AYNA Klinik Psikoloji Dergisi, 2024, 11(1), 73–92

AYNA Klinik Psikoloji Dergisi

Dergi Ana Sayfa: http://dergipark.org.tr/ayna

Araştırma Makalesi

Development of the Disordered Eating Scale for Adolescents Aged 14-18

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Makale Bilgisi

Keywords:

disordered eating,
adolescents,
scale development,
factor analysis

Abstract

This study aimed to develop a scale for evaluating disordered eating attitudes and behaviors among adolescents aged 14 to 18. The scale's factor structure was examined with a total of 1379 participants, revealing 14 items and three sub-dimensions that accounted for 58.46% of the total variance. The scale demonstrated good internal consistency (Cronbach's alpha = .86) and test-retest reliability (r = .90). Regarding criterion validity, the correlation between the Disordered Eating Scale (DES) and the Eating Disorder Examination Questionnaire (EDE-Q) was found to be .86. Receiver operating characteristic (ROC) analysis results indicated a sensitivity of .930 and a specificity of .91 for the ≥31 cut-off point. Confirmatory factor analysis (CFA) was conducted, and the model fit indexes for both applications were as follows: x^2 = 287.43, df = 73, x^2/df = 3.94, RMSEA = 0.079, CFI = 0.938, TLI = 0.922, and SRMR = 0.045. These findings supported the three-dimensional model, suggesting that disordered eating can be measured through restriction, weight anxiety, and extraction-control behaviors dimensions with a total of 14 items. The DES is deemed suitable for screening and evaluating negative eating behaviors and potential psychopathology in adolescents, including those with and without clinical eating disorder symptoms.

Anahtar kelimeler:

bozulmuş yeme,
ergenler,
ölçek geliştirme,
faktör analizi

Öz

Çalışmanın amacı, 14-18 yaş arası ergenler için bozulmuş yeme ile ilgili davranış ve tutumlarını değerlendiren bir ölçek geliştirmektir. "Bozulmuş Yeme Ölçeği" (BYÖ) adı verilen bu ölçeğin faktör yapısı toplam 1379 katılımcının katılımıyla ortaya çıkarılmıştır. Faktör analizi sonuçlarına göre ölçek 14 maddeden oluşmakta ve ölçeğin üç alt boyutu bulunmaktadır. Bu üç alt boyut toplam varyansın %58.46'sını açıklamaktadır. Ölçeğin iç tutarlılık değeri .86 iken test-tekrar test korelasyonu .90 olarak bulunmuştur. Ölçüt geçerlik için BYÖ ile Yeme Bozukluğu İnceleme Ölçeği (YBİÖ) arasındaki korelasyon .86'dır. İşlem karakteristik analizi sonuçlarına göre ≥31 kesme noktası için duyarlılık .930 ve özgüllük .911'dir. Ortaya çıkan yapıyı doğrulamak için doğrulayıcı faktör analizi uygulanmıştır. Her iki uygulama için de uyum indeksleri x^2 = 287.43, df = 73, x^2/df = 3.94, RMSEA = 0.079, CFI = 0.938, TLI = 0.922 ve SRMR = 0.045'tir. Ortaya çıkan yapı, bozulmuş yemenin kısıtlama, kilo kaygısı ve çıkarma-kontrol davranışları alt boyutlarında ve toplamda 14 madde ile ölçülebileceğini göstermektedir. BYÖ'nün yeme bozukluğu tanısı olan ve olmayan ergenlerde, olası psikopatolojiye ilişkin olumsuz tutum ve davranışları taramak ve değerlendirmek için geçerli ve güvenilir bir ölçek olarak kullanılabileceği bulunmuştur.

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e-mail: umutkermen@gmail.com
DOI: 10.31682/ayna.1215819
Submission Date: 07.12.2022; Acceptance Date: 15.11.2023
ISSN: 2148-4376

Introduction

Eating disorders are characterized by an extreme preoccupation with body shape, appearance, eating behavior, and exercise (American Psychiatric Association, 2013). Disordered eating, on the other hand, refers to harmful and disturbing eating behaviors and patterns (Byrne & McLean, 2001). While not all of these behaviors and attitudes meet the criteria for eating disorders, disordered eating can still have significant physical and psychological consequences, potentially leading to the development of a full-blown eating disorder. As a result, disordered eating is considered a risk factor in preclinical groups susceptible to developing an eating disorder (Tsong & Smart, 2015).

Several measurement tools have been employed to assess attitudes and behaviors related to disordered eating patterns (Breland et al., 2016; de Morais Sato et al., 2014; Kimball et al., 2019; Krug et al., 2016; Moorman et al., 2020; Nasrallah et al., 2020; Thompson & Bardone-Cone, 2019; Yoon et al., 2020). However, some gaps exist in the relevant literature since many studies have not used specific cut-off points to distinguish between participants with and without disordered eating. Additionally, the scales utilized in these studies often consist of a large number of items, making the assessment process challenging. To address these assessment-related issues, it may be more appropriate to develop a short scale that aims to effectively differentiate between individuals with and without disordered eating, offering a fresh perspective to the field. Such a scale could also help determine the prevalence of disordered eating among adolescents and identify dysfunctional eating patterns in larger groups.

Currently, several scales have been developed to evaluate the concept of disordered eating. For instance, the Eating Pathology Symptoms Inventory (EPSI) is a 45-item scale that has been validated for use with general, clinical, and college samples (Coniglio et al., 2018). The Disordered Eating Attitude Scale (DEAS) consists of 25 items and five sub-dimensions, and it has been demonstrated to have acceptable validity with the general population (Alvarenga et al., 2010). Another commonly used tool is the Eating Disorder Examination Questionnaire (EDE-Q), which comprises 28 items and is valid for both general and clinical populations (Fairburn & Beglin, 1994). The Disordered Eating Questionnaire (DEQ), designed specifically for adolescents, is composed of 20 items and two sub-dimensions (Lombardo et al., 2004). The Minnesota Eating Behaviors Survey (MEBS), developed for females, includes 30 items and four sub-dimensions (von Ranson et al., 2005). The College-Oriented Eating Disorders Screen (COEDS) has been adapted for early adolescents and consists of seven items (Nowak et al., 2003). Yoon et al. (2020) developed the Disordered Eating Attitudes and Behaviors Scale, a five-item scale exclusively for adolescents. Some of these scales contain a

relatively large number of items, and none of them provide specific cut-off points to differentiate between individuals with and without disordered eating.

It would be valuable to discuss scales that have cut-off points. For example, the Sick, Control, One, Fat, Food (SCOFF) was developed for use with the general population and individuals diagnosed with anorexia nervosa and bulimia nervosa, using a cut-off point of two or higher to identify the presence of eating disorders (Hill et al., 2010). The Eating Attitude Test-26 (EAT-26), a shorter version of the Eating Attitude Test-40 (EAT-40), has been adapted for individuals diagnosed with anorexia nervosa, with a global cut point of 2.6 (Mond et al., 2004). However, studies adapting the SCOFF (Aydemir et al., 2015) and the EAT-26 (Ergüney-Okumuş & Sertel-Berk, 2019) for the Turkish population did not conduct further analyses to determine the cut-off points, limiting the available statistical information for these scales.

When examining the measurement tools used to assess disordered eating in adolescents, there is limited statistical information available to discriminate between groups with and without disordered eating. Addressing this gap in the literature, the primary aim of the current study was to develop a valid and reliable short measurement tool capable of distinguishing between individuals with and without disordered eating. Additionally, another objective of the study was to reveal the factor structure of disordered eating behaviors and attitudes among adolescents aged 14-18.

Method

Sample

The study's sample comprised a total of 1379 individuals, and data were collected between 2019 and 2020 in the Bakırköy and Zeytinburnu districts of Istanbul, Turkey. To determine the items to be included in the scale, Boateng et al. (2018) propose several methods, including gathering information from individuals currently experiencing the phenomenon, obtaining expert opinions, and extracting relevant items from existing literature. They emphasize the importance of obtaining opinions from individuals who have direct experience with the behaviors and attitudes associated with the focus phenomenon. Accordingly, 80 students aged between 14 and 18 were invited to write an essay on disordered eating attitudes and behaviors. The following question was asked to further elucidate their conceptualization "Please give information about your eating behaviors and experiences that you see as negative." As the scale was intended for the general population, opinions were gathered from participants without any eating disorder diagnosis. The researchers evaluated the essays and extracted

items based on the obtained responses. Subsequently, a pilot application of the scale was conducted with a group of 30 adolescents.

Data were collected from two study groups to identify and validate the factor structure of the scale. The exploratory factor analysis (EFA) group consisted of 646 participants from eight high schools, four of which were academic and four were vocational high schools. The participants' mean age was 15.62 (*SD* = 1.14), and their ages ranged from 14 to 18.

In the confirmatory factor analysis (CFA) group, the factor structure of the scale was confirmed. This group comprised 466 participants from four high schools, two academic and two vocational. The participants' mean age was 15.65 (*SD* = 1.14), and their ages ranged from 14 to 18 (see Table 1).

Table 1.

Study Groups in Which the Scale Structure Was Revealed

Variable		EFA		CFA	
		n	%	n	%
Gender	Male	305	47,2	208	44,6
	Female	341	52,8	258	55,4
Grade	9	180	27,8	126	27,1
	10	162	25,1	108	23,1
	11	173	26,8	116	24,9
	12	131	20,3	116	24,9
School Type	Vocational	301	46,6	211	45,3
	Academic	345	53,4	255	54,7
Total		646		466	

Criterion validity and test-retest reliability analyses were conducted on the EFA group. To assess the test-retest reliability, the DES was administered twice, at a two-week interval, to 96 participants. The study aimed to determine the scale's cut-off score, and data were collected from adolescents diagnosed with eating disorders who were undergoing treatment in 11 private child and adolescent psychiatry clinics in Istanbul. The study group consisted of 33 adolescents (29 females, 4 males) diagnosed with anorexia nervosa and 24 adolescents (19 females, 5 males) diagnosed with bulimia nervosa. The mean age of the eating disorder group was 16.05 (*SD* = 1.36), with an age range of 14 to 18. Additionally, the study included 157 adolescents (81 girls, 76 boys) without any eating disorder diagnosis, and data from this group were collected from two academic high schools located in Bakırköy and Zeytinburnu districts of Istanbul.

One of the inclusion criteria for participation was to be between the ages of 14-18. Before administering the research forms, informed consent forms were provided to both the

participants and their parents. Data were only obtained from participants who agreed to take part in the study and submitted their informed consent forms. Adolescents without parental informed consent or those who did not submit their consent forms were excluded from the data collection. The informed consent form explicitly stated that no data would be obtained from adolescents with an eating disorder or mental retardation. For participants who had an eating disorder and were part of the group where the scale's cut-off point was determined, informed consent forms were obtained from both the participants and their parents.

Ethical Approval

The study received ethical approval from the Marmara University Social Sciences Research Ethics Committee on July 18th, 2019, with the reference number 2019-26 and protocol number 2019-6/16.

Instruments

Personal Information Form was used to collect personal data from the participants, such as gender, age, school type, and the district where the school was located.

The Eating Disorder Examination Questionnaire (EDE-Q), developed by Fairburn and Beglin (1994) and adapted into Turkish by Yücel et al. in 2011. The scale comprises 28 items organized loaded under five dimensions. The scale demonstrated satisfactory internal reliability coefficients, with values of .63 for binge eating, .81 for restraint, .70 for eating concerns, .86 for shape concerns, .78 for weight concerns, and .93 for the overall scale. The test-retest reliability for the entire scale was found to be .91. For criterion validity, correlations were assessed between the total score of the scale and the EAT-40 (correlation coefficient of .49), the General Health Questionnaire (GHQ-28) (correlation coefficient of .41), and the Body Image Satisfaction Questionnaire (BISQ) (correlation coefficient of -.25).

Procedure and Data Analysis

The scale development process incorporated the recommendations of Boalteng et al. (2018). The items related to eating attitudes and behaviors were derived from essays obtained from the first study group. The items were carefully written in a simple and clear manner, and no items were taken from other scales in the literature. Content validity was ensured by consulting four psychological counselors, one psychiatrist, one child and adolescent psychiatrist, two dieticians, one statistician, and one language expert, all of whom held Ph.D. degrees in their respective fields. Content validity analysis was conducted using Lawshe's

content validity ratio. Eight items with low content validity, according to expert opinions, were subsequently removed from the trial form. The 32-item form was then administered to a study group of 30 adolescents, and two items that were not understood by the participants were eliminated. The 30-item form was used for EFA group analysis, and the EFA group underwent various analyses, including EFA, Cronbach's alpha internal reliability, criterion validity, and test-retest reliability analyses. The final version of the scale, consisting of 14 items, was used for CFA. The criterion validity was assessed using the Pearson correlation coefficient between the EDE-Q and the DES, administered two weeks apart. To determine the scale's cut-off point, a receiver operating characteristic (ROC) analysis was applied, utilizing data obtained from adolescents with and without an eating disorder diagnosis.

For the CFA results, several fit indices were considered, including the x^2/df ratio, RMSEA, CFI, TLI, and SRMR. The model test required the x^2/df ratio to be less than 5 (Kline, 2005); RMSEA (Hooper, Coughan, & Mullen, 2008) and SRMR (Brown, 2006) to be less than 0.08. Additionally, CFI (Hu & Bentler, 1999) and TLI (Marsh et al., 2004) needed to be greater than 0.90, indicating the presence of model fit.

For data analysis, the Statistical Package for Social Sciences (SPSS) 20.0 was used for descriptive statistics, reliability, and validity analyses, EFA, and ROC analysis, while Mplus version 6 was used for CFA.

Results

In this section of the study, the results of several statistical analyses, including KMO and Bartlett's test of sphericity, EFA, correlation coefficients for test-retest reliability and criterion validity, Cronbach's alpha coefficient, CFA, and ROC analysis were presented.

The KMO value obtained for the scale was 0.89, indicating that it was sufficient for factor analysis (Field, 2000). Bartlett's test of sphericity yielded $x^2 = 3221.57$ and $df = 91$ ($p < 0.001$), confirming that the data were suitable for factor analysis and exhibited multivariate normality (Netemeyer et al., 2003).

The results of the factor structure of the scale were presented in Table 2 (For the Turkish Form, see Appendix A). Due to the interrelatedness of dimensions, promax rotation was chosen as one of the oblique rotation methods. Based on the EFA results, there were three sub-dimensions in the scale: restriction, weight anxiety, and extraction-control behaviors. The item loadings fell within the range of 0.49 to 0.85 for the restriction sub-dimension, 0.54 to 0.98 for weight anxiety, and 0.63 to 0.78 for extraction-control behaviors. All item loading values surpassed the recommended threshold of 0.40 (Matsunaga, 2010), indicating satisfactory results. The eigenvalues for restriction, weight anxiety, and extraction-control

behaviors were 5.90, 1.95, and 1.15, respectively. As each value exceeded 1, this confirms the existence of the three sub-dimensions (Bandalos & Boehm-Kaufman, 2008). The total explained variance for the scale was found to be 58.46%. According to Çokluk et al. (2012), explaining between 40% and 60% of the variance is considered acceptable for psychological scales related to behaviors and attitudes.

Table 2.

Factor Structure of the Scale and Item Loadings

Items	Restriction	Weight Anxiety	Extraction-Control Behaviors
I limit what I eat to avoid gaining weight. *(item2)*	.85		
I skip meals to avoid gaining weight. *(item4)*	.78		
To lose weight or stay thin, I do not eat certain foods. *(item5)*	.74		
I count the calories of the food I eat. *(item3)*	.72		
To lose weight or stay thin, I starve myself. *(item6)*	.68		
To lose weight or stay thin, I try different diets. *(item11)*	.49		
I don't like the appearance of my body. *(item7)*		.98	
I think I'm overweight. *(item8)*		.87	
I worry about my weight. *(item1)*		.58	
After eating, I feel guilty. *(item14)*		.54	
I use laxatives to purge what I eat. *(item13)*			.78
I vomit myself after eating. *(item10)*			.77
After I chew what I eat, I take it out of my mouth. *(item12)*			.76
I use diet pills to lose weight. *(item9)*			.63
Eigenvalues	5.09	1.95	1.15
Variances (%)	36.36	13.92	8.18
Total Variance (%)	58.46		

Overall, the results of the study supported the validity and reliability of the scale, making it suitable for further analysis and interpretation (see in Table 2).

The Cronbach's alpha coefficients for the sub-dimensions of restriction, weight anxiety, and extraction-control behaviors, as well as for the entire scale, were determined to be .84, .78, .72, and .86, respectively. Cronbach's alpha is a measure used to evaluate the homogeneity of a scale, and values above .70 are considered reliable (Gerbing & Anderson, 1988). The results indicate that the scale demonstrated sufficient internal consistency, and both the overall scale and its sub-dimensions exhibited homogeneity.

In terms of test-retest reliability, the correlations between the two applications were .92 for the restriction sub-dimension, .80 for the weight anxiety sub-dimension, .81 for subtraction-control behaviors, and .90 for the entire scale. Test-retest reliability aims to ensure consistent scores when the same group is repeatedly assessed. Put simply, it measures the repeatability of the scale (Lohr, 2002). The DES exhibited stable measurement properties, as evidenced by the correlation coefficients.

Criterion validity was evaluated by comparing the measurements obtained from the DES with those from the EDE-Q, resulting in a Pearson correlation coefficient of .86. Criterion validity involves comparing measures obtained from one tool with measurements obtained from another tool, both of which measure the same construct (Depoy & Gitlin, 2015). The high correlation coefficient suggests that both scales effectively measure the same underlying structure (see in Table 3).

Table 3.

Coefficients for Cronbach's Alpha and Correlations

Factor	Cronbach's Alpha	Test-Retest	Criterion Validity
Restriction	.84	.92	.86
Weight Anxiety	.78	.80	
Extraction-Control Behaviors	.72	.81	
Total	.86	.90	

To confirm the three-sub-dimensional structure of the scale, both first and second-order factor analyses were conducted. The pre-modification fit indices for CFA were as follows: x^2 = 344.80, df = 74, x^2/df = 4.66, RMSEA = 0.089, CFI = 0.921, TLI = 0.903, and SRMR = 0.048. However, the RMSEA value seemed to be incompatible. As a result, a modification was made between items 2 and 5, and the first-order CFA results are presented in Figure 1.

Figure 1 shows that factor loading values ranged between .55 and .84. The first-order CFA results revealed the following fit indices: x^2 = 287.43, df = 73, x^2/df = 3.94, RMSEA =

0.079, CFI = 0.938, TLI = 0.922, and SRMR = 0.045. These results indicate a favorable model-data fit based on the fit indices (see in Figure 1).

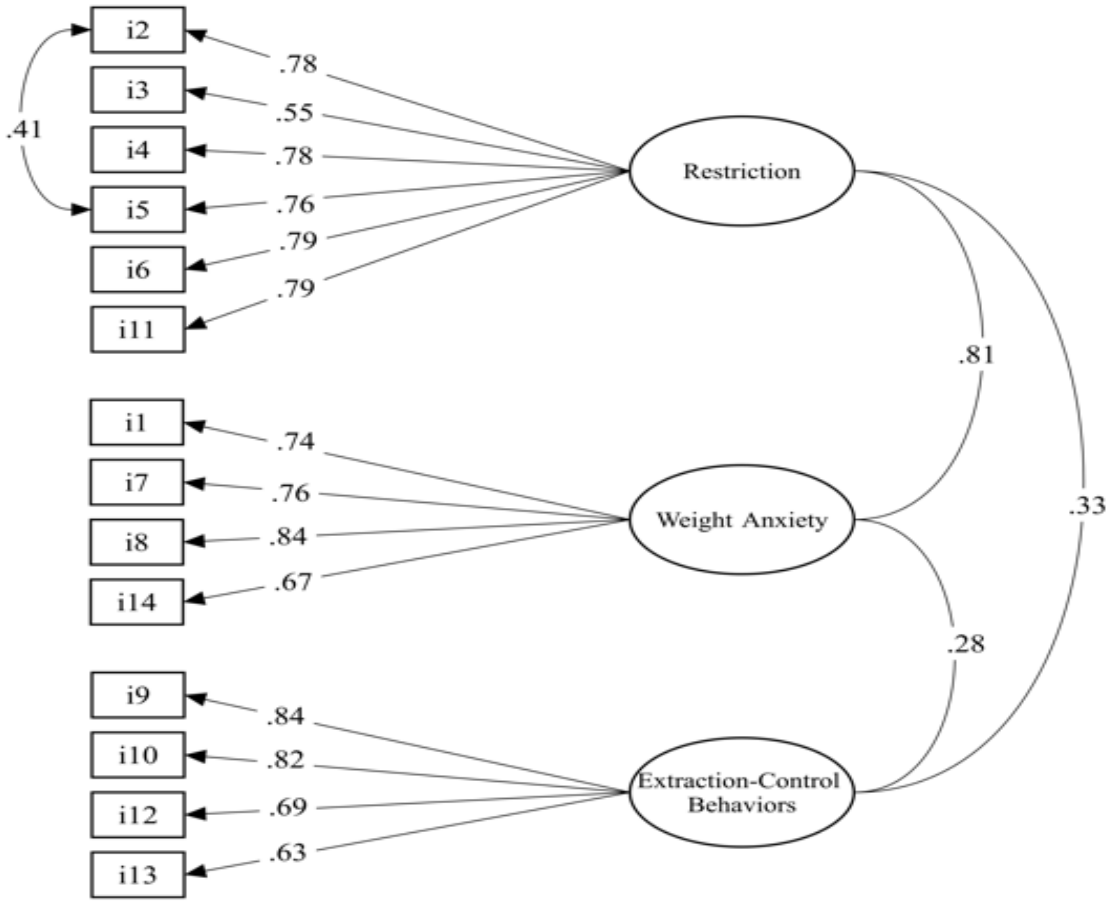

Figure 1.

First-Order Confirmatory Factor Analysis (CFA) Results

As per Figure 2, the factor loading values ranged from 0.55 to 0.84. The second-order CFA results showed the following fit indices: x^2 = 287.43, *df* = 73, x^2/df = 3.94, RMSEA = 0.079, CFI = 0.938, TLI = 0.922, and SRMR = 0.045. Based on these fit indices, the model data fit for the second-order CFA was provided (see in Figure 2).

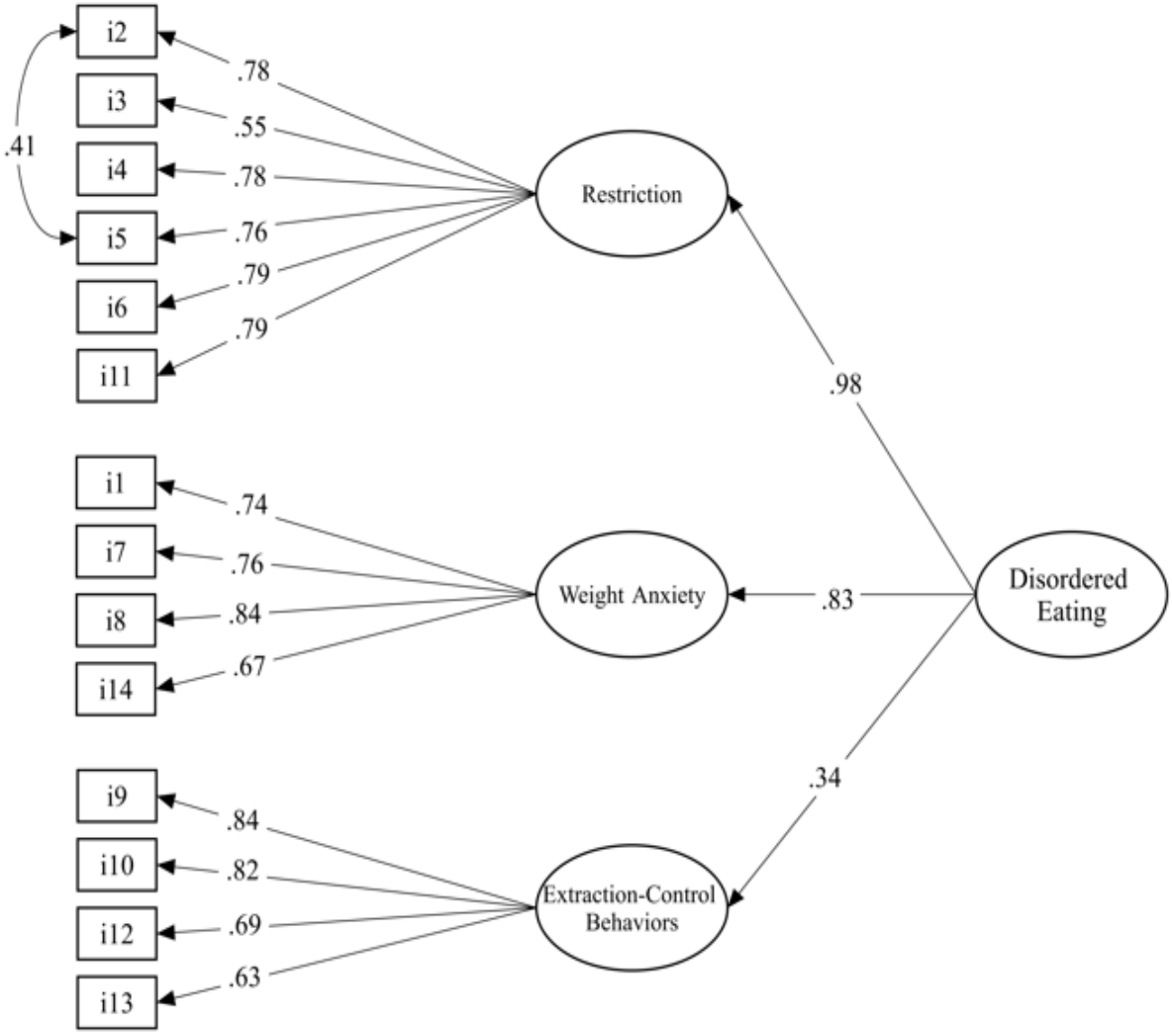

Figure 2.

Second-Order Confirmatory Factor Analysis (CFA) Results

The study involved ROC analysis to establish the scale's cutoff point. The analysis revealed a statistically significant area under the curve of 0.976 (97.6%), falling within the range of $0.5 < x < 1$. A higher value close to one indicates more accurate classification (Zou et al., 2007).

Based on these results, the scale demonstrated effective differentiation between adolescents with and without disordered eating. Furthermore, the 95% confidence interval indicated lower and upper limit values of 0.958 and 0.995 (95.8% - 99.5%), respectively (see in Figure 3).

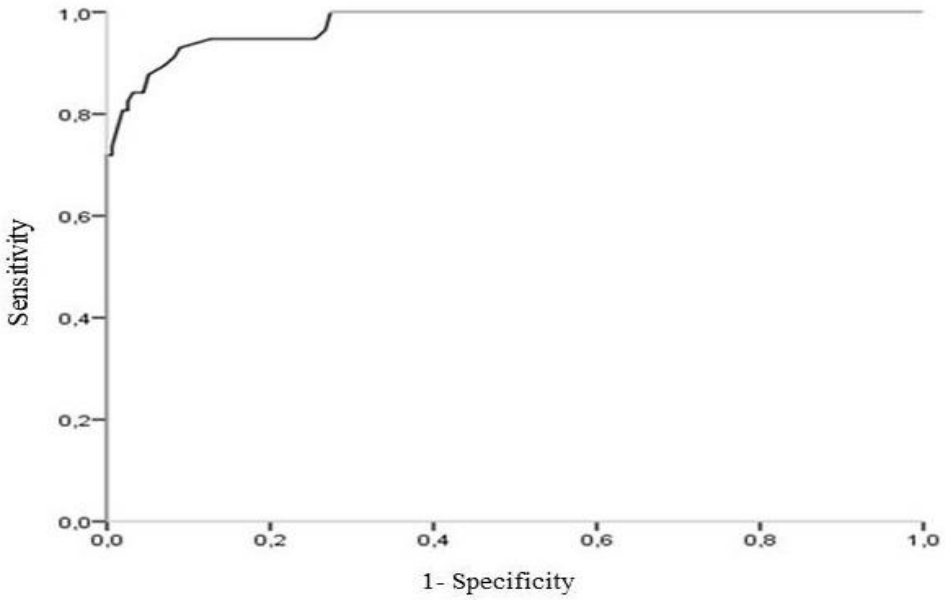

Figure 3.

ROC Curve

The study provides values for specificity, sensitivity, and the Youden index. With a cut-off point of 31 on the scale, the sensitivity was 0.93, indicating that it can correctly identify 93% of individuals with disordered eating. Likewise, the specificity was 0.91, showing that it can accurately recognize 91% of individuals without the condition. The Youden index, a method used to determine the optimal cut-off point, is obtained by subtracting the specificity value from the sensitivity value for each score. In this study, the maximum Youden index value was found at 31 points, signifying that the scale strongly differentiates between adolescents with disordered eating and those without it (see in Table 4).

Table 4.

Sensitivity, Specificity and Youden Index Coefficients

Cut-off Point	Sensitivity	Specificity	Likelihood Ratio	Youden Index
≥27	0,95	0,75	3,72	0,69
≥28	0,95	0,78	4,25	0,72
≥29	0,95	0,82	5,31	0,77
≥30	0,95	0,87	7,44	0,82
≥31	**0,93**	**0,91**	**10,43**	**0,84**
≥32	0,91	0,92	11,02	0,83
≥33	0,90	0,93	12,77	0,83
≥34	0,88	0,95	17,22	0,83
≥35	0,85	0,96	18,89	0,80

Following the procedures explained above, the DES was developed, comprising 14 items and 3 sub-dimensions focused on evaluating behaviors and attitudes associated with eating restriction, weight anxiety, and extraction and control behaviors. The scale employs a 5-point Likert scale, where each statement is rated using the anchors: Never=1, Rarely=2, Sometimes=3, Often=4, and Always=5. Higher scores on this scale indicate higher levels of disordered eating behaviors and attitudes.

Discussion

The current study aimed to examine whether 14 items related to disordered eating behaviors and attitudes had a three-dimensional structure. The results indicated that the scale is a reliable and valid measurement tool aiming to assess disordered eating patterns among the general adolescent population. Our results revealed that the newly developed scale was also suitable for clinical use with adolescents. The overall score obtained from the scale may indicate the severity of behaviors and attitudes related to disordered eating patterns. Additionally, the scale was able to discriminate between adolescents with and without disordered eating.

The multidimensional structure of attitudes and behaviors related to disordered eating is parallel to the factor structure of the existing studies in the related literature. For example, the “weight preoccupation” and “body dissatisfaction” sub-dimensions of the MEBS (von Ranson et al., 2005) showed a similar structure to the “weight anxiety” sub-dimension of the DES. The items within these sub-dimensions also demonstrate similarities. Likewise, the “compensatory behavior” sub-dimension of the MEBS aligns with the “extraction-control behaviors” sub-dimension of the DES. For instance, the item “I sometimes use diet pills (like Dexatrim, Dietac, or Acutrim) to control my weight” looks similar highly to the item “I use diet pills to lose weight” in the DES.

The DEQ (Lombardo et al., 2004) contains items that measure binge eating behavior, as well as restrictive eating and body perception. Some of these items resemble those in the “restriction” and “weight anxiety” sub-dimensions of the DES. Similarly, the dimensions of the EDE-Q (Fairburn & Beglin, 1994) conceptualized as eating concern, restraint, weight concern, and shape concern measure restrictive eating, concerns about body appearance and weight, and dysfunctional weight control behaviors, as observed in the DES. For instance, the item “On what proportion of the times that you have eaten have you felt guilty (felt that you’ve done wrong) because of its effect on your shape or weight?” in the EDE-Q bears a strong resemblance to the items “After eating, I feel guilty” and “I worry about my weight” in the DES.

Furthermore, the SCOFF (Hill et al., 2010) with five items, the DEAS (Yoon et al., 2020) consisting of five items, and the COEDS (Nowak et al., 2003) with seven items are all one-dimensional scales. However, research on scale development suggests that disordered eating can also be measured using a two- or three-factor structure (Alverenga et al., 2010; von Ranson et al., 2005). Aligning with existing literature and based on the results of confirmatory factor analysis (CFA), the DES demonstrates that disordered eating behaviors and attitudes can be assessed in three dimensions. Considering the relevant literature alongside the current study's findings, the DES proves valid and reliable for evaluating disordered eating behaviors and attitudes in both male and female adolescents aged 14 to 18.

The primary strength of this study lies in its substantial sample size of adolescents. This extensive sample allowed for a comprehensive examination of the structure, validity, and reliability of the DES. However, there are certain limitations to this study. The scale was specifically developed for adolescents aged 14-18, necessitating adaptation studies for other age groups. As another limitation, it is worth noting that the research has not encompassed factors like depression, social anxiety, and body image, which could potentially be linked to disordered eating. In the criterion validity studies of the scale, it is suggested that forthcoming researchers consider incorporating variables that might have correlations with disordered eating. Additionally, it is important to note that the DES cannot be used as a diagnostic tool for eating disorders, as this requires evaluation by a psychiatrist based on relevant diagnostic criteria. Nevertheless, the scale can indicate the severity of restraint behaviors, appearance and weight anxiety, and dysfunctional weight control behaviors associated with disordered eating. Thus, future studies may find value in adapting the scale for individuals with diagnosed eating disorders. Moreover, while the DES has been validated for Turkish adolescents, its applicability to other languages needs further consideration. Additionally, as the sample during the scale's development was not stratified by sociodemographic characteristics, future studies should assess the scale's validity for specific sub-populations.

To sum up, the DES effectively measures attitudes and behaviors linked to disordered eating in three sub-dimensions through 14 items. Furthermore, it serves as a valuable tool for screening and evaluating negative eating attitudes, behaviors, and potential psychopathology in adolescents, whether they have eating disorders or not. The DES was developed with a concise structure and user-friendly approach, making it a practical instrument for identifying disordered eating behaviors in adolescents.

Authors' contribution:
The authors contributed equally.
Declaration of conflicting interests:
The authors declare that there is no conflict of interest for this study.
Author's note:
This article was prepared based on the doctoral thesis titled "Disordered Eating in High School Students: A Mixed Method Research".
Funding:
The authors declare that they have received no financial support for this study.
Ethical approval:
Ethics committee approval for this study was given by the Marmara University Social Sciences Research Ethics Committee, with the reference number 2019-26 and protocol number 2019-6/16.

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14-18 Yaş Arası Ergenler için Bozulmuş Yeme Ölçeği'nin Geliştirilmesi

Özet

Yeme bozuklukları, vücut şekli ve görünümü, yeme davranışı ve egzersiz yapma üzerinde aşırı çaba gösterme davranışlarını içeren psikiyatrik bozukluklar olarak tanımlanmaktadır (Amerikan Psikiyatri Birliği, 2013). Ayrıca bozulmuş yeme, zararlı ve rahatsız edici yeme davranışları olarak tanımlanmaktadır (Bryne ve McLean, 2001). Bozulmuş yeme, yeme bozukluğu olarak tanımlanmasa da fiziksel ve psikolojik olarak zararlı olabilir. Bozulmuş yeme, yeme bozukluğu tanısı konmadan önceki süreci kapsar ve yeme bozukluklarının gelişmesine yol açabilir. Bu nedenle bozulmuş yemeye sahip olanlar, herhangi bir yeme bozukluğu geliştirme riski taşıyan preklinik grup olarak tanımlanmaktadır (Tsong ve Smart, 2015).

Bozulmuş yemeye yönelik tutum ve davranışlar farklı ölçüm araçlarıyla incelenmiştir (Breland ve ark., 2016; de Morais Sato ve ark., 2014; Kimball ve ark., 2019; Krug ve ark., 2016; Moorman ve ark., 2020; Nasrallah ve diğerleri, 2020; Thompson & Bardone-Cone, 2019; Yoon ve diğerleri, 2020). Literatürdeki boşluklar bu çalışmalar bağlamında değerlendirildiğinde, ölçeklerin çoğunluğunun bozulmuş yemesi olan ve olmayan kişileri kesim noktası ile ayırmadığı görülmektedir. Kullanılan ölçeklerin çoğunda madde sayısı fazladır. Uzun bir ölçeğin değerlendirme güçlüğünü ortadan kaldırmak için kısa bir ölçek geliştirmek daha uygun olabilir.

Literatürdeki bu eksiklikleri gidermek için söz konusu çalışmanın birinci amacı, bozulmuş yemesi olan ve olmayan ergenler arasında ayrım yapabilen geçerli ve güvenilir bir kısa ölçüm aracı geliştirmektir. Ayrıca, bozulmuş yeme davranış ve tutumları ile ilişkili olabilecek kısıtlayıcı davranışların, kilo ve bedenle ilgili endişelerin ve kilo kontrolünde kullanılan işlevsel olmayan davranışların yapısını ortaya çıkarmak da bir diğer amaçtır.

Yöntem

Araştırma Yöntemi

Söz konusu araştırma, bir ölçek geliştirme çalışmasıdır.

Çalışma Grubu

Araştırmanın örneklemi İstanbul ilinde bir liseye devam eden 14-18 yaş aralığındaki 1379 ergen katılımcıdan oluşmuştur.

Veri Toplama Araçları ve Verilerin Analizi

Çalışma verileri Kişisel Bilgiler Formu, YBİÖ ve BYÖ kullanılarak toplanmıştır. Verilerin analizinde frekans, yüzde, ortalama ve standart sapma değerleri; açımlayıcı faktör analizi, Cronbach alfa iç güvenirlik katsayısı, Pearson korelasyon analizi, ROC analizi ve doğrulayıcı faktör analizi yöntemleri kullanılmıştır.

Bulgular ve Tartışma

Ölçek için elde edilen KMO değeri .890, Bartlett Küresellik Testi x^2 = 3221,57 ve df = 91 (p < .001) olarak bulunmuştur. Açımlayıcı faktör analizi sonucunda toplam varyansın %58.46'sını açıklayan üç faktör olduğu sonucuna ulaşılmıştır. Faktörler kısıtlama, kilo kaygısı ve çıkarma-kontrol davranışları olarak isimlendirilmiştir. Ölçeğin tamamı için Cronbach alfa iç güvenirlik katsayısı .86; test-tekrar test korelasyon katsayısı .90'dır. Ölçüt geçerlik için yapılan, YBİÖ ile elde edilen korelasyon katsayısı .86 olarak bulunmuştur. ROC analizi sonuçlarına göre, ≥ 31 kesme noktası için duyarlılık .930, özgüllük .911 ve Youden indeksi .841 olarak saptanmıştır. Birinci ve ikinci düzey doğrulayıcı faktör analizi sonuçlarına göre x^2 = 287.435, df = 73, x^2/df = 3.94, RMSEA = 0.079, CFI = 0.938, TLI = 0.922 ve SRMR = 0.045'tir.

Söz konusu çalışmanın gücü, kapsamlı bir ergen popülasyonunda çalışılmış olmasıdır. Bu geniş örneklem sayesinde ölçeğin yapısı, geçerliği ve güvenirliği güçlü bir şekilde test edilmiştir. Ölçek, 14-18 yaş arası ergenlerin genel popülasyonu için geliştirilmiştir. Bu nedenle ölçek diğer yaş gruplarına da uyarlanabilir. Herhangi bir yeme bozukluğunun tanısı, ilgili tanı ölçütlerine göre bir psikiyatrist veya çocuk ve ergen psikiyatristi tarafından konulabilir. Bu nedenle, söz konusu ölçek yeme bozukluklarını teşhis etmek için kullanılamaz. Bununla birlikte, yeme bozukluğu ile ilişkili olabilecek kısıtlama davranışlarının, görünüş ve kilo kaygısının ve işlevsel olmayan kilo kontrolü davranışlarının şiddetini gösterebilir. Bu nedenle ölçeğin ileride yapılacak çalışmalarda yeme bozukluğu tanısı olan bireylere uyarlanması yararlı olabilir. Ölçek Türk kültüründeki ergenler için uygundur. Bu nedenle, ölçeğin diğer diller için uyarlanması gerekir. Ölçek genel ergen popülasyonu için geçerlidir. Gelecekte yapılacak çalışmalarda ölçeğin geçerliği alt popülasyonlar için de test edilebilir.

Özetle BYÖ bozulmuş yeme ile ilgili tutum ve davranışların 14 madde ile üç alt boyutta ölçülebileceğini göstermektedir. Ayrıca BYÖ ergenlerde olumsuz yeme tutum ve davranışları ile potansiyel psikopatolojinin taranması ve değerlendirilmesi için uygun olduğu görülmektedir. BYÖ, kısa bir ölçek oluşu ve kolay uygulanabilirliği ile ergen bireyler tarafından deneyimlenebilecek bozulmuş yeme davranışlarının tespit edilmesinde faydalı olabilir.

Appendix A

Bozulmuş Yeme Ölçeği (BYÖ)

No	Formda size ait olabilecek bazı tutum ve davranışları içeren ifadelere yer verilmiştir. Lütfen, bu ifadeleri okuyup her bir ifade için "**Hiçbir zaman**", "**Nadiren**", "**Bazen**", "**Sık sık**", "**Her zaman**" seçeneklerinden size uygun olan bir tanesini **(X)** koyarak işaretleyiniz. **Lütfen, boş madde bırakmayınız.**	**Hiçbir zaman**	**Nadiren**	**Bazen**	**Sık sık**	**Her zaman**
1	Kilom için endişelenirim.	( )	( )	( )	( )	( )
2	Kilo almamak için yediklerimi kısıtlarım.	( )	( )	( )	( )	( )
3	Yediğim yemeklerin kalorisini sayarım.	( )	( )	( )	( )	( )
4	Kilo almamak için öğün atlarım.	( )	( )	( )	( )	( )
5	Zayıflamak ya da zayıf kalmak için bazı yiyecekleri yemem.	( )	( )	( )	( )	( )
6	Zayıflamak ya da zayıf kalmak için kendimi aç bırakırım.	( )	( )	( )	( )	( )
7	Vücudumun görünüşünü beğenmem.	( )	( )	( )	( )	( )
8	Kilolu olduğumu düşünürüm.	( )	( )	( )	( )	( )
9	Zayıflamak için diyet hapları kullanırım.	( )	( )	( )	( )	( )
10	Yemek yedikten sonra kendimi kusturururum.	( )	( )	( )	( )	( )
11	Zayıflamak ya da zayıf kalmak için farklı diyetler denerim.	( )	( )	( )	( )	( )
12	Yediklerimi çiğnedikten sonra ağzımdan çıkarırım.	( )	( )	( )	( )	( )
13	Yediklerimi çıkarmak için ishal yapıcı ilaç kullanırım.	( )	( )	( )	( )	( )
14	Yemek yedikten sonra suçluluk hissederim.	( )	( )	( )	( )	( )