Psikiyatride Güncel Yaklaşımlar-Current Approaches in Psychiatry 2019; 11(Suppl 1):203-219
doi: 10.18863/pgy.612616

RESEARCH

Childhood Trauma and Eating Attitudes in University Students

Üniversite Öğrencilerinde Çocukluk Çağı Travması ve Yeme Tutumları

Pervin Tunç [1]

Abstract

This study aimed to evaluate the predictive effect of childhood trauma and several sociodemographic features on eating attitudes.. 612 university students participated in this cross-sectional work. Data were gathered using the Childhood Trauma Scale, Eating Attitudes Test, and Demographic Information Form. The hypothetical model which was planned to be tested in the study was designed with respect to the relational scanning model. According to the analysis, physical neglect was found to have a predictor role over 'thinness obsession'; and sexual abuse was found to have a predictor role over 'dieting'. Obesity anxiety and feeling of social pressure was found to be prevalent among females. Body mass index was found to have a predictor role over obesity anxiet' and feeling of social pressure. In conclusion, assessing sexual abuse and physical neglect might be instructive in planning possible interventions in eating disorder cases and should be considered in treatment.

Keywords*:* Eating disorders, eating behaviors, childhood trauma, sexual abuse.

Öz

Bu çalışma çocukluk çağı travmasının ve bazı demografik özelliklerin yeme tutumları üzerindeki yordama etkisini incelemeyi amaçlamıştır. Bu kesitsel çalışmaya 612 üniversite öğrencisi katılmıştır. Veriler Çocukluk Çağı Travma Ölçeği, Yeme Tutumu Ölçeği ve Demografik Bilgi Formu aracılığı ile toplanmıştır. Araştırmada test edilmesi planlanan hipotetik model ilişkisel tarama modeline göre tasarlanmıştır. Analiz sonuçlarına göre, çocukluk çağı travma biçimlerinden fiziksel ihmalin zayıflıkla aşırı uğraşma; cinsel istismarın ise diyet yapma tutumu üzerinde yordayıcı etkisi olduğu saptanmıştır. Ayrıca, kadın cinsiyetinin şişmanlık kaygısı ve sosyal baskı algılama; vücut kitle indeksinin şişmanlık kaygısı ve sosyal baskı algılama üzerinde anlamlı bir yordama etkisine sahip olduğu bulunmuştur. Sonuçlar, klinikte yeme bozukluğu gösteren bireylerde cinsel istismar ve fiziksel ihmalin değerlendirilmesi ve tedavide yer verilmesi muhtemel müdahalelerin hazırlanmasında yol gösterici olabileceğine işaret etmektedir.

Anahtar sözcükler: Yeme bozuklukları, yeme davranışları, çocukluk çağı travmaları, cinsel istismar.

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Submission date: 28.08.2019 | Accepted: 22.10.2019 | Online published: 28.12.2019

EARLY childhood traumas are common in community and psychiatry patients, cause severe psychological problems in adult life, and worsen existing behavioral problems as presented in many previous studies (Famularo et al.1996, Shaw 2000, Donnelly 2003). Studies have shown that childhood trauma (CT) cause impulsive, self-damaging, and suicidal behaviors or mental disorders like chronic depression, and adversely affects the prognosis of preexisting disorders (Gladstone et al. 2004, Spinhoven et al. 2010). Studies have also shown that early traumatic experiences were associated with eating disorders (EDs) and are more prevalent than other psychiatric conditions (Kong and Bernstein 2009, Molendijk et al. 2017).

Eating disorders are complex psychiatric disorders that have serious medical consequences (Hay et al. 2014). They are common in adolescents and young adults and defined as severe mental health problems with adverse physical and psychological consequences (Tavolacci et al. 2015). According to the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders-5), EDs include eight subgroups: anorexia nervosa, bulimia nervosa, rumination disorder, Pica syndrome, avoidant/limited food intake disorder, other specified feeding and eating disorders, and unspecified feeding and eating disorders (APA 2013).

Biological, psychological, and social factors and the history of mental trauma, in particular, are suggested to play significant roles in the development of EDs (Jacobi et al. 2004). The problematic relationship between children and their early caregivers were suggested to play a role in all EDs (Kuey, 2008). In addition, cultural features, age, sex, EDs and other psychological problems in the family, previous psychological disorders, age of adolescence, genetic background, and accompanying medical problems, and lifestyle, socio-economic, personality, and temperament features of the family affect the development of ED (Connan et al. 2003; Amianto et al. 2010). Public attributes towards a slim body are reported to cause pressure on adolescents and young adults and contribute to the disruption of their eating behaviors (Derenne and Beresin, 2006). Research on the development of ED focuses on CT (Murray and Waller 2002; Schoemaker et al. 2002, Leonard et al. 2003). Since the early onset of ED suggests an association between ET and CT, this association has been the focus of multiple trials (Hoek and Van Hoeken, 2003).

Associations have been found between all types of ED and the CT (Dansky et al. 2000; Johnson et al. 2002) or recurrent traumatic experiences (Leonard et al. 2003). Likewise, other studies suggest that several CT types are significant determinants of eating psychopathology (Kent et al. 1999). Sexual abuse CT is a nonspecific risk factor for ED; other neglect and abuse types were also reported to be associated with ED. In addition, CT was found to have an important predictive effect on slimness, bulimia, and body dissatisfaction (Brewerton 2007).

Meta-analyses have detected several differences in the prevalence of CT types in EDs (Caslini et al., 2016, Molendijk et al., 2017). There was a less significant relationship between sexual abuse and anorexia nervosa compared with bulimia nervosa and binge eating disorder (Ackarda et al., 2002, Carter et al., 2006, Caslini et al., 2016). Physical abuse was related to all types of ED.

Molendijk et al. (2017) reported that frequencies of all CT types were higher in those with ED than healthy individuals. Childhood sexual abuse, in particular, and childhood physical abuse to some extent are nonspecific risk factors for the develop-

ment of eating psychopathology (Jacobi et al. 2004, Thompson and Wonderlich 2004, Gentile et al. 2007). The role of childhood emotional abuse in the development of eating psychopathology has been investigated less frequently (Kent and Waller 2000); recent studies have reported associations between them (Kong and Bernstein 2009, Burns et al. 2012). A minimal number of studies investigated the potential contribution of childhood emotional and physical neglect (Gerke et al. 2006, Kong and Bernstein 2009). Gerke et al. (2006) reported that emotional neglect in childhood was predictive of bulimic symptoms. Kong and Bernstein (2009) found that emotional neglect, physical neglect, and sexual abuse were important predictors of eating psychopathology. In addition, depression was found to mediate the relationship between several childhood trauma types completely and eating psychopathology, but obsessive-compulsive behavior does not mediate this relationship.

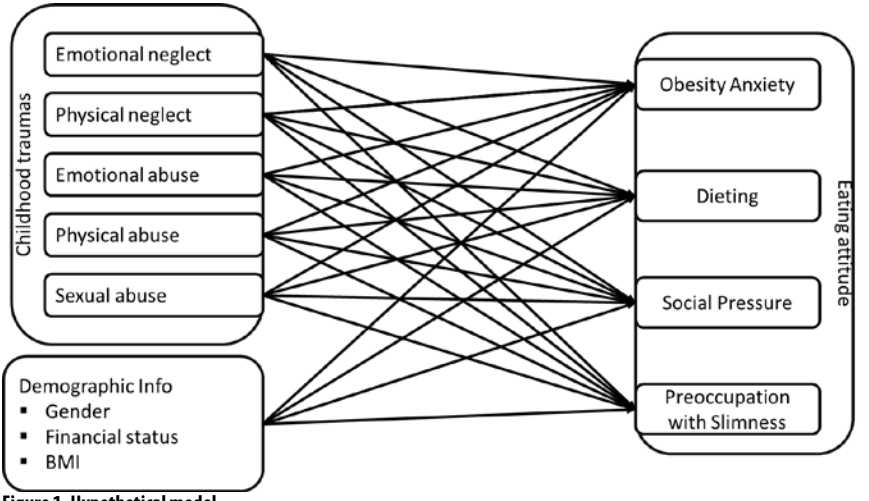

Figure 1. Hypothetical model

CT is frequent in patients with ED, and it is accepted as a nonspecific risk factor. However, the mechanisms by which CT causes ED are poorly understood. In this study, associations between CT (emotional abuse, sexual abuse, physical abuse, and physical-emotional neglect) and the subdimensions of ED were investigated.

The onset of ED during adolescence and young adulthood suggests the presence of CT and warrants investigation in young adults. It is essential to gather more information on the association between ED and CT. Questioning the history of psychogenic trauma and developing therapeutic interventions for them would contribute to the treatment of individuals with ED. Therefore, this study aimed to analyze the associations between the EDs among college students, a young adult sample presumed to carry a risk for ED, and their childhood traumas, the type of trauma (physical, sexual, emotional abuse, and neglect), and several other variables.

Table 1. Demographic characteristics of the participants *(n=612)*

Characteristics		n	%
Sex	Male	281	45.9
	Female	331	54.1
Age	17-25	561	91.7
	25-34	43	7
	35 and above	8	1.3
Financial status	Poor	35	5.7
	Moderate	311	50.8
	Good	238	38.9
	Very good	28	4.6
Mother's education level	Literate	57	9.3
	Primary/secondary school graduate	377	61.6
	High school graduate	121	19.8
	College graduate	46	7.5
	Master's/doctorate	11	1.8
Father's education level	Literate	24	3.9
	Primary/secondary school graduate	350	57.2
	High school graduate	174	28.4
	College graduate	64	10.5
Fast-food eating frequency	Never	31	5.1
	Once-twice a month	222	36.3
	Four-five times a month	138	22.5
	At least once a week	221	36.1
Junk-food consumption frequency	Never	43	7
	Once-twice a month	161	26.3
	Four-five times a month	116	19
	At least once a week	292	47.7
Energy drink consumption frequency	Never	340	55.6
	Once a month	169	27.6
	Four-five times a month	46	7.5
	At least once a week	57	9.3
Weight satisfaction	Not satisfied at all	50	8.2
	Not satisfied	181	29.6
	Satisfied	293	47.9
	Very satisfied	88	14.4
Dieting frequency	Never	296	48.4
	Rarely	122	19.9
	Sometimes	128	20.9
	Frequently	28	4.6
	Very frequently	18	2.9
	Always	20	3.3
Consulting a dietitian	No	536	87.6
	Yes	76	12.4
Exercising	No	353	57.7
	Yes	259	42.3
Getting psychological help	No	497	81.2
	Yes	115	18.8
Eating disorder experience	No	468	76.5
	Yes	144	23.5
Total		612	100

Method

In this study, the association-screening model was used to investigate the relationships between eating attitude, childhood traumas, and several demographic features (Figure

1). The tested model was shaped based on relevant literature. Approval was obtained from the university ethics committee (Date 12.12.2018; number 2018/16). The participants were informed, and their consent was obtained before data collection.

Sample

The lower limit for the sample size of this study was found to be 199 with the G*Power 3.1.9.2 package program [f2=0.15, α=0.05, number of predictive variables = 15, childhood traumas, and demographic variables were considered]. The study group consisted of 612 college students enrolled in various schools at a private university in the 2018-2019 academic year.

Measures

In this study, the Eating Attitudes Test (EAT), the Childhood Trauma Questionnaire, and a Demographic Data Form prepared by the researcher were used. Data collection with three forms lasted 10 to 15 minutes to complete.

Eating Attitudes Test

This scale was developed by Garner and Garfinkel (1979) to evaluate the disorders in eating attitudes and behavior. It was adapted to Turkish in several studies (Savasir and Erol 1989, Elal et al., 2000; Batur 2004). Savasir and Erol (1989) described four dimensions in the Turkish form of the scale as obesity anxiety, dieting, social pressure, and preoccupation with slimness. The scale includes 40 items, which are evaluated on a 6-point Likert questionnaire as "always," "very frequently," "frequently," "sometimes," "rarely," and "never." Inner consistency of the Turkish form was 0.70, and test-retest reliability was 0.65. In this study, inner-consistency values were 0.77 for the whole scale, 0.78 for obesity anxiety-preoccupation with obesity, 0.80 for dieting, 0.57 for social pressure, and 0.47 for preoccupation with slimness.

Childhood Trauma Questionnaire (CTQ)

CTQ was developed by Bernstein (1994) to evaluate the childhood experiences of abuse and neglect. The scale has 28 5-point Likert-type items. The scale has five subscales, including emotional neglect, physical neglect, emotional abuse, physical abuse, and sexual abuse. The adaptation of CTQ in Turkish was performed by Sar et al. (2012). The inner consistency coefficient was 0.81 for emotional neglect, 0.57 for physical neglect, 0.84 for sexual abuse, 0.69 for emotional abuse, and 0.80 for the whole scale.

Statistical Analysis

Descriptive statistics (frequency, mean, and standard deviation) were used to determine the distribution of data. Pearson correlation coefficient was used to determine the presence and direction of collinearity between the variables. Pathway analysis was used to determine the predictive effect of independent variables on dependent variables.

Correlation analysis defines whether an association exists between two or more variables and the strength of this association if present. Correlation coefficient changes between -1 and +1 ($-1 \leq r \leq +1$). Correlation coefficients between 0.00 and 0.30 are considered very weak, those between 0.30 and 0.50 are 'weak,' those between 0.50 and 0.69 are 'moderate,' those between 0.70 and 0.89 are 'high,' and those between 0.90 and 1.00 are 'very high.' A positive correlation coefficient suggests a linear association, while a negative correlation suggests a reverse association.

Descriptive statistics and Pearson correlation coefficients were analyzed with SPSS 25 (IBM Inc., Chicago, USA); the hypothetical model to be tested was analyzed by SPSS Amos 25.0 software. The fit between the data and model was evaluated considering the significance of t values belonging to path coefficients of latent variables.

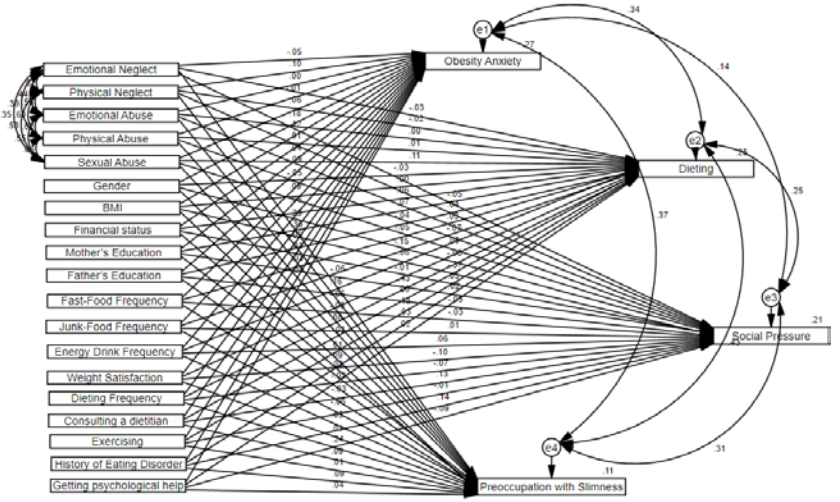

Figure 2. Result of the model test

Table 2. Correlations between the variables (Results of the Pearson correlation analyses, n=612)

	1	15	16	17	18	19	20	21	22	23	24	25	26
Age	-												
BMI	.17*	-											
Emotional neglect	.04	.04	-										
Physical neglect	.05	.05	.62*	-									
Emotional abuse	.02	.01	.44*	.55*									
Physical abuse	.04	.04	.39*	.60*	.62*								
Sexual abuse	-.05	-.04	.35*	.53*	.55*	.65*							
CTQ total score	.03	.03	.79*	.83*	.78*	.78*	.72*						
Obesity Anxiety	.04	.21*	.05	.11*	.12*	.08*	.09*	.11*					
Dieting	.05	.16*	.05	.08*	.09*	.10*	.12*	.10*	.43*				
Social Pressure	-.02	-.33*	-.03	.01	.03	-.01	.07	.01	.05	.13*			
Preoccupation with Slimness	.06	.11*	.04	.12*	.05	.05	.09*	.08*	.42*	.51*	.25*		
EAT, total score	.03	.07	.11*	.15*	.13*	.11*	.16*	.16*	.60*	.74*	.42*	.66*	
$\bar{X}$	22.42	2.04	1.41	1.38	1.21	1.19	7.22	1.48	1.80	1.42	.73	18.66	
S	3.47	1.01	0.56	0.59	0.53	0.51	2.52	2.75	3.40	2.08	1.48	11.09	

*p<.05, BMI: Body mass index, CTQ: Childhood Trauma Questionnaire, EAT: Eating attitude test.

Results

Of the study group, 331 (54.1%) were females, 281 (45.9%) were males, and their ages varied between 18-36. The demographic features of the participants were given in Table 1. Of the participants, 91.7% were between 17-25 years of age, 50% had mid-level socioeconomic status, 61.6% had mothers who were primary/secondary school graduates, 57.2% had fathers who were primary/secondary school graduates, 36.3% ate fast-food once or twice a month, 47.7% ate junk food (chips and soft drinks) at least once a week, 55.6% had never had energy drinks, 47.9% were satisfied with their weights, 48.4% had never dieted, 87.6% did not consult a dietitian, 57.7% did not exercise regularly, 81.2% did not get psychological support, and 76.5% did not have a history of eating disorder.

Mean and standard deviation values and the correlations between the variables in the model were given in Table 2. Descriptive data for the variables revealed that the mean score was =2.04 (SD=1.01) in the Emotional Neglect subscale of the CTQ, =1.41 (SD=.56) in the Physical Neglect subscale, =1.38 (SD=.59) in the Emotional Abuse subscale, =1.21 (SD=.53) in the Physical Abuse subscale, and =1.19 (SD=.51) in the Sexual Abuse subscale. In addition, the mean score was =1.48 (SD=2.75) in the Obesity Anxiety subscale of EAT, =1.80 (SD=3.40) in the Dieting subscale, =1.42 (SD=2.08) in the Social Pressure subscale, and =.73 (SD=1.48) in the Preoccupation with Slimness subscale.

Path Analysis

After testing the hypothetical model for this study, standardized path coefficients for the model were given in Table 3 (Figure 2). Values with an asterisk in Table 3 mean 0.05 significance level. Both dependent and independent variables were included in the model. There was no precedence in hierarchic regression.

According to the results of the analysis, CTQ_Physical Neglect score had a significant predictive value on EAT Preoccupation with Slimness subscale (β=0.16, $p<0.05$), and the Sexual Abuse subscale of CTQ had a significant predictive value on the Dieting subscale of EAT (β=0.11, $p<0.05$). In addition, the predictive values of demographic variables for other subscales of EAT were given in Table 3.

In addition, the sex of the participants (being a female) had a significant predictive effect on the Obesity Anxiety subscale of EAT (β=0.18, $p<0.05$) and the Social Pressure subscale (β=-0.37, $p<0.05$).

The financial status of the participants had a significant predictive effect on EAT Preoccupation with Slimness subscale (β=0.09, $p<0.05$); a history of eating disorder had significant predictive effect on the Social Pressure subscale of EAT (β=0.14, $p<0.05$) and the Preoccupation with Slimness subscale (β=0.09, $p<0.05$). In addition, fathers' education level had a significant predictive effect on the Obesity Anxiety subscale of EAT (β=-0.10, $p<0.05$).

Eating junk food had a significant predictive effect on the Obesity Anxiety subscale of EAT (β=0.09, $p<0.05$) and the Dieting subscale (β=-0.15, $p<0.05$); satisfaction about one's weight had significant predictive effect on the Obesity Anxiety subscale (β=-0.23, $p<0.05$) and the Social Pressure subscale (β=-0.10, $p<0.05$).

Dieting frequency of the participants had a predictive effect on EAT subscales

Obesity Anxiety (β=0.36, p<0.05), Dieting (β=0.43, p<0.05), Social Pressure (β=-0.08, p<0.05) and Preoccupation with Slimness (β=0.24, p<0.05).

Table 2. The predictive effect of childhood traumas and various sociodemographic characteristics on eating attitudes (*n=612*)

		Predicted (β)			
Predictor		Obesity Anxiety	Dieting	Social Pressure	Preoccupation with Slimness
Emotional neglect	->	-.05	-.03	-.05	-.06
Physical neglect	->	.10	-.02	.04	**.16***
Emotional abuse	->	.00	.00	.03	-.06
Physical abuse	->	-.01	.01	-.07	-.06
Sexual abuse	->	.07	**.11***	.08	.08
Sex (female)	->	**.18***	-.03	**-.08***	-.04
BMI	->	**.12***	.00	**-.37***	.01
Financial Status	->	.01	.06	.05	**.09***
History of Eating Disorder	->	.03	.03	**.14***	**.09***
Mother's Education	->	.04	.07	.02	.03
Father's Education	->	**-.10***	-.04	-.03	-.03
Fast-Food Frequency	->	-.05	-.05	-.03	-.04
Junk-Food Frequency	->	**.09***	**-.15***	.01	-.06
Energy Drink Frequency	->	.06	.06	.06	.05
Weight Satisfaction	->	**-.23***	-.01	**-.10***	.01
Dieting Frequency	->	**.36***	**.43***	**-.08***	**.24***
Consulting a dietitian	->	-.05	.00	**.13***	**.09***
Exercising	->	.01	**.13***	-.01	.01
Getting psychological help	->	.04	.02	**-.09***	.04

*p<0.05. Analyses were performed with IBM SPSS Amos 25 package program. Values reflect the results of path analysis.

Consulting a dietitian had a significant predictive value on the Social Pressure subscale of EAT (β=0.13, p<0.05) and the Preoccupation with Slimness subscale (β=0.13, p<0.05); getting psychological support had a significant predictive effect on the Social Pressure subscale (β=-0.09, p<0.05).

Participants were found to be more preoccupied with slimness as their exposure to physical neglect during childhood increased. Their attitudes related to diet were more disturbed as their exposure to sexual abuse increased. Female participants had a higher level of obesity anxiety, and their level of social pressure about eating attitude was lower. In addition, obesity anxiety increased but the level of social pressure about eating attitude decreased with increasing body mass index. They were more preoccupied with slimness as their financial status improved. The participants with eating disorders were found to have a more deteriorated eating attitude related to social pressure and to be more preoccupied with slimness. Obesity anxiety decreased as fathers' education level increased. Obesity anxiety increased, but eating attitude disorder related to diet decreased as the frequency of junk-food consumption increased. Obesity anxiety and the perception of social pressure related to eating attitude decreased with increasing satisfaction from one's weight. With increased dieting frequency, obesity anxiety, and preoccupation with slimness increased, eating attitudes related to diet deteriorated, but they perceived more social pressure related to eating less and were more preoccupied with slimness. Participants who exercised had increased disruption of eating attitudes.

Those who get psychological support had a lower level of social pressure related to eating attitudes.

Discussion

This study determined the predictive effects of childhood mental traumas, demographics, and weight-related issues on eating attitudes and its subdimensions (preoccupation with obesity, obesity anxiety, dieting, perception of social pressure, and preoccupation with slimness. The study revealed that childhood traumas predicted eating attitudes. Childhood traumas with the highest effect on eating attitudes were physical neglect and sexual abuse.

In this study, the mean scores from the Physical Neglect subscale of CTQ had significant predictive effects on the mean scores from the Preoccupation with Slimness subscale of EAT. According to the study results, as the participants' level of exposure to physical neglect increased, preoccupation with slimness increased; that is, their food intake was more controlled. A study on high school adolescents reported that neglect was the most frequently reported subtype of childhood trauma (Zoroglu et al., 2001, Dagli and Inanici., 2011). An eating attitude with a restricted diet was more frequent in females exposed to physical neglect (Grilo et al., 2005). Several other studies also reported that childhood physical neglect was the only determinant of preoccupation with slimness, bulimic behaviors, and dissatisfaction with the body (Grilo and Masheb 2001, Kong and Bernstein 2009). On the other hand, bulimic symptoms, including weight problems, were related to physical abuse and neglect (Johnson et al., 2002, Mitchell and Mazzeo, 2005). In this study, the predictive power of physical neglect to explain preoccupation with slimness subdimension of EAT was found to be in line with previous studies.

Second, this study demonstrated that the mean scores from the Sexual Abuse subscale of CTQ had a significant predictive effect on the mean scores from the Dieting subscale of EAT. As the level of sexual abuse increased, eating attitudes about dieting, that is, avoiding high-calorie food and preoccupation with slimness, were more pronounced. According to previous studies that investigated the effects of childhood traumas on ED, sexual abuse was a nonspecific risk factor for ED or eating symptoms (Brewerton, 2002, 2004, 2005, 2006, Jacobi et al., 2004). Another study demonstrated a higher frequency of sexual and physical abuse history in an ED group compared with the control group (Vardar and Erzengin 2011). Several studies reported that sexual abuse has a significant effect on impulsivity and that impulsivity has a powerful mediator effect in the relationship between sexual abuse and dieting or food restriction behavior (Wonderlich et al., 2001). The predictive power of sexual abuse in eating attitudes in this study was consistent with the literature.

Sex has a significant predictive effect on the mean scores from the Obesity Anxiety and Social Pressure subscales of EAT. The anxiety of female participants regarding obesity was higher, and the level of perception of social pressure regarding weight gain was lower. Many previous studies demonstrated that women were more prone to ED than men (Altug et al., 2000, Unalan et al., 2009, Hamurcu et al., 2015). Cultural pressure towards slimness targets women more often (Hesse-Biber 1989). This pressure is believed to be due to gender roles and identity attributes. In conclusion, obesity anxiety may reflect the adoption of the socially approved female role, and it is signifi-

cantly related to ED (Ghaderi 2001). The social pressure level of the female participants about eating attitudes is not consistent with the literature. It can be concluded that there is obesity anxiety in women independent of their weight, and it may be due to the change in the perception of the social roles of females. Further research is certainly required.

This study demonstrated that body mass index (BMI) have a significant predictive effect on the Obesity Anxiety and Social Pressure subscales of EAT. Obesity anxiety increased with increasing BMI, but social pressure levels related to eating attitudes decreased. Participants with higher BMI values had higher obesity anxiety, and they were more preoccupied with obesity and slimness. There are studies in the literature that support this study finding (Ozgen et al., 2012, Kaya et al., 2016, Leblebicioglu, 2018). Disturbance in the eating attitude of individuals with BMI values lower than normal may be related to anorexic and bulimic attitudes, and those with higher BMI than normal may be related to binge eating disorder (Kocakaya 2016). A decreased level of social pressure about eating attitudes with increasing BMI is consistent with the literature. It may be concluded that this condition may be related to different clinical courses of anorexia nervosa, bulimia nervosa, and binge eating disorder. Further research is needed.

The financial status of the participant has a predictive effect on the mean scores from the Preoccupation with Slimness subscale of EAT. Participants were more preoccupied with slimness as their income increased. A previous study demonstrated that having a mid-level income was more frequent among the participants diagnosed with ED than those without ED (Semiz et al. 2013). Those with lower socioeconomic status had more negative eating attitudes, and they had more negative body perception (Ozmen et al., 2007). On the other hand, studies demonstrated that anorexia nervosa was more frequent in the upper socio-economic level than the other levels (McClelland and Crisp, 2001). Some other studies found no relationship between ED and socioeconomic status (Usta et al., 2015; Celik, 2016). Thus, EDs may appear in various socioeconomic environments. Further research is required.

A history of eating disorder has a significant predictive effect on the mean scores from the Social Pressure and Preoccupation with Slimness subscales of EAT. Those who had a history of ED had worse social pressure related to eating attitude and were more preoccupied with slimness. This condition may be because ED is a chronic psychiatric disorder with a high probability of recurrence (Agras, 2001). Preoccupation with slimness and perception of higher levels of social pressure among individuals with a history of an ED may indicate more resistant ED symptoms in such patients.

The education level of participants' fathers had a significant predictive effect on the scores from the Obesity Anxiety subscale. Obesity anxiety was lower when the father had a higher education level. A study on adolescents did not find a significant relationship between father's education level and ED (Cam 2017). In other studies, neither the father nor the mother's education level was found to affect their children's eating attitudes (Usta et al., 2015, Celik et al., 2016). In another study, children of parents with higher education levels had higher rates of ED compared with those with lower education levels (Uzun et al., 2006). This may be due to a better parental attitude towards children when the father is more educated, which may decrease obesity anxiety. Further research is needed on this topic.

The frequency of junk-food consumption had a significant predictive effect on the mean scores from the Obesity Anxiety and other subscales of EAT. With increasing junk food consumption, obesity anxiety increased, but the disturbance of eating attitudes related to diet decreased. In particular, those with binge-eating behavior consumed sugar and carbohydrate-rich food, which may increase their BMI (De Lauzon et al., 2006). Therefore, increased BMI may affect eating attitudes related to obesity anxiety. Anxiety towards certain foods may be a specific symptom of ED. Coexisting binge-eating behavior and obesity anxiety suggests conflicting emotions. The findings are in parallel with the literature.

The level of satisfaction among the participants about their weight has a significant predictive effect on the mean scores from the Obesity Anxiety and Social Pressure subscales of EAT. Obesity anxiety and perception of social pressure about eating attitudes decreased with increased satisfaction about one's weight.

A study investigating the predictors of the Dieting subscale of EAT demonstrated a positive relationship between dissatisfaction from one's weight and preoccupation with slimness. There was also a positive relationship between dissatisfaction from weight and increased social pressure perception (Leblebicioglu, 2018). Another study found indicators of inappropriate dieting practices in adolescents unsatisfied with their weight, including overexercise and limited food intake (Uskun ve Şabaplı 2013). Several studies demonstrated significant effects of social pressure on an individual's attitude towards his/her weight (Waller and Calam 1994, Yurtsever 2014). Several studies that determined eating attitudes suggested that individuals who were dissatisfied with their weights had higher ED scores than those who were satisfied with their weights (O'dea et al. 1996, Kocabasoglu 2001, Kadıoglu and Ergun, 2015). This finding is consistent with the fact that the dissatisfaction of individuals about their weights is important in the development of disturbed eating attitudes and behaviors (Fairburn, 2008). That the obesity anxiety and social pressure increase with increasing dissatisfaction about one's weight may be the cause of negative thoughts and behaviors about body perceptions. Previous studies are in agreement with our findings.

Dieting frequency of the participants had predictive effects on the mean scores from the Obesity Anxiety, Dieting, Social Pressure, and Preoccupation with Slimness subscales of EAT. Obesity anxiety and preoccupation with slimness increased, eating attitudes about dieting got worse, but they felt less social pressure as they dieted more frequently. These findings are in agreement with those of previous studies that found higher EAT scores in individuals who dieted (Ulas et al., 2013, Ozdemir 2014). Several studies have demonstrated that college students most commonly use dieting (calorie restriction) to control their weights (Neumark et al., 2004, Polat et al., 2005). As the degree of body dissatisfaction of individuals who had a flawed body perception increases, they resort to more unhealthy and dangerous methods. Accordingly, body dissatisfaction may lead to decreased self-esteem, food restriction and avoidance behavior, and increased anxiety related to body image (Cooley and Toray 2001). A high frequency of dieting but low social pressure about weight gain suggests that eating attitudes of these individuals are related to their self-control more than the pressure from their social environment. Further research is needed to clarify this point.

Getting help from a dietitian had a predictive effect on the mean scores from the Social Pressure and Preoccupation with Slimness subscales of EAT. Those getting help

from a dietitian felt more social pressure about eating attitude and were more preoccupied with slimness. Studies suggest that ED is associated with dieting and using unhealthy weight-control methods (White et al., 2011, Ulas et al., 2013). In some other studies, weight-control measures and getting help from a dietitian did not have a significant effect on eating attitude (Pehlivan 2017). Studies on the perception of body image suggest that body dissatisfaction may encourage dieting methods that may develop into ED (Wertheim and Paxton 2012). In particular, diets without professional help give rise to ED (Pekcan et al., 2008). Increased preoccupation with slimness and social pressure, when they become unbearable, may lead to taking action and seeking the help of a dietitian. These results in the literature support our findings.

Exercising status of the participants had a predictive effect on the mean score from the Dieting subscale of EAT. Participants who exercised had a higher degree of disturbance in their eating attitudes about dieting. Students with a risk of ED were found to exercise more to prevent weight gain and induce weight loss than those without risk of ED (Arnik 2009, Ozdemir 2014). There are also findings suggesting that exercise dependence had a mediator role in the relationship between physical activity and ED (Cook and Hausenblas 2008). Weight gain and body-image anxiety were the primary reasons for exercising among those with ED (Shroff et al., 2006). Considering the ED symptoms, as the scores from the Dieting subscale of EAT increase, it is expected that the avoidance from calorie-rich foods, preoccupation with slimness, and the extent of exercise increase or these factors influence one another. This finding is also in parallel with the literature.

Getting psychological help had a significant predictive effect on the mean scores from the Social Pressure subscale of EAT. Those getting psychological help perceived lower levels of social pressure about their eating attitude. This perception may stem from the therapeutic effect of psychological help on the regulation of relationships with the social environment independent of the duration of help received. However, it also suggests that disturbance in the eating attitudes of individuals who participate in this study has not evolved into a clinical condition. It was reported that individuals who received psychological help in the last six months had higher EAT scores than those who did not receive such help (Pehlivan, 2017). More detailed, longitudinal research is needed.

This study suggests that physical neglect and sexual abuse are more critical than the other childhood traumas in the prediction of the severity of disorders in eating attitudes of college students. On the other hand, sex, financial status, father's education level, BMI, satisfaction from weight, junk-food consumption, dieting frequency, consulting a dietitian, exercising, history of an eating disorder, and getting psychological help were important in predicting the severity of eating attitude subscales.

This study has several limitations. First of all, the cross-sectional nature of the findings prevents from reaching firm conclusions about the duration of childhood traumas. Another limitation was the self-report nature of the scales used in this study. Self-report can be tricky because remembering past-experiences is affected by the current relationships and ED symptoms. The findings cannot be generalized beyond the studied population. The results of this study yielded several inferences for clinical practice. Examination of traumatic experiences and their effects and directing to psychotherapy interventions may be helpful, especially in the presence of childhood trauma. Clinicians

are encouraged to consider the potential role of childhood physical neglect and sexual abuse in EDs. Trauma history should be investigated to achieve complete resolution of ED symptoms.

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Authors Contributions: The author attest that she author has made an important scientific contribution to the study and has assisted with the drafting or revising of the manuscript.
Ethical Approval: The study was approved by the Local Ethics Committee. Written informed consent was obtained from all participants.
Peer-review: Externally peer-reviewed.
Conflict of Interest: No conflict of interest was declared by the author.
Financial Disclosure: The author declared that this study has received no financial support.