



Original Article

Emotional eating behavior among adolescents

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Abstract

Objectives: The aim of this study was to explore emotional eating behaviors in individuals transitioning from childhood to adolescence and uncover the factors that differentiate emotional eating behaviors among early adolescents.

Methods: This is a cross-sectional survey study that investigated early adolescents' emotional eating behavior based on their demographic characteristics, family and peer relationships, and emotional awareness. The sample was composed of 758 students aged 11–14 years, including 373 girls and 385 boys, attending a state secondary school in the Keçioren district of Ankara. The data were collected using a demographic information form and the Emotional Eating Scale for Children and Adolescents (EES-C).

Results: The findings revealed that emotional eating in early adolescents was associated with demographic characteristics (birth order, maternal education, and family income level), family relationships (care/affection from family, opinions in family decisions, solving problems by communicating to family members, the importance of feelings in the family, frequency of conflict with mother), emotional awareness (difficulty in recognizing and expressing feelings and frequency of eating to feel better), and peer relationships (frequency of being teased by friends).

Conclusion: Overall, in light of the findings, it may be recommended to adopt a holistic perspective in identifying and evaluating protective factors to prevent emotional eating and risk factors leading to emotional eating among early adolescents.

Keywords: Early adolescence; emotional awareness; emotional eating; family relationships; peer relationships.

What is presently known on this subject?

- From a developmental point of view, emotional eating becomes a significant issue that needs to be explored in childhood and adolescence because emotional reactivity and the risk of dysfunctional affective regulation, including eating to cope with negative affect, increase among individuals transitioning from childhood to adolescence.

What does this article add to the existing knowledge?

- Emotional eating behavior in early adolescents may differ in terms of family relationships, peer relationships, and emotional awareness.

What are the implications for practice?

- It may be recommended to adopt a holistic perspective in identifying and evaluating protective factors to prevent emotional eating and risk factors leading to emotional eating among early adolescents.

Obesity is now accepted as one of the most severe public health issues of the 21st century. The World Health Organization report highlights that the prevalence of obesity

almost tripled worldwide between 1975 and 2016 and that more than 340 million children and adolescents aged 5–19 years suffered from overweight and obesity in 2016.^[1] The numbers are indeed alarming, given that obesity may lead to significant physical (e.g., type 2 diabetes, hypertension, and cardiovascular diseases), psychological (e.g., internalization and externalization problems and poor quality of life), and social (e.g., social exclusion) consequences.^[2,3] In addition, obesity emerging at an early age may become a permanent undesirable physical condition in adulthood.^[4,5] Accordingly, the adverse health impacts of childhood obesity have mandated its prevention and treatment.^[6] Considering the significance of eating behavior on growth, it is important to identify the risk factors responsible for developing obesity from a developmental point of view. Previous research showed that one of the developmental pathways to obesity is emotional eating

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associated with the consumption of energy-dense foods in response to negative affectivity.^[7–11]

Emotional eating is denoted as the tendency to overeat, which develops as a reaction to a specific emotional state rather than hunger,^[12] eating for emotional relief,^[13] or eating behavior in which negative affectivity is regulated in an unhealthy way.^[7] If eating is used as a coping method in regulating unwanted feelings, one is likely to eat despite not being hungry or refuse to eat even though they should eat.^[14] This is a unique phenomenon that can affect one's eating behavior as well as health.^[15] Theoretically, emotional eating behaviors can be elaborated within the psychosomatic theory,^[16–18] emotion regulation models,^[19,20] and escape theory.^[21] The psychosomatic theory and emotion regulation models are built on the view that emotional eating behavior emerges on the basis of difficulties in emotion regulation and that one learns to alleviate their negative affectivity while eating. In the escape theory, on the other hand, emotional eating behavior is explained as directing one's focus to eat to avoid negative affectivity.^[22] Hence, the common ground for each conceptualization of emotional eating is food consumption to prevent or reduce negative affectivity. The theoretical perspective on emotional eating suggests that one's experiences pertinent to social life may turn into a risk factor for emotional eating.

From a developmental perspective, the transition from childhood to adolescence may be characterized by increased emotional reactivity, as well as an elevated risk of dysfunctional emotion regulation, including eating to cope with negative experiences.^[23,24] Therefore, it can be claimed that eating is a seminal issue that should be explored not only in adulthood but also in childhood and adolescence.^[25,26] Previous research has suggested that emotional eating has a low incidence in childhood and does not come up with significant changes in the ages of 6–10 years.^[27] In contrast, the findings seem to indicate that emotional eating is more prevalent in mid-late adolescence than in childhood.^[28,29] In other words, it is well-established that emotional eating is more common among adolescents than in children.^[30,31] As a matter of fact, although the prevalence of emotional eating varies between 10% and 60% during adolescence, it is often noted that the factors reinforcing emotional eating behavior are not well understood.^[32,33] Besides, these research findings suggest that emotional eating behavior may increase during early adolescence. Ultimately, the present study aimed to explore emotional eating behaviors in individuals transitioning from childhood to adolescence and uncover the factors that differentiate emotional eating behavior among early adolescents. Accordingly, the paper sought answers to the following questions:

- Does early adolescents' emotional eating behavior significantly differ based on their demographic characteristics?
- Does early adolescents' emotional eating behavior significantly differ based on their perceived family relationships?
- Does early adolescents' emotional eating behavior significantly differ based on their perceived peer relationships and level of emotional awareness?

Materials and Method

Research Design

This is a cross-sectional survey study investigating early adolescents' emotional eating behavior based on their demographic characteristics, family and peer relationships, and emotional awareness.

Sample

The target population of the research was limited to students aged 11–14 years attending a public secondary school in the Kecioren district of Ankara. Accordingly, the sample consisted of conveniently selected 758 children volunteers, including 373 girls and 385 boys.

Data Collection Tools

The data were collected using a demographic information form and the Emotional Eating Scale for Children and Adolescents (EES-C), adapted into Turkish by Bektas et al.^[14]

Demographic Information Form: The demographic information form, designed based on the relevant literature and theoretical framework on emotional eating, included 16 questions about the participants' age, gender, birth order, parental education, family income, family and peer relationships, and emotional processes.

Emotional Eating Scale for Children and Adolescents (EES-C): Tanofsky-Kraff et al.^[34] designed this self-report scale in 2007, originally named as “Emotional Eating Scale Adapted for Use in Children and Adolescents (EES-C)”, to measure the emotional eating of children and adolescents. The scale consists of 25 items describing emotional affectivity-related eating behavior. As for the reasons for eating, the scale consists of three subscales: anxiety-anger-frustration, depressive symptoms, and (feeling) unsettled. The scores that one may obtain on the scale vary between 25 and 125, and higher scores indicate an elevation in eating behavior in response to negative affectivity. Bektas et al.^[14] adapted the instrument into Turkish with 576 children and adolescents and calculated the Cronbach's alpha coefficients to be 0.90 for the total score and 0.86, 0.76, and 0.71 for the subscales, respectively.

Data Analysis

The data were shown as frequencies (n) and percentages (%). Prior to the analyses, the normality of distribution was checked through the Kolmogorov–Smirnov test, skewness-kurtosis values, and the histogram graphs. Given that the data were not normally distributed, Mann–Whitney U and Kruskal–Wallis H tests were performed to compare the findings between the groups. Then, Mann–Whitney U tests with Bonferroni correction were run to explore the sources of significant differences yielded by the Kruskal–Wallis H tests. All analyses were performed on SPSS 21 (Statistical Package for Social Sciences), and a p-value of <0.05 at a 95% confidence interval was accepted to be significant.

Ethical Considerations

The Ethics Committee of the Hacettepe University granted the ethical approval for this study (Ref No. E-35853172--302.08-00001564174). Prior to data collection, the students and parents were informed about the study and obtained their written consent for voluntary participation in the study. All stages of the research strictly complied with the principles of the Declaration of Helsinki.

Results

When the early adolescents' emotional eating scores were compared based on their demographic characteristics, the findings revealed that the participants' total EES-C scores significantly differed based on their family income ($\chi^2=6.35$, $p=0.04$). Accordingly, those from high-income families had higher emotional eating scores than those from low-income families. Moreover, the participants significantly differed in depressive symptoms based on their birth order ($\chi^2=6.25$, $p=0.04$). Adolescents born in the third or above rank had higher scores on the depressive symptoms subscale than those born in the second rank. In addition, the scores on the "unsettled" subscale significantly differed by birth order ($\chi^2=7.48$, $p=0.04$) and maternal education ($\chi^2=7.37$, $p=0.03$). Therefore, the participants born in the third or higher ranks with a mother with higher education might feel more unsettled than the adolescents born in the first rank with a mother with primary school education. Nevertheless, emotional eating among the participants did not significantly differ by gender, age, and paternal education (Table 1).

Considering their demographic characteristics, the participants' emotional eating scores significantly differed by care/affection from the family ($\chi^2=12.56$, $p=0.01$), the importance of their opinions in family decisions ($\chi^2=11.98$, $p=0.01$), solving problems by communicating to family members ($\chi^2=12.47$, $p=0.01$), the importance of their feelings in the family ($\chi^2=16.20$, $p=0.00$), and conflict with the mother ($\chi^2=16.20$, $p=0.00$). Yet, it was not the case for the conflict with the father ($\chi^2=5.73$, $p=0.13$). Accordingly, the findings yielded significantly lower emotional eating scores among the participants who receive enough care and affection from family members, whose opinions are regarded in family decisions, those who can solve their problems by talking to family members, whose feelings are considered by family members, and those who do not have frequent conflicts with their mothers. Similarly, the participants' subscale scores significantly differed by the said variables (Table 2). The findings implied that the emotional eating behavior of early adolescents may differ by the quality of perceived family relationships.

In the context of their emotional awareness and perceived peer relationships, the results uncovered that the participants significantly differed in emotional eating by difficulty in recognizing feelings ($\chi^2=11.74$, $p=0.01$), difficulty in expressing feelings ($\chi^2=21.93$, $p=0.00$), being teased by friends ($\chi^2=119.05$,

$p=0.00$), and frequency of eating to feel better ($\chi^2=119.05$, $p=0.00$). Hence, it can be assumed that early adolescents who are teased by their friends, who have difficulty in recognizing and expressing their feelings, and who eat to feel better are more likely to be emotional eaters than others. Likewise, the participants' scores on the EES-C subscales significantly differed by the said variables (Table 3). Overall, it can be asserted that early adolescents may show noticeably different emotional eating behaviors based on their emotional awareness levels and peer relationships.

Discussion

The present study was carried out to explore early adolescents' emotional eating tendencies by their demographic characteristics, family and peer relationships, and emotional awareness. This was a pioneer study investigating emotional eating behaviors among early adolescents in Türkiye.

Considering the participants' demographic characteristics, the findings revealed that the early adolescents' emotional eating significantly differed by their birth order, maternal education, and family income. Those who reported to be born in the third or higher ranks had higher emotional eating scores on the "depressive symptoms" and "unsettled" subscales as compared to those born in lower ranks, which is relatively consistent with the previous findings.^[35,36] Moreover, it was concluded that the early adolescents with mothers with primary school education had more prevalent emotional eating behavior due to unsettled mood. The relevant literature does not host a related finding. However, as reported in the literature, it is believed that diverse educational backgrounds of parents may contribute to variances in children's eating habits.^[37,38] On the other hand, it was found that emotional eating was interestingly more common among the early adolescents from high-income families as compared to their peers from low-income families. Previous research has documented that a child growing up in a socioeconomically disadvantaged family may be exposed to parental disappointments and unmet sensory needs and may be at risk of anxiety, insecurity, stress, apprehension, and low self-esteem due to the said experiences.^[39,40] Such increased psychosocial risks are often associated with maladaptive coping strategies triggering weight gain, especially eating to suppress negative feelings.^[40] At this point, the finding may raise concerns that children growing up in high-income families may conveniently access food and have a desire to eat more often in the face of negative feelings. Another striking finding was that there was no statistically significant difference in emotional eating behavior between boys and girls. Considering that the literature on eating (eating disorders, diet, and emotional eating) has traditionally focused on women,^[17] the above-mentioned finding showed that no gender differences in emotional eating can be deemed valuable. Hence, it may be asserted that the issue of emotional eating should be taken seriously among male and female early adolescents. In fact, boys and girls are not

Table 1. Participants' EES-C scores by their demographic characteristics

Variable	n	Anxiety-anger-frustration		Depressive symptoms		Unsettled		Emotional eating	
		Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)
Gender									
Female	373	26.05±9.60	26.00(13.00)	12.58±4.94	12.00(7.00)	13.85±5.07	14.00(7.00)	52.48±17.59	52.00 (25.00)
Male	385	25.22±10.38	24.00(14.00)	12.54±5.28	12.00 (7.00)	13.23±5.28	13.00(8.00)	50.98±19.08	50.00 (25.00)
Statistical analysis ^a		z=-1.62		z=-.60		z=-1.96		z=-1.52	
Significance		p=.11		p=.55		p=.05		p=.13	
Age									
11	198	24.39±8.44	24.00(12.00)	12.16±4.71	12.00(7.00)	13.16±4.70	13.00(7.00)	49.71±15.89	50.00 (23.69)
12	190	25.49±10.36	24.00(14.25)	12.62±5.02	12.00(8.00)	13.22±5.00	13.00(8.00)	51.33±18.46	51.00 (25.28)
13	212	26.33±10.72	25.50(14.00)	12.60±5.30	12.00(8.00)	13.54±5.53	13.00(10.00)	52.47±19.73	52.00 (29.25)
14	158	26.14±10.12	25.00(13.00)	12.84±5.41	12.00(8.00)	14.25±5.39	14.00(8.00)	53.23±18.86	51.00 (22.00)
Statistical analysis		$\chi^2=1.54$		$\chi^2=1.19$		$\chi^2=3.67$		$\chi^2=1.92$	
Significance		p=.67		p=.76		p=.30		p=.59	
Birth order									
First	357	25.56±10.29	25.00(12.00)	12.36±5.15	12.00(8.00)	13.12±5.22	13.00 (8.00)	51.04±18.7	50.50 (24.75)
Second	290	25.51±9.77	24.00(13.00)	12.42±4.92	12.00(6.25)	13.70±5.09	14.00 (8.00)	51.62±17.80	51.00 (26.35)
Third and above	111	26.15±9.80	25.00(13.50)	13.66±5.46	14.00(8.50)	14.48±5.25	15.00 (7.00)	54.29±18.79	53.00 (26.50)
Statistical analysis		$\chi^2=1.13$		$\chi^2=6.25$		$\chi^2=7.48$		$\chi^2=3.74$	
Significance		p=.57		p=.04*		p=.02*		p=.15	
Difference				(2,3) p=.01		(1,3) p=.01			
Maternal education									
Primary school	174	25.62±10.35	25.00(15.00)	12.61±4.99	12.00(7.00)	14.22±5.58	14.00 (8.00)	52.45±19.17	51.00 (28.00)
Secondary school	305	25.84±10.04	24.68(12.00)	12.81±5.12	12.00(8.00)	13.64±5.16	14.00 (8.00)	52.30±18.31	51.00 (25.00)
Higher education	266	25.38±9.81	24.93(14.00)	12.25±5.19	12.00(7.00)	12.98±4.93	13.00 (8.00)	50.60±17.98	51.00 (24.50)
Statistical analysis		$\chi^2=49$		$\chi^2=3.55$		$\chi^2=7.37$		$\chi^2=2.14$	
Significance		p=.78		p=.17		p=.03*		p=.34	
Difference						(1,3) p=.01			
Paternal education									
Primary school	116	24.54±10.15	22.00(15.00)	12.49±5.00	13.00(8.00)	13.28±5.12	13.00 (8.00)	50.31±18.55	48.00 (25.50)
Secondary school	251	25.68±10.04	24.00(14.00)	12.70±5.11	12.00(6.75)	13.99±5.41	14.00 (8.00)	52.37±18.74	51.00 (25.75)
Higher education	372	25.91±9.96	25.00(13.00)	12.48±5.17	12.00(8.00)	13.29±5.04	13.00 (8.00)	51.67±18.11	51.00 (26.00)
Statistical analysis		$\chi^2=2.68$		$\chi^2=.79$		$\chi^2=3.76$		$\chi^2=1.52$	
Significance		p=.26		p=.67		p=.15		p=.47	
Family income									
Low	50	22.87±10.65	20.50(13.50)	11.19±4.90	11.00(7.75)	11.96±5.46	11.00 (6.75)	46.02±19.24	41.50 (23.25)
Middle	340	25.70±9.72	25.00(12.00)	12.57±5.01	12.00(7.53)	13.61±5.18	14.00 (8.00)	51.88±17.82	51.00 (23.50)
High	293	25.99±10.20	25.00(14.25)	12.78±5.25	12.00(8.00)	13.69±5.12	13.55 (8.00)	52.46±18.76	52.00 (29.00)
Statistical analysis		$\chi^2=5.14$		$\chi^2=4.54$		$\chi^2=5.47$		$\chi^2=6.35$	
Significance		p=.08		p=.10		p=.07		p=.04*	
Difference								(1,3) p=.01	

^aRegarding the non-normal distribution data; the values of two independent groups were compared with "Mann-Whitney U" test (Z table value) while the values of three or more independent groups were compared using the "Kruskal-Wallis H" test statistics (χ^2 table value). Bold values provide significance of p<0.05.

Table 2. Participants' EES-C scores by their perceived family relationships

Variable	n	Anxiety-anger-frustration		Depressive symptoms		Unsettled		Emotional eating	
		Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)
My family shows me enough care and affection.									
Never ¹	13	35.38±13.33	34.00 (19.00)	15.69±6.70	17.00(11.00)	14.85±6.15	14.00(7.00)	65.92±24.17	62.00 (29.00)
Sometimes ²	43	27.77±10.34	29.93 (16.00)	13.53±5.53	14.00(8.00)	14.05±5.60	14.00(9.00)	55.35±19.00	55.00 (29.00)
Often ³	153	26.31±10.86	25.00 (13.00)	12.92±5.21	12.00(7.00)	14.11±5.57	14.00(8.00)	53.35±19.81	51.08 (28.75)
Always ⁴	549	24.93±9.43	24.00 (13.00)	12.20±	12.00(7.00)	13.32±5.09	13.00(8.00)	50.45±17.54	50.00 (23.00)
Statistical analysis		$\chi^2=12.56$		$\chi^2=8.09$		$\chi^2=2.78$		$\chi^2=10.55$	
Significance		p=0.01		p=0.04		p=0.42		p=0.01	
Difference		(1,3) p=0.01				(1,4) p=0.01		(1,4) p=0.01	
		(1,4) p=0.00							
My opinions are also considered important in family decisions.									
Never ¹	26	32.73±14.31	31.50 (19.00)	15.69±7.07	16.50 (11.00)	15.24±6.66	14.00(10.00)	63.66±25.97	64.47 (33.71)
Sometimes ²	196	26.39±11.13	26.00 (14.50)	13.21±5.48	12.17(7.00)	14.43±5.51	14.00(8.00)	54.03±20.10	53.00 (27.00)
Often ³	254	25.12±8.26	25.12 (12.00)	11.95±4.44	11.00(5.75)	13.24±4.67	13.00(7.69)	50.31±15.17	50.00 (21.00)
Always ⁴	282	24.70±9.76	23.00 (13.25)	12.16±4.88	12.00(7.00)	13.06±5.31	13.00(9.00)	49.92±18.39	49.00 (25.00)
Statistical analysis		$\chi^2=10.22$		$\chi^2=11.33$		$\chi^2=8.85$		$\chi^2=11.98$	
Significance		p=0.02		p=0.01		p=0.03		p=0.01	
Difference		(1,3) p=0.01		(1,3) p=0.01		(2,4) p=0.01		(1,3-4) p=0.00	
		(1,4) p=0.00		(1,4) p=0.01					
I can solve my problems by communicating to my family.									
Never ¹	48	29.29±13.75	27.00 (15.75)	14.54±6.79	14.00 (11.00)	15.73±6.89	15.50(11.75)	59.56±25.07	56.46 (31.73)
Sometimes ²	167	27.18±10.20	26.00 (15.50)	12.86±5.02	12.90(7.00)	14.32±5.19	14.00(7.00)	54.36±18.32	53.13 (25.00)
Often ³	192	25.05±9.75	23.00 (12.50)	12.38±4.78	12.00(6.53)	13.06±5.11	12.00(8.00)	50.48±17.84	50.00 (23.00)
Always ⁴	351	24.53±9.12	24.00 (12.00)	12.07±4.85	12.00(7.00)	13.14±4.98	13.00(8.00)	49.75±17.16	49.00 (23.50)
Statistical analysis		$\chi^2=11.15$		$\chi^2=6.55$		$\chi^2=11.04$		$\chi^2=12.47$	
Significance		p=0.01		p=0.09		p=0.01		p=0.01	
Difference		(2,4) p=0.00				(2,4) p=0.01		(2,4) p=0.01	
My feelings are cared for by my family.									
Never ¹	39	29.20±12.50	28.00 (22.00)	15.13±5.94	15.00 (10.00)	14.85±6.04	14.00(10.00)	59.18±22.09	58.00 (36.00)
Sometimes ²	68	26.59±10.53	26.00 (13.50)	12.93±5.30	12.95(7.00)	14.82±5.43	15.00(9.00)	54.34±18.72	52.50 (25.00)
Often ³	162	27.12±10.44	26.00 (13.00)	13.18±5.31	12.00(8.00)	14.48±5.56	14.00(8.00)	54.78±19.54	53.00 (24.95)
Always ⁴	489	24.59±9.34	23.00 (13.69)	11.97±4.75	12.00(7.00)	12.95±4.95	13.00(7.00)	49.51±17.22	49.00 (23.72)
Statistical analysis		$\chi^2=11.59$		$\chi^2=15.23$		$\chi^2=14.62$		$\chi^2=16.20$	
Significance		p=0.01		p=0.00		p=0.00		p=0.00	
Difference		(1,4) p=0.02		(1,4) p=0.00		(2,4) p=0.01		(1,4) p=0.01	
		(3,4) p=0.01				(3,4) p=0.00		(3,4) p=0.01	
How often do you have conflicts with your mother?									
Never ¹	155	23.72±9.57	23.00 (13.00)	12.03±5.17	12.00(7.00)	13.23±5.29	13.00(7.00)	49.49±18.62	49.00 (24.05)
Sometimes ²	493	25.12±9.68	24.00 (13.00)	12.25±4.79	12.00(6.50)	13.32±5.13	13.00(8.00)	50.69±17.65	50.00 (25.00)
Often ³	85	28.71±10.77	28.00 (15.00)	13.76±5.77	13.00(8.00)	14.14±5.37	14.00(9.00)	56.62±19.43	55.00 (23.50)
Always ⁴	24	31.74±11.10	30.00 (12.50)	15.46±5.09	15.00(7.00)	18.09±4.73	18.00(6.58)	65.29±19.07	64.00 (22.27)
Statistical analysis		$\chi^2=20.90$		$\chi^2=19.25$		$\chi^2=19.25$		$\chi^2=23.23$	
Significance		p=0.00		p=0.00		p=0.00		p=0.00	
Difference		(1,3-4) p=0.00		(1-2,4) p=0.00		(1-2-3,4) p=0.00		(1,3-4) p=0.00	
		(2,3-4) p=0.00				(2,3) p=0.01		(2,4) p=0.00	
How often do you have conflicts with your father?									
Never ¹	268	24.90±9.36	23.50 (12.00)	12.18±4.85	12.00(7.00)	13.59±5.12	13.05(8.00)	50.67±17.43	50.00 (23.00)
Sometimes ²	406	25.77±10.17	24.00 (14.00)	12.45±5.13	12.00(7.00)	13.28±5.28	13.00(8.00)	51.50±18.78	50.00 (27.25)
Often ³	59	25.66±10.32	23.00 (13.00)	13.12±4.97	12.00(7.00)	14.24±4.88	14.00(7.00)	53.01±17.71	52.00 (23.92)
Always ⁴	20	29.48±11.76	28.34 (14.50)	15.16±5.55	14.50(8.00)	16.36±6.36	17.00(9.25)	61.00±21.69	57.50 (25.88)
Statistical analysis		$\chi^2=3.54$		$\chi^2=7.48$		$\chi^2=7.07$		$\chi^2=5.73$	
Significance		p=0.32		p=0.06		p=0.07		p=0.13	

Table 3. Participants' EES-C scores by their peer relationships and emotional awareness

Variable	n	Anxiety-anger-frustration		Depressive symptoms		Unsettled		Emotional eating	
		Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)
I have difficulty recognizing my feelings.									
Never ¹	399	24.91±9.86	24.00 (14.00)	12.05±4.94	12.00 (7.00)	13.08±5.26	13.00 (8.00)	50.04±18.35	49.00 (26.00)
Sometimes ²	259	25.43±9.23	24.00 (11.00)	12.58±4.98	12.00 (6.00)	13.67±5.03	14.00 (7.50)	51.68±17.05	50.00 (20.00)
Often ³	63	27.81±11.58	25.00 (15.00)	14.22±5.30	14.00 (7.00)	15.35±5.51	15.00 (7.00)	57.38±20.09	56.00 (25.00)
Always ⁴	37	28.16±11.46	26.00 (15.25)	13.64±5.75	12.50 (7.75)	14.65±5.16	14.00 (6.25)	56.45±20.81	54.11 (24.25)
Statistical analysis		$\chi^2=6.60$		$\chi^2=12.46$		$\chi^2=12.29$		$\chi^2=11.74$	
Significance		p=.09		p=.01		p=.01		p=.01	
Difference		(1,2-3,4) p=.00		(1,3) p=.00		(1,3) p=.00		(1,3) p=.00	
I find it difficult to express my feelings.									
Never ¹	279	23.97±9.27	23.00 (12.97)	11.84±4.81	11.00 (7.00)	12.82±5.23	12.00 (8.00)	48.63±17.65	47.17 (25.00)
Sometimes ²	297	25.71±9.58	25.00 (13.00)	12.54±4.84	12.00 (7.00)	13.68±4.98	14.00 (7.00)	51.92±17.49	51.00 (23.50)
Often ³	103	25.36±10.30	24.00 (14.00)	12.78±5.60	12.00 (7.00)	13.81±5.60	14.00 (9.00)	51.95±19.51	53.00 (28.00)
Always ⁴	79	30.17±11.44	28.00 (16.25)	14.19±5.60	13.50 (8.00)	15.26±5.33	14.61 (8.25)	59.63±19.63	56.00 (28.04)
Statistical analysis		$\chi^2=21.88$		$\chi^2=12.15$		$\chi^2=13.64$		$\chi^2=21.93$	
Significance		p=.00		p=.01		p=.00		p=.00	
Difference		(1,2-3,4) p=.00		(1,4) p=.00		(1,4) p=.00		(1-2,4) p=.00	
								(3,4) p=.01	
My friends tease me.									
Never ¹	389	24.40±9.52	23.00 (13.00)	11.92±4.97	11.00 (7.00)	13.01±5.05	13.00 (8.00)	49.34±17.84	48.00 (23.00)
Sometimes ²	314	26.51±10.00	25.00 (13.23)	13.08±4.88	13.00 (7.00)	14.09±5.35	14.00 (8.00)	53.68±18.05	53.00 (24.00)
Often ³	30	29.33±13.06	28.00 (17.50)	14.27±6.64	13.50 (10.00)	14.80±5.54	14.00 (9.00)	58.40±23.54	56.00 (27.50)
Always ⁴	23	24.65±8.50	27.00 (16.00)	11.61±5.37	9.00 (12.00)	13.48±5.53	12.00 (8.00)	49.74±17.08	49.00 (34.00)
Statistical analysis		$\chi^2=11.34$		$\chi^2=15.12$		$\chi^2=8.07$		$\chi^2=14.87$	
Significance		p=.01		p=.00		p=.04		p=.00	
Difference		(1,2) p=.00		(1,2) p=.00		(1,2) p=.01		(1,2) p=.00	
How often do you eat to feel better?									
Never ¹	189	21.08±8.01	19.00 (13.00)	10.15±4.03	9.00 (7.00)	11.12±4.77	10.00 (8.00)	42.36±15.52	39.00 (24.00)
Sometimes ²	302	24.53±8.10	24.00 (11.75)	11.82±4.08	12.00 (6.00)	12.95±4.41	13.00 (7.00)	49.30±14.45	49.00 (20.75)
Often ³	152	27.56±9.19	27.00 (13.00)	13.53±4.34	13.00 (6.00)	14.88±4.83	15.00 (6.75)	55.97±15.36	55.00 (18.96)
Always ⁴	114	32.53±13.11	30.00 (18.00)	16.70±6.67	16.50 (10.25)	17.35±5.86	18.00 (8.00)	66.59±23.59	64.47 (30.00)
Statistical analysis		$\chi^2=88.58$		$\chi^2=105.89$		$\chi^2=103.11$		$\chi^2=119.05$	
Significance		p=.00		p=.00		p=.00		p=.00	
Difference		(1,2-3-4) p=.00		(1,2-3-4) p=.00		(1,2-3) p=.00		(1,2-3) p=.00	
		(2,3) p=.01		(2,3-4) p=.00		(2,3-4) p=.00		(2,3-4) p=.00	
		(2-3,4) p=.00		(3,4) p=.00		(3,4) p=.00		(3,4) p=.00	

immune from emotional changes during adolescence; therefore, it seems reasonable that emotional eating, occurring as a reaction to the emotions experienced, does not differ by gender. Undoubtedly, this finding highlights the need for further research to elaborate the understanding of emotional eating.

The results also uncovered that the early adolescents significantly differed in emotional eating behavior by care/affection from the family, the importance of their opinions in family decisions, solving problems by communicating to family members, the importance of their feelings in the family, and the frequency of conflict with the mother. The finding that some aspects of parental behavior were associated with the emotional eating of their children can be attributed to the fact that the primary socialization agents of children in the development process are their parents.^[41] The previous research reported that children may demonstrate more prevalent problematic behavior, emotional problems, and eating disorders when parental support and care are insufficient.^[42,43] Halberstadt et al.^[44] underlined that child from families with limited sharing of feelings and love have more limited emotional awareness and emotion regulation skills. Topham et al.^[45] reported that children growing up in families with high perceived parental warmth and support were less likely to report emotional eating behavior. Similarly, Mellin et al.^[46] documented that children with low attachment to family members experience more problems and show more prevalent unhealthy eating behavior. In this study, it was discovered that the tendency to emotional eating was significantly higher among the participants perceiving negative relationships with family members, which seems consistent with the above-mentioned findings. In addition, it was uncovered that the participants' emotional eating behavior significantly differed by the frequency of conflict with the mother. Yet, it was not the case by conflict with the father. In parallel with these findings, Snoek et al.^[47] reported that the factors related to emotional eating are often associated with motherhood. In the study, the researchers asserted that high parental psychological and behavioral control and low maternal support in education contributed to Dutch adolescents' increased emotional eating behavior.^[47] In the study by Schuetzmann et al.^[48] with children aged 8–11 years, rejection and ignorance in the parent-child relationship were found to be associated with increased emotional eating. Similarly, a recent study examined the impacts of parental relationships and affection on emotional eating behavior and concluded condescending and conservative parental attitudes to have significant impacts on increased emotional eating behavior among children.^[49] Overall, the results in this research, which are relatively compatible with the literature, suggested noteworthy proof for future research to investigate the risk factors leading to and the protective factors to prevent emotional eating in early adolescence.

Regarding emotional awareness and peer relationships, significant differences were found in the participants' emotional eating behavior by difficulty in recognizing and expressing feelings, being teased by friends, and frequency of eating to

feel better. The findings seem to be compatible with theories and models to explain emotional eating.^[16–21] It was concluded that the participants with difficulty in recognizing and expressing their feelings showed relatively more prevalent emotional eating behavior. The perspectives grounded on the psychosomatic theory and emotion regulation models assume that eating behavior is revealed by feelings rather than internal stimuli. Besides, significant differences between the groups by the frequency of eating to feel better can be explained by the increase in food consumption as a way of coping with negative feelings, as established in the escape theory.^[22] The consistency of the present findings with the relevant theoretical background highlights that early adolescents that show more emotional eating behaviors due to the above-mentioned variables may need support in emotion regulation skills. In addition, the finding that the participants showed increased emotional eating behavior due to being teased by their friends is consistent with the result of Webb et al.^[50] that making fun of appearance by peers is associated with emotional eating. Similarly, Vandewalle et al.^[51] found peer rejection to be associated with emotional eating. In general, the present results suggested that the social life experiences of adolescents outside the family environment may pose a risk for increased emotional eating.

Limitations of the Study

The present research has few limitations. First, the sample was composed of conveniently selected students attending a secondary school in the Kecioren district of Ankara. It is important to include findings from a wider population. Second, the participants may have given "socially desirable" answers to the items of the self-report scale used in the research, which may have affected the findings. Finally, the ultimate aim of this cross-sectional study was to describe the emotional eating behavior based on some demographic variables of the participants; therefore, the findings cannot establish causal relationships between the variables. On the other hand, the findings may open further rooms for future research. First, further cross-sectional, and longitudinal studies may consider including early adolescents attending secondary schools in different cities and regions to enhance the present findings. In addition, emotional eating behavior was explored only among early adolescents; hence, it can be tested in middle and late adolescence in future studies. Besides, emotional eating was investigated based on family and peer relationships and emotional awareness. Considering that health refers to a state of complete physical, mental, and social well-being, future studies are recommended to consider emotional eating based on other variables as well, such as body weight, weight satisfaction, body mass index, health problems, and eating routine. Moreover, it would be functional to examine the potential relationships between emotional eating and alexithymia, methods of coping with emotions, family functions, and peer bullying within interdisciplinary research.

Conclusion

Therefore, it can confidently be asserted that emotional eating in early adolescents is associated with demographic characteristics (birth order, maternal education, and family income level), family relationships (care/affection from family, opinions in family decisions, solving problems by communicating to family members, the importance of feelings in the family, frequency of conflict with mother), emotional awareness (difficulty in recognizing and expressing feelings, and frequency of eating to feel better), and peer relationships (frequency of being teased by friends). Accordingly, practitioners (psychiatric nurses) are recommended to consider the early adolescents' family relationships, the quality of interactions with their peers, and their emotion regulation skills while evaluating their emotional eating profiles. In addition, relevant programs designed as a result of transdisciplinary works may contribute to adolescents' emotional awareness and enhance their emotion regulation skills.

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