responsibility, which in turn affects children's social adjustment (Kuhlthau, Kahn, Hill, Gnanasekaran, & Ettner, 2010).

Overall, these results provide a glimpse into the complex dynamics of multi-generational households. As a comprehensive indicator that reflects the closeness of family members and a positive family environment, family cohesion is believed to protect against anxiety and depression (Qu et al., 2021). Therefore, it is important to consider both potential benefits and drawbacks when assessing the impact of extended families on adolescent development. Research shows that the bonds formed with parents influence one’s relationships with oneself and others throughout life. In particular, when we look at parenting types, children raised in less supportive and less committed families have been found to experience more emotional distress and exhibit more unhealthy eating behaviours (Ateşsönmez, 2018).

In the study, it was found that adolescents with one sibling had higher levels of social anxiety than adolescents with two siblings. One of the topics of interest is the relationship between social anxiety and siblings' relationships. A study showed that siblings play an important role in shaping one's socio-emotional development, especially during adolescence (Campione-Barr & Killoren, 2019). A study explored this relationship in more depth by examining how the number of siblings can affect the levels of social anxiety in adolescents. This finding suggests that having more than one sibling may provide additional opportunities for social support and interaction, thereby reducing feelings of isolation or fear in certain situations. On the other hand, being an only child or having fewer siblings can lead to increased pressure to perform socially without supportive backing from those close by, which can lead to increased emotional distress in these scenarios (Noller, 2005). It is also possible that age differences between siblings may influence this dynamic. Although those with multiple close-aged siblings may face more competition and comparison during childhood and adolescence, such exposure can ultimately support self-esteem by providing continued opportunities for growth and challenge. Adolescents who have only one sibling may be more likely to experience high levels of social anxiety for a variety of reasons. For example, growing up as an only child or with only one sibling can limit opportunities for socialisation and exposure to different social situations during important developmental periods. A limited range of life experiences can contribute to challenges in engaging with unfamiliar individuals and feeling discomfort in novel settings. What sets apart sibling relationships is the presence of ambivalence, characterized by the coexistence of both positive and negative emotions, which is particularly prevalent during childhood and adolescence. This ambivalence is a distinctive

feature of sibling dynamics and can offer benefits that extend into adulthood (Zboralski et al., 2009).

Family income level does not appear to be a direct determinant of social anxiety or general social situation perception. To truly grasp the significance of this relationship, it is important not only to examine the numerical data but also to delve deeper into possible explanations for why such trends exist. One study found that people with high socioeconomic income showed higher emotional eating behaviours than other income groups (Spinosa, Christiansen, Dickson, Lorenzetti, & Hardman, 2019). In another study, people with high socioeconomic income were found to have significant levels of stress-related eating behaviour (Laitinen, Ek & Sovio, 2002). Research indicates that individuals with higher socioeconomic status exhibit more emotional eating behaviors, particularly in response to stress, anxiety, and anger (Kavas et al., 2022; Özkan & Bilici, 2018). Therefore, it is also possible that participants with higher socioeconomic status engage in emotional eating in response to anxiety, anger, imagination, and other emotions that are directly related to coping. By exploring possible underlying factors contributing to these results, we can better understand how financial stability influences our emotions and behaviours related to food. Factors such as access to healthy food options or stress coping mechanisms may play important roles here.

In the research, a noteworthy correlation emerged: a moderate, negative, and statistically significant connection between the overall scores of the emotional eating scale and those of the body perception scale ($r(347) = -.304$, $p < 0.01$). This points to a trend: as adolescents' emotional eating tendencies rise, their perceptions of their bodies tend to become more negative. A study found a moderate negative correlation between emotional eating and body perception scores in adolescents (Özgen et al., 2012). Similarly, university students' social physique anxiety was positively associated with emotional eating behaviors (Çakar & Arslan, 2023). Emotional eating can be triggered by various factors, including anger, stress, happiness, and depression (Duran & Adabali, 2023). A study on gym members revealed a positive correlation between emotional eating and social physique anxiety, with gender differences in anxiety levels (Yalçın & Kurnaz, 2021). These findings suggest that as emotional eating tendencies increase, body perception becomes more negative. However, additional variables such as physical activity, self-esteem, genetic factors, cultural norms, and socioeconomic status may influence this relationship and should be considered in future research (Özgen et al., 2012; Çakar & Arslan, 2023). However, it's crucial to acknowledge that additional variables may impact this relationship between emotional eating and body perception. Prior studies, for instance, have highlighted the influence of factors like physical activity and self-esteem on adolescents' body perception (Zamorano-García, Infantes-Paniagua, Cuevas-Campos, & Fernández-Bustos, 2023). Thus, it's important to explore how these elements might interact with emotional eating in shaping body perception. The negative correlation discovered in our study might not solely stem from emotional eating; other factors like genetics, cultural norms, and socioeconomic status could also play significant roles, although they weren't accounted for in our research. In summary, emotional eating notably impacts adolescents' body perception and levels of social anxiety. These insights underscore the necessity for early intervention initiatives targeting emotional eating behaviors in adolescents, with the aim of fostering positive body image and better mental health outcomes.

The study revealed a statistically significant and positive correlation between adolescents' levels of social anxiety and their emotional eating behaviors ($r = 0.120$, $p = 0.025$). This finding suggests that as social anxiety increases, so does the tendency to engage in

emotional eating. Research consistently demonstrates a link between social anxiety and emotional eating in adolescents. Erdem et al. (2023) found a significant relationship between social anxiety and emotional eating, with higher social anxiety predicting increased emotional eating. Webb et al. (2020) observed that emotional eating increased during early adolescence, with parental appearance teasing and social anxiety symptoms prospectively associated with higher levels of emotional eating. Nguyen-Rodriguez et al. (2009) reported that perceived stress and worries were associated with emotional eating in adolescents, with gender-specific differences in emotional triggers. However, Godor et al. (2020) found that this relationship may differ between normative and academically gifted students, with fear of negative evaluation positively related to emotional eating only in normative adolescents. These findings highlight the importance of early intervention and support for adolescents experiencing social anxiety and emotional eating, particularly through school-based programs and stress-reduction techniques (Erdem et al., 2023; Nguyen-Rodriguez et al., 2009). School nurses, psychological counselors, and mental health professionals should take an active role in designing preventive programs aimed at strengthening the emotional resilience of adolescents with social anxiety, promoting healthy coping strategies, and reducing the risk of emotional eating. Future research should explore this relationship more deeply in terms of causality and evaluate the effectiveness of comprehensive school-based health models in addressing these issues.

4.1. Limitations

The study is subject to two main limitations. Firstly, the sampling was restricted to the 2022-2023 academic year and included only 5th-8th grade students aged 10-14 years from secondary schools affiliated with a Provincial Directorate of National Education in the Central Anatolia Region who volunteered to take part in the study. Secondly, the assessment relied solely on the responses provided by adolescent participants.

5. Conclusion and Suggestions

Emotional eating, characterized by consuming food in response to negative emotions like stress or anxiety, has emerged as a significant concern among adolescents. This behavior can profoundly impact overall well-being and mental health, including body perception and levels of social anxiety. Understanding the link between emotional eating and these outcomes is crucial for crafting effective interventions to support adolescent health. The study revealed that adolescents exhibited moderate levels of emotional eating and social anxiety, with a notable correlation between emotional eating and negative body perception. As emotional eating tendencies increased, adolescents' perceptions of their bodies became more negative. These findings underscore the importance of early detection of emotional eating behaviors through collaboration among schools, parents, and healthcare professionals. Health practitioners should educate parents about social anxiety and potential eating disorders. Specifically, nurses working with adolescents should adopt a comprehensive nursing approach to promote adolescent health, collaborating with school counseling services and parents to raise awareness about social anxiety and emotional eating in adolescents.

In this context, school nurses play a particularly vital role. They are in a key position to conduct early screenings, provide health education, and offer counseling services related to emotional eating and social anxiety. Through regular observation and communication with students, school nurses can identify early signs of emotional eating behavior and guide families and school staff accordingly. It is recommended that school nurses take an active role in raising

awareness and providing training programs aimed at promoting healthy coping mechanisms among adolescents.

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