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Additional Information

TITLE: Confirmatory factor analysis and psychometric properties of the Yale-Brown-Cornell Eating Disorders Scale Self-Report version (SR-YBC-EDS) in Spanish clinical and non-clinical samples.

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Abstract

Objective: The aim of the study was to adapt and validate the Yale-Brown-Cornell Eating Disorder Scale (YBC-EDS) transformed into a self-report format in Spanish clinical and non-clinical samples. **Method:** Eighty-three eating disordered patients and 358 non-clinical participants completed the Self Report-YBC-EDS version (SR-YBC-EDS), the Eating Attitudes Test (EAT), and the Penn State Worry Questionnaire (PSWQ). **Results:** Confirmatory Factor Analyses of a two-factor second-order model showed adequate values of goodness-of-fit indices for non-clinical (normed $\chi^2=13.4578$; $df=18$; NFI=0.980; GFI=1.00; RMSEA=0.00), and clinical samples (normed $\chi^2=26.5913$; $df=18$; NFI=0.944; GFI=0.981; RMSEA=0.076). The factor loadings were high (preoccupations range: 0.69-0.91; rituals range: 0.61-0.94). Cronbach's alpha (range $\alpha = 0.85-0.90$); test-retest 2 weeks later (range: 0.84-0.91) was excellent in both samples. SR-YBC-EDS showed moderate-high indices of convergent validity with PSWQ and EAT. For the total score, a cut-off of 13 showed a sensitivity of 90.4%, specificity of 91.6%, and diagnostic accuracy of 91.4%. Positive and negative predictive values were excellent (71.4% and 97.6%, respectively). **Discussion:** Findings indicate that the SR-YBC-EDS is a reliable and valid instrument to identify symptoms and assess the severity of ED, and it can be used as a faster and less costly alternative to the YBC-EDS interview.

Keywords: Self-report; Yale-Brown-Cornell Eating Disorders-Scale

1. Introduction

The Yale-Brown-Cornell Eating Disorders Scale (YBC-EDS) (Mazure, Halmi, Sunday, Romano & Einhorn, 1994; Sunday, Halmi & Einhorn, 1995) is a clinician-administered semi-structured interview assessing symptom severity related to eating disorder preoccupations and rituals. It was developed by Halmi and colleagues, adapting the format and structure of the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), widely acknowledged as the gold standard of obsessive-compulsive disorder severity (Goodman et al., 1989). Like Y-BOCS, YBC-EDS has two parts. Part 1 contains a 65-item symptom checklist measuring preoccupations and rituals; Part 2 rates current symptoms according to interviewer criteria on a 0-4 Likert-scale (higher scores, greater severity). The core score on this interview measures the interviewee's severity, derived from eight items (four each from the preoccupation and ritual scales) measuring time occupied, interference, distress, and degree of control over preoccupations and rituals (items about the ego-dystonic nature, resistance, insight, desire for change, and symptom-free intervals are not included in total score). The YBC-EDS takes 45-60 minutes to administer.

The YBC-EDS has shown excellent inter-rater reliability, good internal consistency and good convergent validity with other eating disorder (ED) measures (Mazure et al., 1994; Sunday et al., 1995), depression and anxiety symptoms (Mazure et al., 1994), perfectionism (Halmi et al., 2000), and impulsivity (Jordan et al., 2009). It has served as an additional measure of ED severity in the diagnostic process, response to treatment (Jordan et al., 2009; Walsh et al., 2006), predicting treatment completion and post-treatment relapse (Halmi et al., 2005, 2002), and in differentiating healthy non-dieting participants from restrained dieters and patients recovered from an ED (Sunday & Halmi, 2000).

As occurred with the Y-BOCS, a self-report version (Yale-Brown-Cornell Eating Disorder Scale Self-Report Questionnaire; YBC-EDS-SRQ) was recently developed (Bellace et al., 2012). According to its authors, it takes 20-25 minutes to complete, and allows patients (several, if necessary) to respond independently to both parts of the instrument. As in the interview, the YBC-EDS-SRQ yields a preoccupations subscale, rituals subscale and total score. Convergent

validity was found between YBC-EDS and YBC-EDS-SRQ. All subscales and total score were significantly inter-correlated. All correlations revealed significant test–retest reliability one week later. There were no associations between various symptoms of YBC-EDS-SRQ and anxiety and depression measures. Results show that the self-administered YBC-EDS is a valid and reliable measure of preoccupations and rituals in ED (Bellace et al., 2012).

Given the utility of a valid self-report format of YBC-EDS for clinicians and researchers, the present study aimed to confirm the factorial structure of the Spanish version and analyze its psychometric properties in clinical and non-clinical samples.

2. Method

2.1 Participants

Two groups participated in this study. The clinical sample (recruited from three outpatient mental-health centers in the Spanish National Health System) included 83 outpatients (mean age=25.94 years, SD=9.25; 96.4% women) meeting the DSM-IV-TR (APA, 2000) criteria for ED. Diagnoses included Anorexia Nervosa restricting type ($n=13$; Body Mass Index (BMI)=16.19;SD=1.6), Anorexia Nervosa binge eating/purging type ($n=11$;BMI=16.82; SD=0.9), Bulimia Nervosa purging type ($n=20$; BMI=22.73;SD=2.3), Bulimia Nervosa non-purging type ($n=6$; BMI=27.33;SD=9.4), Binge Eating Disorder ($n=12$;BMI=37.69;SD=5.7), and other Eating Disorder Not Otherwise Specified ($n=21$; BMI=27.13;SD=6.71). Most had high school or first-level university education (59.4%).

The non-clinical group included 358 participants (73.9% women) with a mean age of 23.91 years (SD=4.5; range=16-38). Most had high school or first-level university education (67.2%). Mean BMI was 22.21 (SD=3.0 range=17.05-35.16).

2.2 Measures

2.2.1 Self-Report Yale-Brown Cornell Eating Disorders Scale (SR-YBC-EDS) Spanish adaptation was adapted from the YBC–EDS (Mazure et al., 1994). For the present study, the SR-YBC –EDS was adapted to a self-report format and translated into Spanish by a group of

experts in the area with strong English language skills. It was then reviewed by a professional native translator and back-translated into Spanish. Items were presented as a paper-and-pencil self-report. Part 1 (65-item checklist) had a 5-point Likert scale (range: 0-“never” to 4-“always”) to assess symptom frequency in the past month. Part 2 assesses these symptoms (past month) on a 5-point Likert scale (range: 0-“never” to 4-“always”) based on core YBC-EDS items (time occupied, interference, distress and control degree) on the preoccupations and rituals scales.

2.2.2 Eating Attitudes Test-26 (EAT-26) (Garner, Olmstead, Bohr & Garfinkel, 1982).

The EAT-26 is a self-report instrument assessing attitudes and behaviors related to ED (6-point Likert scale: “always”-“never”). The Spanish version (Castro, Toro, Salamero & Quimera, 1991) shows good internal consistency in the present study in non-clinical ($\alpha=.86$) and clinical ($\alpha=.86$) groups.

2.2.3 Penn State Worry Questionnaire (PSWQ) (Meyer, Miller, Metzger & Borkovec,

1991). The PSWQ is a sixteen-item self-report inventory assessing dimensions of worry. The Spanish version (Sandín, Chorot, Valiente & Lostao, 2009) has excellent internal consistency in both non-clinical ($\alpha=.75$) and clinical ($\alpha=.81$) samples in the present study.

2.3 Procedure

The non-clinical group was recruited using the “snowball” sampling technique. Advanced psychology student volunteers were taught how to present the instruments to three friends and/or family members. Participants signed an informed consent form, and their weight and height were measured by each evaluator. Before completing the questionnaires, data were collected on their current physical and mental health status and that of the past 2 years, including treatments received, by means of a structured interview specifically designed for this purpose. Fifteen days later, some participants ($n=191$) completed the YBC-EDS again. The Clinical group was recruited by their clinicians in their respective outpatient mental-health centers. Diagnoses were confirmed by the Structured Clinical Interview for the DSM-IV-TR (First, Spitzer, Gibbon, & Williams, 2002). All participants were instructed to complete the self-

administered questionnaires in the same manner. This study received the ethical approval of the University of Valencia and outpatient mental-health centers' Ethics Committees.

2.4 Statistics

Confirmatory factor analysis (CFA) with a maximum likelihood robust method, using a structural equations model, was employed to verify the YBC-EDS symptom severity categories as a second-order model: total score (higher-order factor), preoccupations and rituals subtotals (lower-order factors). Several parameters were used to assess the goodness-of-fit of the model: normed $\chi^2 < 5$; CFI (comparative fit index) > 0.90 ; GFI (goodness-of-fit index) > 0.85 ; and RMSEA (root mean square error of approximation) < 0.08 (Hair, Anderson, Tatham & Black, 1999; Ullman & Bentler, 2004). To examine the internal consistency, convergent validity and discriminant validity, Pearson correlations were conducted. To examine test–retest reliability, the Intraclass Correlation Coefficient (ICC) was analyzed. Diagnostic utility was analyzed by examining the accuracy of different cut-off scores. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), Youden index and diagnostic accuracy were calculated for the SR-YBC-EDS Spanish version total and subscales scores. Statistical analyses were performed with SPSS v.20 and EQS 6.1 software.

3. Results

3.1 Confirmatory Factor Analysis

The two-factor second-order model showed satisfactory values of goodness-of-fit indices for both clinical ($\chi^2=26.5913$; $df=18$; NFI=0.944; GFI=0.981; RMSEA=0.076) and non-clinical samples ($\chi^2=13.4578$; $df=18$; NFI=0.980; GFI=1.00; RMSEA=0.00). All observed variables had significant loadings ranging from 0.69 to 0.91 (preoccupations) and 0.61 to 0.94 (rituals) in the clinical sample, and from 0.75 to 0.86 (preoccupations) and 0.72 to 0.87 (rituals) in the non-clinical sample ($p < 0.05$).

3.2 Reliability and Convergent Validity

SR-YBC-EDS' internal consistency for subscales and total score in the clinical (range: $\alpha=0.86-0.90$) and non-clinical samples (range: $\alpha=0.85-0.87$) were excellent.

ICC in the clinical group were 0.84 for rituals and 0.91 for preoccupations and total scores, and 0.88 for preoccupations, 0.86 for rituals and 0.91 for total score (all $p<0.05$) in the non-clinical group.

There were significant correlations between the preoccupations, rituals, and total score and EAT total score and PSWQ in both samples, with higher values for the clinical sample (see Table 1).

Table 1. Correlations between SR-YBC-EDS and EAT and PSWQ in clinical and non-clinical samples

	Preoccupations	Rituals	Total Score
Clinical			
EAT total score	0.655**	0.511*	0.680**
PSWQ	0.369**	0.419**	0.430**
Non-clinical			
EAT total score	0.345**	0.360**	0.401**
PSWQ	0.453**	0.285**	0.434**

* $p < 0.05$ ** $p < 0.01$

SR-YBC-EDS, Self-Report Yale-Brown-Cornell Eating Disorder Scale; EAT, Eating Attitudes Test; PSWQ, Penn State Worry Questionnaire.

3.3 Diagnostic accuracy, sensitivity and specificity of SR-YBC-EDS

Regarding predictive accuracy, analyses of the indexes showed that (see Table 2) the best cut-off score for the total score on the SR-YBC-EDS was 13, with high diagnostic accuracy (91%), sensitivity (90%) and specificity (91%). Regarding the preoccupations and rituals subscales, cut-off points of 8/9 and 4/5, respectively, showed the best predictive accuracy indexes.

Table 2. Predictive accuracy of the SR-YBC-EDS total score and subscales for detection of clinical ED patients.

Cut-off scores	Sensitivity (%)	Specificity (%)	VPP (%)	VPN (%)	Youden Index (%)	Diagnostic accuracy (%)
Total score						
7	85.5	70.7	40.3	95.5	56.2	73.5
8	79.5	75.7	43.1	94.1	55.2	76.4
9	71.1	79.9	45.0	92.3	51.0	78.2
10	69.9	83.2	49.2	92.3	53.1	80.7
11	66.3	87.4	55.0	91.8	53.7	83.4
12	65.1	89.9	60.0	91.7	55.0	85.3
13	90.4	91.6	71.4	97.6	82.0	91.4
14	56.6	93.3	66.2	90.3	49.9	86.4
15	53.0	93.9	66.7	89.6	46.9	86.2
16	50.6	95.5	72.4	89.3	46.1	87.1
Preoccupations subtotal score						
5	92.8	57.3	33.5	97.2	50.0	63.9
6	88.0	68.2	39.0	96.1	56.1	71.9
7	77.1	79.9	47.1	93.8	57.0	79.4
8	68.7	86.3	53.8	92.2	55.0	83.0
9	60.2	90.5	59.5	90.8	50.7	84.8
10	50.6	95.3	71.2	89.3	45.9	86.8
11	41.0	97.2	77.3	87.7	38.2	41.0
Rituals subtotal score						
1	81.9	64.5	30.5	94.6	40.9	60.3
2	75.9	73.2	34.9	93.9	46.5	67.8
3	68.7	80.4	39.6	92.9	49.1	73.7
4	57.8	90.2	44.9	91.7	49.1	78.2
5	53.0	92.2	57.8	90.2	48.1	84.1
6	44.6	96.1	61.1	89.4	45.2	84.8
7	44.6	96.1	72.5	88.2	40.7	86.4

SR-YBC-EDS, Self-Report Yale-Brown-Cornell Eating Disorder Scale; PPV, positive

predictive value; NPV, negative predictive value

4. Discussion

The present study aimed to adapt the Spanish version of the YBC-EDS to self-report format and validate its factorial structure and psychometric properties. CFA of a second-order model of Part 2 showed satisfactory values of goodness-of-fit indices. The second-order model indicated

that the total score is best interpreted by the contributions of both the preoccupations and rituals subscales; hence, the severity scale is adequately accounted for by the distinction between preoccupations and rituals. Its reliability (internal consistency and stability) was excellent for all subscales in both groups. Regarding convergent validity, associations with eating psychopathology and worry measures were low-moderate in both samples; thus, EAT, PSWQ and SR-YBC-EDS are measuring different aspects of the same constructs, but not exactly the same thing. In the clinical group, associations were higher than in the non-clinical sample, especially between EAT and SR-YBC-EDS total score. This result agrees with previous studies showing associations with eating psychopathology (Mazure et al., 1994; Jordan et al, 2009). Although there are no data on YBC-EDS associations specifically with worry, other studies found associations with measures of obsessionality (Mazure et al., 1994; Goodman et al., 1989; Halmi et al., 2000); therefore, these psychopathological phenomena are different manifestations of the intrusive nature of ED-related preoccupations (Perpiñá, Roncero, Belloch, & Sánchez-Reales, 2011; García-Soriano, Roncero, Perpiñá, & Belloch, 2014).

Recently, Fitzpatrick and Weltzin (2014) have studied precisely the factor structure of the self-report version of YBC-EDS including motivation and ego-syntonic items in the analysis. Although their main aim was to determine the predictive ability of motivation for change and ego-syntonic subscales of the self-report, in that study the factor structure of the instrument was investigated in a sample of ED patients using exploratory factor analysis. Three factors emerged explaining a total variance of 64.2%: factor 1 preoccupation severity and ego-syntonic items, factor 2 ritual severity and ego-syntonic items, and factor 3 motivation for change. Ego-syntonic items did not emerge as a separate factor. The results of this mentioned study are supporting the validity of the YBC-EDS in a brief self-report format, the goodness of its internal consistency, and its correlations of the symptom severity subscale with other measures of psychopathology; so their results support the use of the YBC-EDS in a self-report format in clinical settings.

The aim of our study had other characteristics; namely to confirm the factorial structure of the two scales of YBC-EDS in a self-report format, administered both in clinical and non-clinical samples, and to provide reliable and valid cut-off scores capable of screening people at

risk of an ED or a disordered eating problem. The best threshold point on the SR-YBC-EDS Spanish version was 13 on the total score, which showed excellent percentages of sensitivity, specificity and diagnostic accuracy for detecting ED in the general population. Moreover, lower cut-off scores on the rituals scale (4-5) showed sensitivity, specificity, positive and negative predictive values, and diagnostic accuracy comparable to higher scores on the cut-off for the preoccupations scale (8-9).

This study has several limitations. The best way to assess convergent validity between the two YBC-EDS formats (interview and self-report) is to administer them to the same individuals, but in our study this was not possible. Fortunately, the study by Bellace and colleagues (2012) provides evidence of a valid and reliable correspondence between the two formats (Federici et al., 2010). Moreover, although it is clear that, in general, the sex distribution of ED is skewed to women, given that the SR-YBC-EDS is a good instrument to screen ED symptomatology in the general population, in this study we could not perform a differential analysis by gender.

The present study provides data on the factorial structure of core scales of the YBC-EDS self-report format, and data about its psychometric properties. To our knowledge, this study is the first to provide a cut-off score for the SR-YBC-EDS total score, with excellent sensitivity and specificity to discriminate individuals with ED.

In conclusion, individuals with ED, or high risk of developing them, tend to experience food- and body- related preoccupations and rituals. The Spanish version of the SR-YBC-EDS shows adequate psychometric properties, at least in the sample studied between the ages of 15 and 40 years old, as a quicker alternative to the interview in clinical samples and a reliable tool to screen clinical ED patients.

References

American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders* (4th ed, text revision). Washington, DC: American Psychiatric Press.

Bellace, D.L., Tesser, R., Berthod, S., Wisotzke, K., Crosby, R.D., Crow, S.J., et al., (2012). The Yale-Brown-Cornell Eating Disorders Scale Self-Report Questionnaire: A New, Efficient Tool for Clinicians and Researchers. *International Journal of Eating Disorders*, 45(7), 856–860. DOI: 10.1002/eat.22023.

Castro, J., Toro, J., Salamero, M. & Quimera, E. (1991). The Eating Attitudes Test: Validation of the Spanish version. *Psychological Assessment*, 7(2)175-189.

Federici, A., Summerfeldt, L.J., Harrington, J.L., McCabe, R.E., Purdon, C.L., Rowa, K., et al., (2010). Consistency between self-report and clinician-administered versions of the Yale-Brown Obsessive–Compulsive Scale. *Journal of Anxiety Disorders*, 24(7), 729-733. DOI: 10.1016/j.janxdis.2010.05.005

First, M.B., Spitzer, R.L., Gibbon, M., & Williams, J.B.W. (2002). Structured Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Patient Edition. (SCID-I/P). New York: Biometrics Research, New York State Psychiatric Institute.

Fitzpatrick, M.E. & Weltzin, T. (2014). Motivation for change as a predictor of eating disorder treatment outcomes using a brief self-report YBC-EDS in a residential eating disorder population. *Eating Behaviors*, 15(3), 375-378. DOI: 10.1016/j.eatbeh.2014.04.007.

García-Soriano, G., Roncero, M., Perpiñá, C. & Belloch, A. (2014). Intrusive Thoughts in Obsessive–Compulsive Disorder and Eating Disorder Patients: A Differential Analysis. *European Eating Disorders Review*, 22, 191-199. DOI: 10.1002/erv.2285.

Garner, D.M., Olmstead, M.P., Bohr, Y. & Garfinkel, P.E. (1982). The eating attitudes test: Psychometric features and clinical correlates. *Psychological Medicine*, 12, 871-878.

Goodman, W.K., Price, L.H, Rasmussen, S.A., Mazure, C., Fleischmann, R.L., Hill, C.L., et al., (1989). The Yale–Brown obsessive-compulsive scale (Y-BOCS) I: Development, use, and reliability. *Archives of General Psychiatry*, 46(11), 1006–1011.

DOI:10.1001/archpsyc.1989.01810110048007.

Hair, J.F., Anderson, R.E., Tatham, R.L. & Black, W.C. (1999). *Análisis de datos multivariante* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Halmi, K.A., Agras, W.S., Crow, S., Mitchell, J., Wilson, G.T., Bryson, S.W., et al., (2005). Predictors of treatment acceptance and completion in anorexia nervosa: Implications for future study designs. *Archives of General Psychiatry*, 62(7), 776–781.

DOI:10.1001/archpsyc.62.7.776.

Halmi, K.A., Agras, W.S., Mitchell, J., Wilson, G.T., Crow, S., Bryson, S.W., et al., (2002). Relapse predictors of patients with bulimia nervosa who achieved abstinence through cognitive behavioral therapy. *Archives of General Psychiatry*, 2002, 59(12), 1105–1109.

DOI:10.1001/archpsyc.59.12.1105.

Halmi, K.A., Sunday, S., Strober, M., Kaplan, A., Woodside, D., Fichter. M. et al., (2000). Perfectionism in anorexia nervosa: Variation by clinical subtype, obsessionality, and pathological eating behavior. *American Journal of Psychiatry*, 157, 1799–1805.

DOI:10.1176/appi.ajp.157.11.1799.

Jordan, J., Joyce, P.R., Carter, F.A., McIntosh, V.V.W., Luty, S.E., McKenzie, J.M., et al., (2009). The Yale-Brown-Cornell Eating Disorder Scale in women with anorexia nervosa: What is it measuring? *International Journal of Eating Disorders*, 42(3), 267–274.

DOI: 10.1002/eat.20605.

Mazure, C.M., Halmi, K.A., Sunday, S.R., Romano S.J. & Einhorn A.M. (1994) The Yale–Brown–Cornell eating disorder scale: Development, use, reliability and validity. *Journal of Psychiatry Research*, 28(5), 425–445. DOI: 10.1016/0022-3956(94)90002-7.

Meyer, T.J., Miller, M.L., Metzger, R.L. & Borkovec, T.D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behavioral Research and Therapy*, 28(6), 487-495.

DOI: 10.1016/0005-7967(90)90135-6.

Perpiñá, C., Roncero, M., Belloch, A. & Sánchez-Reales, S. (2011). Eating-related intrusive thoughts inventory: exploring the dimensionality of eating disorder symptoms. *Psychological Reports*, 109(1), 187-203. DOI: 10.2466/02.09.13.18.PR0.109.4.108-126.

Sandín, B., Chorot, P., Valiente, R.M. & Lostao, L. (2009) Spanish validation of the PSWQ: factor structure and psychometric properties. *Revista de Psicopatología y Psicología Clínica*, 14, 107-122.

Sunday, S.R. & Halmi, K.A. (2000). Comparison of the Yale–Brown–Cornell eating disorder scale in recovered eating disorder patients, restrained dieters, and nondieting controls.

International Journal of Eating Disorders, 28(4), 455–459. DOI: 10.1002/1098-108X(200012)28:4<455::AID-EAT15>3.0.CO;2-B.

Sunday, S.R., Halmi, K.A. & Einhorn, A. (1995). The Yale–Brown–Cornell eating disorder scale: A new scale to assess eating disorder symptomatology. *International Journal of Eating*

Disorders, 18(3), 237–245. DOI: 10.1002/1098-108X(199511)18:3<237::AID-EAT2260180305>3.0.CO;2-1.

Ullman, J.B. & Bentler, P.M. (2004). Structural equation modeling. In: Hardy M, Bryman A, editors. *Handbook of data analysis*. Thousand Oaks, CA: Sage, p. 431-458.

DOI:10.1002/0471264385.wei0224.

Walsh, B.T., Kaplan, A.S., Attia, E., Olmsted, M., Parides, M., Carter, J.C., et al., (2006).

Fluoxetine after weight restoration in anorexia nervosa: A randomized controlled trial. *The Journal of the American Medical Association*, 295(22), 2605–2612.

DOI:10.1001/jama.295.22.2605.

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Contributors

All authors contributed to the design of the study. Perpiñá designed the protocol. Perpiñá and Roncero were involved in data collection. Perpiñá, Giraldo-O'Meara and Roncero identified sources and contributed to the literature review. Giraldo-O'Meara completed statistical analyses. Martinez-Gómez provided statistical perspective to the study. All authors consulted throughout the process and contributed to the manuscript. All authors approved the final manuscript.

Conflict of interest

The authors have no conflict of interest to report.

Highlights

- We created a Spanish self-report format of the Yale-Brown-Cornell eating disorder scale (SR-YBC-EDS)
- A two-factor second order model of the SR-YBC-EDS format was confirmed
- The reliability and validity of SR-YBC-EDS are excellent.
- SR-YBC-EDS has excellent sensitivity and specificity to discriminate ED individuals
- SR-YBC-EDS is a quicker alternative to the interview.