

# The Eating Disorder Diagnostic Scale: Psychometric Features Within a Clinical Population and a Cut-off Point to Differentiate Clinical Patients from Healthy Controls

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## Abstract

The Eating Disorder Diagnostic Scale (EDDS) is a brief self-report measure for diagnosing anorexia nervosa, bulimia nervosa and binge eating disorder. Research has provided evidence of the reliability and validity of this scale in non-clinical populations. Our study is the first to examine the psychometric features of the EDDS in a clinical population of eating disordered patients. We identified a cut-off point that differentiates clinical patients from healthy controls. A clinical group of 59 Dutch female eating disordered patients and a control group of 45 Dutch students completed the EDDS, the Eating Disorder Examination Interview, the Body Attitude Test and the Beck Depression Inventory—II. The EDDS showed good test–retest reliability, internal consistency, criterion validity and convergent validity with other scales assessing eating and general pathology. An overall symptom composite cut-off score of 16.5 accurately distinguished clinical patients from healthy controls. The EDDS may be a useful instrument in clinical settings and in aetiological, prevention and treatment research. Copyright © 2011 John Wiley & Sons, Ltd and Eating Disorders Association.

## Keywords

EDDS; validation; eating disorders; EDNOS

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Eating disorders are one of the more prevalent psychiatric problems faced by adolescent and adult women (American Psychiatric Association, 1994; Hoek & van Hoeken, 2003; Lewinsohn, Striegel-Moore, & Seeley, 2000). Eating disorders are associated with functional impairment, emotional distress, medical complications and with increased risk for obesity, anxiety disorders, chronic fatigue, chronic pain, depressive disorders, suicide attempts and substance abuse (Stice & Bulik, 2008).

There are three qualitatively different types of eating disorders that are distinguishable on the basis of the following criteria in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 1994): anorexia nervosa (AN), bulimia nervosa (BN) and binge eating disorder (BED). Although BED is officially part of the eating disorder not otherwise specified (EDNOS) category in DSM-IV, as a broad category reserved for eating disorders of clinical severity that do not meet diagnostic criteria for either AN or BN, BED is typically considered a separate eating disorder (Dingemans, Bruna, & van Furth, 2002; Pull, 2004) and will likely be included in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition

(Striegel-Moore & Franko, 2008; Wonderlich, Gordon, Mitchell, Crosby, & Engel, 2009). Hence, BED is regarded as a separate eating disorder in the current study.

The Eating Disorder Diagnostic Scale (EDDS; Stice, Telch, & Rizvi, 2000) is a brief self-report scale consisting of 22 items for measuring AN, BN and BED and eating pathology. Since its introduction, the EDDS has been translated and used in several other countries (Jackson & Chen, 2007; Krabbenborg, unpublished data; Lee et al., 2007; Thorsteinsdottir & Ulfarsdottir, 2008). The advantage of the EDDS is its brevity; administration takes only a few minutes, can be completed without assistance and is therefore cost-effective. The Eating Disorder Examination (EDE; Fairbrun & Cooper, 1993; Jansen, 2000) is the most widely used instrument for diagnosing eating disorders. However, this interview is relatively time-consuming and expensive in large-scale eating disorder research. The EDDS is suitable for frequent measurements of eating pathology (as applicable in, e.g. routine outcome monitoring) and can be conducted among a large number of participants. Research in non-clinical sample studies has provided evidence of the reliability and validity of the EDDS.

Stice et al. (2000; Stice, Fisher, & Martinez, 2004) showed good test–retest reliability (mean  $\kappa = .80$ ), content validity, criterion validity (mean  $\kappa = .83$ ), sensitivity to intervention effects and predictive validity of this scale. Moreover, the symptom composite score showed internal consistency (mean  $\alpha = .89$ ), test–retest reliability ( $r = .87$ ) and convergent validity with other eating pathology scales. We also found good internal consistency and convergent validity of a Dutch translation of the EDDS in a non-clinical group of female students ( $n = 382$ ; Krabbenborg, unpublished data).

The main aim of the current study was to investigate the reliability and validity of the EDDS in a clinical group of eating disordered patients. In addition, we intend to identify a cut-off point that may differentiate clinical patients from healthy controls.

## Method

### Participants

Only women participated in the present study because eating disorders are very rare among men. Two Dutch clinics that are specialized in diagnosing and treating eating disorders collaborated in the present study to recruit patients.

We used the EDE to assess AN, BN and BED. Because most patients with eating disorders did not fulfil a full syndrome diagnosis (Fairburn & Harrison, 2003), we decided to include both full and subthreshold EDE diagnoses of AN, BN and BED, similar to Stice et al. (2004). Subthreshold diagnoses required the presence of all of the symptoms of the disorder, but the severity of one of these symptoms was of subdiagnostic severity (e.g. binge eating only once per 2 weeks or having a body mass index of less than 18.5). Based on the EDE, the clinical sample ( $n = 59$ ) included the following 40 patients with full ( $n = 13$ ) or subthreshold diagnoses ( $n = 27$ ): 21 patients with AN, 12 patients with BN and seven patients with BED. The remaining 19 eating disordered patients did not fulfil one of the three main (subthreshold) diagnoses and were, for this reason, excluded from the criterion validity analysis.

The non-clinical control group ( $n = 45$ ) consisted of female undergraduate students who were recruited through an online recruiting system for research at Radboud University in Nijmegen. According to the EDE, none of the participants in the non-clinical group had an eating disorder. The clinical group (mean age = 27.2,  $SD = 9.3$ ) was older than the control group [mean age = 20.9,  $SD = 2.8$ ,  $t(101) = -4.32$ ,  $p < .001$ ]. Further, our control group was highly educated as it consisted entirely of students studying at a university. In the clinical group, more than half of the participants attended or finished education at a university (58%). In addition, 27% and 15% attended or finished college and/or high school, respectively. Educational level of the non-clinical control group was significantly higher compared with the clinical group [ $\chi^2(3) = 52.8$ ,  $p < .001$ ]. Both the clinical and non-clinical samples consisted of predominantly native Dutch speakers (>95%).

### Measures

#### Eating Disorder Diagnostic Scale

The EDDS (Stice et al., 2000) is a 22-item questionnaire measuring AN, BN and BED based on the DSM-IV (American

Psychiatric Association, 1994) criteria. The scale consists of a combination of Likert scores, dichotomous scores, frequency scores and open-ended questions like weight and height. The first four items assess the attitudinal symptoms of AN and BN in the past 3 months, such as fear of fatness and overvaluation of weight and shape measured on a seven-point scale, ranging from 0 (not at all) to 6 (extremely). The next four items measure the frequency of uncontrollable consumption of a large amount of food, with a focus on the number of days per week over the past 6 months (BED) and the number of times per week over the past 3 months (BN). The subsequent four items assess the frequency of behaviours that are used to compensate for binge eating over the past 3 months, including vomiting, laxative or diuretic use, fasting and excessive exercise. Finally, participants were asked to fill in their weight and height and had to answer two questions about missed menstrual cycles and birth control pills use.

The EDDS consists of a diagnostic scale and a symptom composite scale. The diagnostic scale can be used to diagnose AN, BN and BED. The symptom composite score indicates participants' overall level of eating pathology and was used to calculate a cut-off score to differentiate individuals with eating pathology from healthy controls. An overall eating disorder symptom composite score was computed by standardizing and summing up scores across all items (except for items asking for weight, height and birth control pill use).

#### Eating Disorder Examination

The EDE is the most widely used instrument to diagnose eating disorders. It is a structured psychiatric interview for assessing AN, BN and BED based on the DSM-IV criteria (American Psychiatric Association, 1994). A Dutch version of the EDE has been available since 2000 (Jansen, 2000) and is commonly used in specialized centres for eating disorders. The interview comprises 33 open questions, and assessment takes approximately 1 hour. The scale consists of four subscales that measure dietary restraint, eating concern, weight concern and shape concern. An overall eating disorder symptom composite score was calculated by standardizing and averaging the diagnostic items. The EDE has shown inter-rater agreement, internal consistency and discriminant validity (Beumont, Kopec-Scharder, Talbot, & Touyz, 1993; Cooper, Cooper, & Fairburn, 1989; Wilson & Smith, 1989). The internal consistency of the subscales was .86 for weight concern and shape concern, .83 for dietary restraint and .82 for eating concern.

#### Beck Depression Inventory—II

The Beck Depression Inventory—II (BDI-II; Beck, Steer, & Brown, 1996b) was used for calculating the convergent validity. The scale assesses the severity of depressive symptoms. Previous research has found that depression is a common psychiatric comorbidity of eating disorders (Blinder, Cumella, & Sanathara, 2006). Therefore, a higher rate of depression was expected within the eating disordered groups compared with the control group. The BDI-II consists of 21 items and each item is rated on a 0–3 point scale. Items were summed, such that a higher total score indicated more severe depressive symptoms. The BDI-II has shown internal consistency, test–retest reliability and convergent validity with clinician-assessed depressive symptoms (Beck et al., 1996b; Beck, Steer, Ball, & Rainieri, 1996a; Osman, Kopper, Barrios,

Gutierrez, & Bagge, 1994; Steer, Kumar, Ranieri, & Beck, 1998). Cronbach's alpha in the present study was .95.

### Body Attitude Test

The Body Attitude Test (BAT; Probst, Vandereycken, Van Coppenolle, & Vanderlinden, 1995) was used for calculating the convergent validity. The scale measures the subjective body experience and attitudes toward one's body. The BAT is a self-report scale that is commonly used in eating disorder research. It consists of 20 items and items are scored on a six-point Likert scale. Repeated tests in different subgroups have shown the BAT to be both reliable and valid. Cronbach's alpha in the present study was .96.

### Procedure

Our study was approved by the medical ethics committee of the University Medical Centre Utrecht. Most participants completed the EDDS. The additional questionnaires (BAT and BDI-II) and the EDE were administered in random order so that the order of assessment did not influence the outcome of the EDDS. Interviews were conducted by clinical assessors with a bachelor's, master's or a doctorate degree in psychology. The assessors received a training given by experts in eating pathology. The assessment of the EDE was, in nearly all cases, audio-taped, and a random subset ( $n=10$ ) was rated by a second interviewer who was unaware of the original diagnosis. The inter-rater agreement was acceptable ( $\kappa=.90$ ). Height and weight of the non-clinical group were measured after the assessment of the EDE. To investigate test-retest reliability, all participants were asked to fill in the EDDS again 2 weeks after the completion of the EDE and the questionnaires. Forty-four non-clinical participants and 18 clinical participants completed the EDDS a second time (response rate was 88.5%) within at least 2 weeks.

### Statistical analyses

To allow a direct comparison of the results, we followed the same procedure as with Stice et al. (2000, 2004). Means, standard deviations, difference tests ( $t$ -tests) between the clinical and non-clinical groups and effects sizes (Cohen's  $d$ ) were computed.<sup>1</sup> To examine internal consistency, Cronbach's alphas were calculated for the full sample and for the clinical and non-clinical samples separately. The 2-week test-retest reliability of the diagnostic scale was obtained by calculating Cohen's kappa and the overall accuracy rate.

To examine whether the criterion validity was sufficient, the proportion of agreement between the EDE and EDDS diagnoses was calculated. To determine the convergent validity, we tested whether the three EDDS-identified (subthreshold) eating disorder groups showed elevations on the subscales of the EDE, the BDI-II and the BAT relative to the EDDS-identified group who did not receive an eating disorder on the diagnostic scale of the EDDS.

To examine whether the symptom composite scale can accurately differentiate individuals with eating pathology from healthy

controls, receiver operating characteristic analyses (ROC) were conducted. All participants from the clinical group (including the 19 patients who were excluded from the criterion validity analysis) and the non-clinical group were included for ROC analyses. The ROC identified the cut-off score of the symptom composite score that optimally distinguished between clinical ( $n=59$ ) and non-clinical participants ( $n=45$ ). An ROC curve was obtained by plotting the proportion of sensitivity against the proportion of specificity for different possible cut-off points (Thapar & McGuffin, 1998).

## Results

### Descriptives

Descriptive statistics of the main study variables for the clinical and non-clinical groups are shown in Table 1. Compared with the non-clinical group, the clinical group scored higher on all subscales of the EDE as follows: restraint eating, eating concern, shape concern and weight concern. The clinical group obtained higher scores on the BDI-II and the BAT. Finally, there was a significant difference between the symptom composite score of the clinical group and the non-clinical group on both the EDE and the EDDS.

### Internal consistency

Standardized scores of all items that were part of the EDDS symptom composite score were used to calculate the internal consistency. Cronbach's alpha for the full sample was .94. The internal consistencies for the clinical and non-clinical groups were .86 and .87, respectively. The internal consistencies of the symptom composite score of the clinical group and the non-clinical group who filled in the EDDS again 2 weeks after the first measurements were .80 and .86, respectively.

**Table 1** Means and standard deviations for main study variables by clinical and non-clinical group

	Clinical group		Non-clinical group		Cohen's $d$
	$M$	$SD$	$M$	$SD$	
EDE	$(n=45)$		$(n=59)$		
Restraint	2.80*	1.49	.37	.77	2.05
Eating concern	3.05*	1.49	.20	.24	2.67
Weight concern	3.65*	1.42	.65	.60	2.75
Shape concern	3.95*	1.42	.65	.42	3.15
SCS	3.36*	1.23	.47	.37	3.18
EDDS	$(n=45)$		$(n=59)$		
SCS	35.53*	15.64	7.24	6.63	2.36
BDI-II	$(n=32)$		$(n=45)$		
Total score	24.44*	11.60	3.35	2.59	2.51
BAT	$(n=32)$		$(n=45)$		
Mean score	3.02*	.72	.92	.38	3.65

Note: EDE, Eating Disorder Examination; SCS, symptom composite score; EDDS, Eating Disorder Diagnostic Scale; BDI-II, Beck Depression Inventory—II; BAT, Body Attitude Test.

\*All scores were significant at  $p<.001$ .

<sup>1</sup>An analysis of covariance controlling for age and educational level showed similar results; however, there were some missing data on the demographic variables, and therefore, we decided to report the differences between the clinical and non-clinical groups using student  $t$ -tests.

**Two-week test-retest reliability**

We next investigated the chance-corrected agreement between EDDS diagnoses (yes versus no) made on the basis of EDDS responses at baseline and the re-test assessment 2 weeks later. Results showed that the kappa for the eating disordered versus non-eating disordered groups was .86. This corresponds with a substantial to almost perfect agreement between the diagnoses on time 1 and time 2 (Fleiss, 1981). The overall accuracy rate was .95.

The 2-week test-retest reliability of the symptom composite score for the total sample was obtained by calculating the Pearson correlation which was .95 between time 1 and time 2. In addition, the test-retest reliability of the symptom composite score of the clinical group was .81 and the non-clinical group was .69.

**Criterion validity**

The EDE differentiated 21 AN patients, 12 BN patients, seven BED patients and 45 non-eating disordered patients. According to the EDDS, there were 20 AN patients, 14 BN patients, five BED patients and 46 patients without an eating disorder.

An overview of the outcome measures is presented in Table 2. The sensitivity, specificity, positive predictive value, negative predictive value and overall accuracy of the total eating disordered group were all above .93. The overall accuracy is the proportion of individuals for whom the negative and positive EDDS diagnoses matched the actual interview diagnoses. Kappa agreement between the EDDS and the EDE diagnoses was .89. We also report the values for the separate eating disorder diagnoses. Noteworthy, the sensitivity for the AN and BN group was high (above .95), whereas the sensitivity for the BED group was low (.57). The positive predictive value of BED was lower (.80) compared with AN and BN. The kappa coefficient of participants with AN, BN and BED were .97, .91 and .72, respectively.

**Convergent validity**

Table 3 presents the means and standard deviations of the different measures. The Bonferroni post hoc test showed that almost all eating disorder groups scored significantly higher on all eating pathology scales or eating-related measures ( $p < .05$ ). Further, the BED group obtained significantly lower scores on the dietary restraint subscale of the EDE compared with the AN and BN group

**Table 2** Agreement between EDDS and EDE diagnoses

Eating disorder	Sensitivity	Specificity	Positive predictive value	Negative predictive value	$\kappa$	Accuracy
Anorexia nervosa	.95	1.00	1.00	.98	.97	.99
Bulimia nervosa	1.00	.97	.86	1.00	.91	.98
Binge eating disorder	.57	.99	.80	.96	.72	.95
Total eating disordered participants	.96	.93	.94	.95	.89	.94

Note: N=85. EDDS, Eating Disorder Diagnostic Scale; EDE, Eating Disorder Examination.

**Table 3** Means and standard deviations for EDDS-identified eating disorder groups and the control group on different eating pathology measures

Eating pathology measures	Eating disordered groups								Control group	
	AN		BN		BED		Other eating disorder group <sup>†</sup>		No eating disorder	
	M	SD	M	SD	M	SD	M	SD	M	SD
EDE	(n=23)		(n=20)		(n=9)		(n=9)		(n=43)	
Restraint	3.31*	1.18	3.21*	1.46	1.98*	1.22	1.22	1.01	.28	.67
Eating concern	3.22*	1.24	3.36*	1.65	2.40*	1.76	1.91*	1.46	.20	.24
Weight concern	3.61*	1.52	4.05*	1.58	3.36*	1.20	2.53*	.75	.65	.61
Shape concern	3.80*	1.41	4.46*	1.31	3.65*	1.73	2.79*	1.58	.65	.42
SCS	3.49*	1.06	3.77*	1.32	2.85*	1.40	2.11*	.84	.44	.36
BDI-II	(n=9)		(n=12)		(n=8)		(n=5)		(n=43)	
Total score	27.44*	8.66	21.83*	12.20	24.38*	12.02	17.60*	17.94	3.28	2.58
BAT	(n=9)		(n=12)		(n=8)		(n=5)		(n=43)	
Mean score	2.81*	.69	3.04*	.72	2.97*	1.19	2.83*	.71	.89	.33

Note: EDDS, Eating Disorder Diagnostic Scale; AN, anorexia nervosa; BN, bulimia nervosa; BED, binge eating disorder; EDE, Eating Disorder Examination; SCS, symptom composite score; BDI-II, Beck Depression Inventory—II; BAT, Body Attitude Test.

<sup>†</sup>We did not use the term EDNOS here because patients with AN, BN and BED subthreshold diagnoses were included in the AN, BN and BED groups.

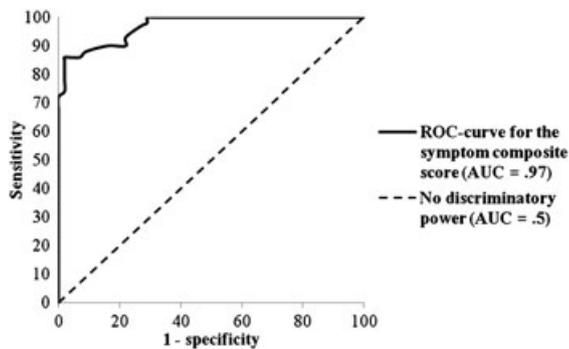
\*Mean difference is significant different with the non-eating disordered group at  $p < .05$ .

( $p = .01$ ). The AN group scored significantly higher on the BDI-II compared with the BN group ( $p = .03$ ) but did not significantly differ from the BED group ( $p > .05$ ).

To examine the convergent validity of the symptom composite score of the EDDS, we tested whether the symptom composite score was positively correlated with validated measures of eating pathology or eating-related measures. The symptom composite score of the EDDS showed significant positive correlations with the BDI-II ( $r = .82, p < .001$ ) and the BAT ( $r = .90, p < .001$ ) and high correlations with the subscales [restraint eating ( $r = .75, p < .001$ ), eating concern ( $r = .70, p < .001$ ), weight concern ( $r = .85, p < .001$ ), shape concern ( $r = .86, p < .001$ )] and the symptom composite score of the EDE ( $r = .85, p < .001$ ).

**Eating Disorder Diagnostic Scale symptom composite cut-off score**

Receiver operating characteristic analysis was conducted to determine a symptom composite cut-off score for the distinction between our clinical eating disordered and non-clinical control groups. Figure 1 shows the ROC curve calculated for the symptom composite score. The diagonal line represents the symptom composite without discriminatory power (area under the curve = .5). The ROC curve represents the actual discrimination between eating disordered and non-clinical participants based on the symptom composite score. Each point on the ROC curve represents a sensitivity/ specificity pair corresponding to a



**Figure 1** Receiver operating characteristic curve for the Eating Disorder Diagnostic Scale symptom composite score of the eating disordered and non-eating disordered participants. ROC, receiver operating characteristic; AUC, area under the curve

particular decision threshold. We select the cut point that optimized rates of both sensitivity and specificity.

The area under the curve is .97, which corresponds with an excellent accuracy of the symptom composite score regarding the distinction between eating disordered and non-clinical participants. The optimal cut-off score is based on equal proportions of sensitivity and specificity (Conigrave, Hall, & Saunders, 1995). A symptom composite cut-off score of 16.5 reflects the best trade-off between sensitivity and specificity of the EDDS symptom composite score regarding the determination of the presence or absence of eating pathology. It appears that 52 out of 59 participants within the clinical group scored above this cut-off score. In contrast, 41 out of 45 participants within the non-clinical group scored under 16.5. This corresponds with a sensitivity of .88 and a specificity of .91. To note, one out of seven participants within the clinical group who scored under 16.5 was diagnosed with AN, three participants were diagnosed with BN and three participants did not receive a diagnosis (based on the EDE).

## Discussion

The aim of the study was to examine the psychometric features of the EDDS in a clinical group of eating disordered patients. In addition, we introduced a cut-off point that optimally differentiated clinical from healthy controls in the sample. Results revealed that the test–retest reliability of the EDDS diagnoses was excellent according to the criteria of Fleiss (1981). The test–retest reliability and the internal consistency of the symptom composite score also showed high reliability. The agreement between EDE and EDDS diagnoses of DSM-IV eating disorder diagnoses was high, indicating satisfactory criterion validity and demonstrating that the EDDS is an accurate measure for diagnosing eating disorders. The findings demonstrated that the EDDS possessed adequate convergent validity, as the participants with versus without an eating disorder per the EDDS obtained higher scores on eating pathology scales or eating-related measures. Further, the symptom composite score of the EDDS is able to differentiate between clinical eating disordered patients and a non-eating disordered control group. Results showed that the overall accuracy between EDDS and EDE diagnoses was high. This represents excellent

concordance and is in line with previous results (Stice *et al.*, 2000, 2004).

We found that a symptom composite cut-off score of 16.5 accurately distinguished clinical patients from healthy controls. The cut-off score may be helpful for identifying subthreshold patients with AN, BN and BED, but additional research is needed before concluding whether this cut-off is useful for other EDNOS presentations.

Results showed that the sensitivity for the BED group was .57. Furthermore, additional analyses revealed that six out of the 19 clinical patients, who did not receive a diagnosis based on the EDE, were diagnosed with a full syndrome eating disorder according to the EDDS.<sup>2</sup> Five out of these six patients indicated bulimic episodes on the EDDS and therefore received a full syndrome eating disorder. Another point where the EDDS over-diagnoses relative to the EDE is the amount of fasting patients endorsed. The amount of fasting patients endorsed is higher on the EDDS compared with the EDE. Likely, the number of false positives would be higher among EDNOS patients. An explanation for the first findings is that several participants endorsed subjective bulimic eating episodes but no objective bulimic eating episodes based on the EDE. When participants had to describe the frequency of their binge eating episodes, they usually referred more to the sense of loss of control than to the amount of food. This was also found in other studies (Dingemans, 2009; Telch, Pratt, & Niego, 1997). Thus, criteria for subjective and objective binge eating episodes for the EDDS may need to be emphasized more clearly.

The present study showed that the EDDS is not only a useful instrument for screening eating pathology within non-clinical samples but seems suitable for use in clinical populations as well. Because the EDDS can be completed quickly, easily and without assistance, it can be used in different settings. For example, prevention or intervention programmes often need frequent measurements of eating pathology to identify individuals with eating pathology. The EDDS would also be very valuable in clinical settings where it can provide a first insight into the seriousness of a patient's eating pathology. As such, the EDDS can provide a first direction for possibly further psychological assessment or support in general clinical settings.

Our study has some limitations and recommendations for future research that should be noted when interpreting the findings. First, the overall concordance between the EDDS diagnoses and the EDE interview diagnoses was strong, but the agreement of the different eating disorder diagnoses should be interpreted with caution considering the small sample sizes, especially for BED diagnoses. It would be useful if additional research examined the criterion validity of EDDS diagnoses in clinical BED patients. Second, to obtain test–retest reliability, part of the eating disordered patients filled in the EDDS again after 2 weeks. However, some patients had already started their treatment between assessments and therefore possibly influencing the severity of eating pathology. Nevertheless, we found adequate test–retest reliability scores, suggesting that the influence of the treatment was of less extent.

<sup>2</sup>Further analysis showed that according to the EDDS, one clinical patient without a diagnosis was diagnosed with AN, two patients without a diagnosis were diagnosed with BN and three patients without a diagnosis were diagnosed with BED.

Third, in one of the participating clinics, the EDE and the additional questionnaires were part of the standardized intake procedure. Therefore, it was not possible to administer the questionnaires and the EDE in random order because the EDE, the BDI-II and the BAT were administered before completion of the EDDS. Fourth, it was not possible to cross-validate the symptom composite cut-off score. Future studies should include a larger sample of EDNOS cases and divide the sample randomly into two groups as follows: establish the cut-off point in one sample and use the second sample to cross-validate this cut-off point. Fifth, this study focuses only on female patients, thereby restricting the generalizability of the current findings. Future studies should establish the reliability and validity of the EDDS for men. Sixth, future research should examine the effect of applying the proposed criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition to determine whether the psychometric features of the EDDS and cut-off score found in this study

will continue to be applicable. Seventh, weight and height were self-reported in the clinical group. Because we used these data for the calculation of patients' body mass index, this may have influenced the validity of the data of the diagnostic scale.

In sum, our study is the first to include a clinical group of eating disordered patients and provide additional evidence concerning reliability and validity of the EDDS. These findings replicate earlier findings in non-clinical samples, implying that the psychometric properties of the EDDS are fairly robust. It appears that the EDDS is particularly applicable for diagnosing eating disorders, for measuring the severity of the eating pathology within a clinical setting (and not only in non-clinical populations) and for aetiological, prevention and treatment research. A symptom composite cut-off score of 16.5 might be useful to differentiate clinical from non-clinical eating disordered patients. In general, our findings suggest that the EDDS is a useful instrument in clinical and research applications.

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