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Investigating alexithymia, emotional expression, childhood trauma, and attachment in self-reported disordered eating behaviour

İlayda Özdemir[1], Şermin Tükel[2]

Keywords
young adults, disordered eating behaviour, alexithymia, emotion, childhood trauma

Abstract
Eating disorders, a diagnostic group in which eating behaviour is seriously impaired, are a growing problem worldwide. Psychological factors underlying eating disorders have been investigated, yet no definite conclusions have been drawn. An important area of research is the relationship between eating disorders, early childhood experiences, and emotional expression difficulties. The purpose of this study was to examine the early childhood traumas, alexithymia, emotional expression, and attachment styles in young adults with self-reported disordered eating behaviour, in comparison with individuals with no reported disordered eating behaviour and health issues. Included in the study were 39 participants with disordered eating behaviour and 20 participants as control, between 18-35 years of age, and consisting 43 women and 16 men. Participants completed medical history and sociodemographic information form, Childhood Trauma Questionnaire, Twenty-Item Toronto Alexithymia Scale, Emotional Expression Questionnaire, and Experience in Close Relationships. Results showed that physical abuse and alexithymia were significantly more prevalent in individuals with self-reported disordered eating behaviour. Attachment anxiety and avoidance scores were high in both groups, with no significant difference. There was no difference in emotional expression in positive, negative or intimacy subscores between groups. Findings suggested that clinical psychologists need to examine early childhood experiences, family dynamics, and alexithymia in detail to apply more efficient intervention approaches for young adults with disordered eating behaviour. It is also remarkable that more than half of the individuals with disordered eating behaviour have not received any psychological consultation indicating that there is a need for increasing public awareness towards eating behaviour problems.

Anahtar kelimeler
genç yetişkinler, yeme davranışı bozuklukları, aleksitimi, duygu, çocukluk çağı travması

Öz
Öz-bildirime dayalı yeme davranışı bozukluğunda aleksitimi, duygusal ifade, çocukluk çağı travması ve bağlanmanın incelenmesi
Yeme bozuklukları, yeme davranışının ciddi biçimde bozulması olarak tanımlanmakta olup dünya çapında giderek artan bir problem olarak karşımıza çıkmaktadır. Yeme bozuklukları altında yatan psikolojik faktörler araştırılmış, fakat geçerli bir sonuca ulaşmak mümkün olmamıştır. Bazı çalışmalar yeme bozuklukları, erken çocukluk dönemi deneyimleri ve duygusal ifade sorunları arasındaki ilişki üzerinde durmaktadır. Bu araştırmanın amacı, yeme davranışı bozukluğu rapor eden genç yetişkin grupta; erken çocukluk dönemi travmaları, aleksitimi, duygusal ifade ve bağlanma stillerini bilinen bir yeme veya sağlık problemi olmayan bireylerle karşılaştırarak incelemektir. Çalışmaya 18-35 yaş arasında, 43 kadın ve 16 erkek; yeme davranışı bozukluğu rapor eden 39 katılımcı ve yeme davranışı bozukluğu olmayan 20 katılımcı kontrol grubu olmak üzere toplam 59 katılımcı dahil edilmiştir. Katılımcılar, tıbbi öykü ve sosyodemografik bilgi formu, Çocukluk Çağı Travma Ölçeği, 20-maddeli Toronto Aleksitimi Ölçeği, Duygusal İfade Ölçeği ve Yakın İlişkilerde Yaşantılar Envanteri doldurmuşlardır. Sonuçlar yeme davranışı bozukluğu olan bireylerde fiziksel istismar ve aleksitimi görülme sıklığının anlamlı düzeyde yüksek olduğunu göstermektedir. Kaygılı ve kaçıngan bağlanma puanları her iki grupta da yüksek olup, gruplar arasında anlamlı bir fark bulunamamıştır. Duygusal İfade Ölçeğinin pozitif, negatif veya yakınlık alt puanlarında gruplar arasında fark bulunamamıştır. Bulgular, daha etkin terapi yaklaşımları uygulayabilmek için klinik psikologların yeme davranışı bozukluklarında erken çocukluk çağı deneyimlerini, aile dinamiklerini ve aleksitimi varlığını detaylı bir şekilde değerlendirmelerini önermektedir. Ayrıca yeme davranışı bozukluğu olan bireylerin yarısından fazlasının hiç psikolojik danışmanlık almaması yeme davranışı bozukluğuna yönelik toplumsal farkındalığın arttırılması gerektiğini göstermiştir.

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✉ **İlayda Özdemir** · ilaydaozdemirsez@gmail.com | [1]Psychologist, Department of Psychology, Faculty of Arts and Science, İzmir University of Economics, İzmir, Turkey; [2]Asst. Prof., Department of Health Management, Faculty of Health Sciences, İzmir University of Economics, İzmir, Turkey.
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Eating disorders (EDs) are a diagnostic group in which eating behaviour is seriously impaired. Anorexia nervosa and bulimia nervosa are the two most common issues in this diagnostic group, accompanied by serious mental and physical health problems, which might eventually increase the mortality rates for individuals with these disorders (Erbay Gönenir & Seçkin, 2016). Many individuals do not meet the criteria for these diagnoses, but are often affected by subthreshold EDs, named as 'eating disorder not otherwise specified', that are as severe and prolonged as classical conditions. In general, EDs are defined as excessive concern with weight and shape, preoccupation with dieting, and feeling overwhelmed by fear of gaining weight (Taylor et al. 2015). Disordered eating behaviour (DEB) defines health behaviour problem related to eating. It includes binge eating or unhealthy weight control behaviours such as fasting, skipping meals (Nagata et al., 2018), purging, binge eating, over eating, vomiting, laxative abuse, extreme dieting, and extreme exercise (Herpertz-Dahlmann, 2009; Taylor et al. 2015), some of which constitute core criteria for ED diagnosis, according to the Diagnostic and Statistical Manual, 5th Edition (DSM-5) (APA, 2013).

Prevalence studies reported that 11% of young adults have engaged in DEB to lose weight; despite this, only 2% of young adults are diagnosed with ED (Nagata et al., 2018). This finding clearly shows that screening studies are important to show the real number of young adults suffering from eating behaviour problems. A screening study in a Turkish university reported that 6.3% of university students were affected by DEB (Çelik et al., 2016). It is important not to underestimate the importance of self-reported eating behaviour problems because these behaviours can progress into serious medical, cognitive, social, and emotional problems, and therefore should not be seen simply as a lifestyle choice.

Equally important is to recognise that DEB could be an indication of much more widespread but hidden psychological issues. Emotion and its various aspects, such as emotional expression difficulties or alexithymia (Bydlowski et al., 2005), early life experiences such as childhood trauma or attachment problems have been studied in relation to ED (Zachrisson & Skårderud, 2010). Some studies showed a strong relationship between ED and emotions and childhood traumas (Bulik et al., 1997; Bydlowski et al., 2005; Goldner et al., 1991). It has been suggested that exposure to childhood trauma could increase vulnerability to ED (Guillaume et al., 2016; Monteleone et al., 2019).

According to a psychosomatic theory, obese people who have emotional eating attitudes are unaware of their feelings, that is, they experience alexithymia. Alexithymia is a cognitive personality state in which the person has difficulties in defining and expressing emotions, in distinguishing emotions from physical sensations, and in communicating emotional states to others. Other characteristics are limited imagination and concrete thinking style (Güleç et al., 2009; Lane et al., 1996). Because of their difficulty identifying emotions, these people show eating attitude towards their emotional drives rather than hunger signal (Ouwens et al., 2003). It has been shown that anorexic patients can neither distinguish between hunger and satiety, nor between physical sensations and inner emotion processes (Bruch, 1985). Another example of this phenomenon is that individuals with bulimia do not perceive that they are actually experiencing vomiting, due to stress (Davis & Marsh, 1986). Studies showed that individuals with ED are more alexithymic than healthy individuals (Bydlowski et al., 2005).

Mood change is known to affect eating attitude. Research clearly showed the relationship between emotional states and EDs (Faith et al., 1998; Geliebter & Aversa, 2003). Emotional changes cause maladaptive strategies, one of which is improper eating behaviour, DEB, in the case of stressed state (Ty & Francis, 2013). For example, overeating can be a strategy to avoid anxiety, stress, sadness or incompetence (Bradford & Petrie, 2008). On the other hand, different emotions can result in different eating behaviours; for instance, distress can cause loss of appetite, and sadness, an increase (as cited in Macht, 2008). People who eat in response to negative emotions may tend towards binge eating and bulimia (Macht, 2008). Moreover, emotional eating has conscious and unconscious components (Chesler, 2012). Eating attitudes aimed at reducing stress is a conscious behaviour, while eating attitudes of alexithymic individuals who have difficulties identifying and expressing emotions is unconscious (Chesler, 2012).

Research on childhood abuse and trauma in individuals with ED showed that emotional neglect was the most common issue, followed by emotional abuse, physical abuse and physical neglect, respectively (Mitchell & Mazzeo, 2005). In addition, sexual abuse was reported in almost half of the cases in some studies (Carter et al., 2006; Rodríguez et al., 2005). It is known that patients with a history of abuse and trauma are the group that responds least well to treatment; therefore, it is important to determine any history of childhood abuse or trauma in cases with ED in the clinic (Mahon et al., 2001; Rodríguez et al., 2005). It should be noted that people become more vulnerable to abuse and neglect when not securely attached (Kavlak & Şirin, 2009).

Attachment disorders have been associated with ED in relation to parental bonds. The relationships were found between parental bond and ED psychopathology, particularly between insecure attachment and ED (Monteleone et al., 2019; Tasca & Balfour, 2014). It was also shown that people with ED showed greater separation anxiety and insecure attachment compared to those without (Kuipers et al., 2016). On the other hand, when parents of individuals with ED were examined, mothers of children with anorexia

were found to have more problems in secure attachment compared to other mothers (Szalai & Czeglédi, 2017). Bulimia symptoms and body dissatisfaction were related to insecure attachment, which was accompanied by uncertain and intimidating relationships (Szalai & Czeglédi, 2017). According to a comparative study, a higher level of insecure attachment was found in the group of individuals with ED than the group without (Tasca & Balfour, 2014). Furthermore, secure attachment was seen as a protective factor in ED, which could be a promising aspect in the therapy of individuals with ED (Szalai & Czeglédi, 2017).

The aim of this study was to investigate whether young individuals with DEB have alexithymia, emotional expression difficulties, traumas in early developmental period, and a particular attachment style. Specifically, the hypothesis was that, compared to without eating behaviour problems individuals, those with DEBs have more experience of childhood trauma, more alexithymia, and more serious problems with emotional expression and attachment.

METHOD

Participants

Two groups of participants were recruited for this study: participants with self-reported DEB (n = 40) and without known health issues and self-reported DEB participants (n = 20). For both groups, individuals who did not complete surveys were excluded. Exclusion criteria for self-reported DEB group were having systematic diseases and/or severe mental health issues. One participant who did not complete the surveys from DEB group was excluded. This resulted inclusion of 59 individuals (43 women, 16 men) aged between 18-35 years; 39 participants in self-reported DEB group (M_{age} = 23.10, SD = 2.30) and 20 participants in the control group (M_{age} = 24.10, SD = 2, 57).

Ten percent of the participants were graduates of high school, and the remaining 90% were undergraduate students or graduates of higher education institutions (vocational school, university, etc.). However, the vast majority were students (73%), only 29% of the entire group were in employment. Fifty-eight percent of respondents reported that they were in a relationship, and the rest reported no relationship. All were from the middle-income (75%) or high-income level (25%).

Measures

Eating Behaviour, Medical History and Sociodemographic Information Participants were asked to fill in the following information: Age, gender, height, weight, education, relationship status, income status, profession, and working condition. Body Mass Index (BMI) was calculated from weight and height of individuals via formula of $BMI = kg/m^2$, where kg is a person's weight in kilograms and m^2 is their height in meters squared. The cut-off levels for BMI scores presented by World Health Organization for individuals over 20 years of age were used to categorize body composition of the groups (WHO, 2020).

Information about medical history and DEBs was obtained with simple open-ended questions asking about any eating behaviour problem, diagnosed ED, physical and mental health problems. To detect DEB, participants answered the question 'Do you have any eating behaviour problems?'. Details about eating behaviour problem (e.g., over-eating, under-eating, vomiting, anorexia, over-appetite etc.) were obtained through an open-ended question 'Can you define the eating behaviour problem you have?'. Simple questions like these were shown to be at least as good as other available instruments for classifying the cases with DEB correctly (Keski-Rahkonen et al., 2006). Participants with diagnosed issues were asked if they used medication. Finally, participants were asked to describe any professional help received from a dietitian or psychologist for their DEBs.

Childhood Trauma Questionnaire (CTQ) CTQ was developed by Bernstein and colleagues in 1994, and adapted to Turkish by Şar and colleagues in 2012. CTQ provides score in five areas: sexual abuse, physical abuse, emotional abuse, emotional neglect, and physical neglect during childhood. It consists of 28 items retrospectively investigating abuse and neglect history before the age of 20. Each statement is scored according a 5-point Likert type scale (1 = never, 5 = very often). Of the total scores from all 28 questions, 3 items (10, 16, and 22) measure only denial of trauma, and do not affect the total score. The scores from five subscales were used in this study (Bernstein et al., 1994). In order to test the prevalence of childhood trauma in our sample, the number of participants endorsing at least one item (scoring 2 or higher) on each CTQ subscale was calculated in order to evaluate the differences in frequency of each abuse type between groups. This usage of the scale has a precedent in the literature (Mitchell & Mazzeo, 2005). The Cronbach's alpha internal consistency reliability coefficients were between .80 and .87 in the adapted Turkish version (Şar et al., 2012), and between .79 and .94 in the original questionnaire (Bernstein et al., 1994).

Twenty-item Toronto Alexithymia Scale (TAS-20) TAS-20 was developed by Bagby and colleagues in 1994 and reliability and factorial validity were shown to be good in the Turkish population. (Güleç et al., 2009). It has 3 subscales: 1) difficulty identifying feelings, 2) externally-oriented thinking, and 3) difficulty describing feelings. Each item is evaluated with a 5-point Likert type scale (1 = strongly disagree, 5 = strongly agree). Interpretation and the cut-off scores

were defined for alexithymia (61 or more points), possible alexithymia (52 to 60 points), and non-alexithymia (51 or fewer points) (Bagby et al., 1994). In this study, using 61 points as a cut-off point, we categorised individuals as either alexithymic (61 or higher points) or non-alexithymic (< 61 points). The Cronbach's alpha internal consistency reliability coefficients were between .57 and .80 in adapted Turkish version (Güleç et al., 2009), while it ranged between .66 and .78 in the original (Bagby et al., 1994).

Emotional Expression Questionnaire (EEQ) EEQ was developed by King and Emmons in 1990 and adapted to Turkish by Kuzucu in 2011. EEQ measures positive, negative, and intimacy (closeness) emotions with 16 items. Statements are scored with a Likert type scale with seven intervals (1 = strongly disagree, 7 = strongly agree) (King & Emmons, 1990; Kuzucu, 2011). Total scores for each positive, negative, and closeness expression subscales are calculated separately. The Cronbach's alpha internal consistency reliability coefficients were .85 in the adapted Turkish version (Kuzucu, 2011), while .78 in the original one (King & Emmons, 1990).

Experience in Close Relationships (ECR) Experiences in Close Relationships Scale is a 36 item self-report measure of romantic attachment style. Sümer adapted ECR to Turkish in 2006. ECR measures two dimensions, anxiety and avoidance of attachment in romantic relationships (Brennan et al., 1998). The Cronbach's alpha internal consistency reliability coefficients were between .86 and .90 in adapted Turkish version (Sümer, 2006) and between .78 and .84 in the original one (Brennan et al., 1998).

Procedure

Participants with self-reported DEB were recruited from diet clinics or contacted through the Instagram Izmir University of Economics (IEU) support group (an announcement was made inviting the participation of people who have eating behaviour problems or EDs), and the participants without DEB problem with no known health issues were recruited through a notice displayed in the IEU canteen. All participants who volunteered to participate approved the informed consent form before filling the evaluation form with open-ended questions about sociodemographic information and medical history. Self-reports on childhood trauma history, alexithymia, ability to express emotions, and attachment were evaluated using the standardized questionnaires described above. Ethical permission was obtained from the IEU Ethical Committee (20.08.2019, 33) for the study.

Statistical Analysis

Data were analysed using Statistical Package for the Social Sciences (SPSS; version 21.0 for Windows). Distributions of variables were examined with histogram and descriptive statistics. One-way multivariate analysis of variance (MANOVA) was used to assess the effect of group (participants with self-reported DEB vs. the control group) on all surveys. In this way familywise error resulting from multiple testing was minimised. Also, both comparisons of each measure as well as comparisons of a combination of scores are tested (Field, 2009). Frequencies were calculated for nominal data, and then comparisons between two groups were conducted via using *chi-square* test. For all tests, degrees of freedom, number of cases, test statistic and p-value were presented. The level of significance was specified at 0.05.

RESULTS

Comparison of Age, Body Mass Index, and Health Status among Groups

The chi-square was conducted to compare the gender and health status of participants in two groups (Table 1). There was no gender difference between groups ($\chi^2(1, N = 59) = .07$, $p = .79$). Physical or chronic health problems was found significantly higher ($\chi^2(1, N = 59) = 5.22$, $p = .02$) in DEB group (39%) than in control group (10%). There was no difference between groups in regular medication use ($\chi^2(1, N = 59) = 1.15$, $p = .28$) and mental health issues ($\chi^2(1, N = 59) = 3.07$, $p = .08$). In DEB group, 44% of individuals reported seeking dietetic and psychological consultation.

Body Mass Index (BMI) of participants were classified, and distribution of BMI categories between groups is presented in Table 1. The proportion of subjects in BMI categories was different in groups ($\chi^2(1, N = 59) = 7.91$, $p = .048$). The frequency of overweight ($n = 12$), and obese ($n = 8$), and underweight participants ($n = 5$) were higher in DEB group. Normal BMI, on the other hand, was evidently higher in control group ($n = 13$).

Eating behaviour problems reported by only participants in DEB group are presented in Table 1. Overeating behaviour was the most common problem (26%), followed by overeating and increased appetite (21%), situational eating (18%), skipping meals (10%) and vomiting and loss of appetite (10%), loss of appetite and under-eating (5%), and bulimia, increased appetite, irregular eating, and overeating and vomiting (2.5% for each).

Comparison of Childhood Trauma, Alexithymia, Emotional Expression and Attachment Style Among Two Groups

All survey scores were compared among participants with self-reported Disordered Eating Behaviour, and participants in control group by using one-way MANOVA. In the MANOVA, CTQ and TAS total scores, EEQ and ECR subscores were used as depen-

Table 1. Frequency of Gender, Health Status, Body Mass Index and the Type of Eating Behaviour Problems among Groups

		DEB (n = 39) n (%)	Control (n = 20) n (%)	Total (n = 59) n (%)
Gender	Female	28 (72)	15 (75)	43 (73)
	Male	11 (28)	5 (25)	16 (27)
Physical Health Problem*	Yes	15 (38)	2 (10)	17 (29)
	No	24 (62)	18 (90)	42 (71)
Mental Health Problem	Yes	9 (23)	1 (5)	10 (17)
	No	30 (77)	19 (95)	49 (83)
Medication Use	Yes	13 (33)	4 (20)	17 (29)
	No	26 (67)	16 (80)	42 (71)
BMI Category*	Underweight (<18.49kg/m^2)	8 (21)	2 (10)	10 (17)
	Normal (18.5-24.9 kg/m^2)	11 (28)	13 (65)	24 (41)
	Overweight (25-29.9 kg/m^2)	12 (30)	4 (20)	16 (27)
	Obesity (>30 kg/m^2)	8 (21)	1 (5)	9 (15)
Eating Behaviour Problem[a]	Overeating	10 (26)	-	
	Overeating and Increased Appetite	8 (21)	-	
	Situational Eating	7 (18)	-	
	Skipping Meals	4 (10)	-	
	Vomiting and Loss of Appetite	4 (10)	-	
	Loss of Appetite and Undereating	2 (5)	-	
	Bulimia	1 (2.5)	-	
	Increased Appetite	1 (2.5)	-	
	Irregular Eating	1 (2.5)	-	
	Overeating and Vomiting	1 (2.5)	-	

Note: [a]Data is available only for participants with DEB, not applicable for the control participants. *$p < .05$

Table 2. Comparison of Childhood Trauma, Alexithymia, Emotional Expression, and Attachment Style Among Two Groups ($N = 59$)

Variable	DEB (n=39) Mean (SD)	Control (n=20) Mean (SD)	F	df	p
CTQ-Total Score	38.26 (12.89)	32.20 (5.68)	3.992	1	.051
TAS-Total Score	51.72 (13.55)	47.80 (7.14)	1.456	1	.233
EEQ-Positive Expression	29.41 (8.02)	29.85 (5.44)	.048	1	.827
EEQ-Negative Expression	18.67 (4.85)	19.30 (4.26)	.244	1	.623
EEQ- Closeness Expression	23.51 (4.99)	24.10 (3.95)	.209	1	.649
ECR-Anxious Attachment	3.34 (1.20)	3.13 (0.94)	.479	1	.492
ECR-Avoidant Attachment	2.95 (1.16)	2.37 (1.02)	3.638	1	.062

Note*: CTQ: Childhood Trauma Questionnaire, TAS: Toronto Alexithymia Scale, EEQ: Emotional Expression Questionnaire, ECR: Experience in Close Relationships Questionnaire, DEB: Disordered Eating Behavior*

dent variables, because EEQ and ECR do not provide any total scores. Assumptions of equal covariance matrices was met, and homogeneity of variance were met for all but not for CTQ and TAS total scores, and positive expression subscore of the EEQ. Pillai's Trace was used for multivariate test statistic because it is considered to be robust when an assumption is violated, and sample sizes are unequal. No significant differences were found on either of these measures between groups, Pillai's Trace = .108, $F(1, 57) = .884$, $p = .526$. Further univariate analyses of the outcome variables indicated a marginally significant effect of groups on the total score of CTQ ($F(1,57) = 3.992$, $p = .051$). Descriptive statistics and univariate analyses are given in Table 2.

Chi-square analyses were conducted to examine significant differences in the percentage of individuals with childhood trauma history and alexithymia. In order to report the prevalence of childhood trauma, the number of participants endorsing at least one item on each CTQ subscale was calculated in order to evaluate the frequency of each abuse type in both groups (Table 3). Although trauma history was evident in both groups, higher frequency rates were observed in DEB group. The percentage of individuals endorsing physical abuse was significantly higher in DEB group ($\chi^2(1, N = 59) = 4.393$, $p = .036$).

Frequency of alexithymic individuals was calculated, and alexithymic individuals were found only in the self-reported DEB group (26%), while none in control group reached the cut-off score ($\chi^2(1, N = 59) = 6.18$, $p = .013$; Table 3).

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Table 3. Prevalence of Childhood Trauma and Alexithymia Among DEB and Control Groups

	DEB	Control	Total	*Chi-square test*		
CTQ Subtests[a]	***n* (%)**	***n* (%)**	***n***	***χ²***	***df***	***p***
Sexual abuse	12 (31)	3 (15)	15	1.733	1	.187
Emotional neglect	28 (72)	12 (60)	40	0.842	1	.358
Emotional abuse	20 (51)	8 (40)	28	0.674	1	.411
Physical abuse	11 (28)	1 (5)	12	4.393	1	.036*
Physical neglect	21 (54)	8 (40)	29	1.014	1	.313
Alexithymia[b]	10 (26)	0 (0)	10	6.175	1	.013*

Note: [a] *CTQ subscales are positive (+) when individuals endorse at least one item in the subscale,* [b] *Alexithymia is positive (+) when total TAS score ≥ 61. *p < .05.*

DISCUSSION

This research investigated relationships between disordered eating behaviour and childhood traumas, alexithymia, emotional expression, and attachment attitudes in young adults. Hypotheses were confirmed for childhood trauma and alexithymia, but not for emotional expression and attachment. Findings showed that individuals with self-reported DEB had experienced trauma, particularly physical abuse, during their childhood. They were more likely to be alexithymic, which is an issue related to the cognitive state of defining and expressing emotions. In contrast, they reported no problems in expressing positive, negative or intimate emotion, and, despite experiencing attachment avoidance and anxiety, these aspects of their relationships were not different from their peers without DEB. In addition, 38% of individuals with DEB reported physical health problems, 23% reported mental health problems and 33% reported medication use. Despite reporting eating behaviour problems, only 44% of this group reported seeking dietetic and psychological consultation. Their body compositions were more likely to deviate from normal in terms of being obese or underweight.

Women are more commonly diagnosed with ED than men (Robinson et al., 2013), and thus 73% of our participants were women. Another underlying reason is gender roles. Men were found less likely to seek help with emotional problems than women (Möller-Leimkühler, 2002), and this also applies to EDs, men were less likely to seek help behaviours, due to the socially imposed masculine image (Smart, 2006). This finding explains why fewer men responded to our survey. In addition, disordered eating behaviour may be caused women's changing perceptions of beauty and body image, especially during adolescence, due to the influence of social role models, such as celebrities and singers (Mooney et al., 2004).

The relationship between emotions and EDs has been the subject of research. Results of the statistical model show that alexithymia disrupts negative emotion regulation, leading to emotional eating problems (Spence & Courbasson, 2012). These individuals' eating attitude, it is argued, is directed by emotional impulses rather than hunger signal because they are unable to identify feelings (Ouwens et al., 2003). Similar results were found in a study focused on "difficulty in identifying emotions" and the possibility of developing a serious eating pathology in the presence of alexithymia (Ridout et al., 2010). Alexithymia was also found as a condition seen in bulimic and anorexic individuals (Beales & Dolton, 2000). Studies in general show difficulty in expressing emotions in ED (Bydlowski et al., 2005; Ridout et al., 2010), however, in our study, there were no differences between self-reported DEB and the control group in the "expressing emotions" subscale of the TAS-20 and Emotion Expression Questionnaire. It is possible that the Level of Emotional Awareness Scale, used in other studies, is a more sensitive questionnaire, better able to reveal emotional expression difficulties in ED groups (Bydlowski et al., 2005). However, the two different scales pointed to the same result in our study, suggesting consistency. Due to the very limited knowledge about the mechanisms underlying the relationship between EDs and recognizing, expressing and coping with emotions, future studies focusing on this relationship would be very beneficial for understanding psychopathology of EDs.

Some researchers focused on the relationship between ED and trauma in childhood. In a few studies with severe cases of ED, almost half of the cases reported sexual abuse (Carter et al., 2006; Rodríguez et al., 2005). In our study, 31% of individuals with DEB reported some degree of sexual abuse, compared to 15% of control group. In a study which used the same trauma questionnaire as this study, the most common type of trauma was emotional neglect (79%), followed by emotional abuse (72%), physical abuse (68%), and physical neglect (60%) (Mitchell & Mazzeo, 2005). Our findings revealed similar results for individuals with self-reported DEB: histories of emotional neglect (72%), physical neglect (54%), emotional abuse (51%), sexual abuse (31%), and physical abuse (28%). Another study conducted with women with reported physical abuse in childhood showed a high rate of subclinical eating disorder symptoms (Rayworth et al., 2004). In line with earlier findings, our study showed that childhood physical abuse could be an important indication of disordered eating behaviour later in life. Childhood trauma and abuse are two of the most important issues to be considered in ED, because those with trauma history are

the least responsive to treatment (Mahon et al., 2001; Rodríguez et al., 2005).

When the development of emotional regulation is considered, attachment is an important aspect to be questioned. According to Fuendeling (1998), the avoidance attachment style is characterized by the interruption of emotional feeling, potentially promoting a disordered regulation that can consist of reduced emotional recognition and reduced ability to recognise and self-regulate bodily signals such as hunger, satiety, fatigue, and emotional emotions. Nevertheless, only few studies have explored anxious and avoidant attachment styles in relation to EDs (Zachrisson & Skårderud, 2010; Kuipers & Bekker, 2012). In our study, we observed that young adults both with and without DEB were anxious and avoidant about attachment, with no difference between them. It is likely that participants exhibit age specific attitudes, because in young adulthood, people begin to establish intimate relationships. Previous research showed insecure attachment as an indicator for ED, and even highlighted the importance of secure attachment as a protective factor (Szalai & Czeglédi, 2017; Tasca & Balfour, 2014). However, a specific mechanism between attachment and ED has yet to be found (Zachrisson & Skårderud, 2010). Nevertheless, we can suggest investigating secure and insecure attachment in young individuals, and anxious and avoidance attachment styles in different age groups with DEB.

The effective and accurate diagnosis of ED requires a semi-structured interview conducted by an experienced clinician, according to the latest criteria stated in DSM-5 (APA, 2013). For screening purposes, on the other hand, several questionnaires have been shown to have good psychometric properties. Simple screening questions like those in this study were shown to be at least as good as other available instruments; for anorexic patients this type of questions detect 90% of cases correctly (Keski-Rahkonen et al., 2006). In our study, almost half of the individuals who reported disordered eating behaviour had ED diagnosis. Our observations showed that most individuals who seek medical treatment, and thereby get diagnoses, are either obese individuals or severe cases of ED. On the other hand, young individuals with normal body composition but with DEB were not referred to medical care with sufficient frequency. A population-based study in Australia showed that women with lower weight are less likely to apply to health services and use medication, compared to those of high BMI (Reidpath et al., 2002). This situation may lead to delays in treating serious disorders characterized by low weight symptoms, such as anorexia nervosa, resulting in a more difficult and prolonged treatment process. Thereby, professionals dealing with young adults with low weight symptoms should be on the alert for possible EDs.

Conclusion and Recommendations

Childhood trauma and alexithymia are accompanied with self-reported disordered eating behaviours in young adults. Treatment of disordered eating behaviours in young adults can be become more complex if these comorbid issues are not examined in detail. Without intervention, such issues might result in relapse into disordered eating behaviour. Therefore, clinicians need to refer the individual with ED to other professionals dealing with the comorbid issues involved. In addition, there should be an examination of eating behaviours of individuals with emotional processing deficits and childhood traumas. Clinicians should be aware of this link, even though the underlying mechanisms are not fully understood.

Physical appearance and body composition is an important issue in adolescence and young adulthood, and not only for women, but also for men. This age group might develop dangerous behaviours aimed at losing and controlling weight in order to gain an acceptable body shape. Thus, young individuals aware of their disordered eating behaviour but with socially acceptable body compositions may generally avoid seeking health care services. To overcome this problem, efforts should be made to increase public awareness about the consequences of ED, to identify young adults with undiagnosed ED, and to encourage them to consult ED professionals.

Compliance with Ethical Principles Following the ethical rules presented by TPD and APA, the Izmir University of Economics Social Sciences Ethical Committee gave ethical permission to this study (20.08.2019, 33).

Conflict of Interest All authors declare no conflict of interest.

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