

Towards an understanding of help-seeking behaviour for disordered eating: Refinement of a barriers to help-seeking measure

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Abstract

Aim: Early intervention in eating disorders (EDs) is hampered by a lack of validated measures of barriers to treatment seeking. The present study examined the factor structure of the Perceived Barriers to Psychological Treatment scale (PBPT) and a combination of PBPT and Barriers to Seeking Help for ED items (BATSH-ED) with respect to treatment-seeking for an ED.

Method: Participants were 456 female university students aged 17–25 reporting a wide range of disordered eating severity. Confirmatory factor analyses were conducted with the whole sample followed by correlational and regression analyses with a high-risk sample to assess validity of the selected questionnaire items.

Results: Four models were tested. First, we replicated the original PBPT 8-factor structure in our sample with comparable fit indices. Second, the addition of six ED items comprising a Denial and Ambivalence subscale improved model fit. Third and fourth, when only significant subscales predicting treatment seeking were retained, with removal of items with weak loadings, a 15-item six-factor solution provided a best fit. A range of psychosocial measures had relationships in the expected directions with the questionnaire subscales. In addition to disordered eating, the denial subscale was uniquely associated with treatment seeking.

Conclusions: While the present study contributes to refining the assessment of barriers to help-seeking, future studies should consider co-design with lived experience to further improve the model fit of the questionnaire and improve predictiveness of help-seeking.

KEYWORDS

assessment, barrier, eating disorders, questionnaire, treatment seeking

1 | INTRODUCTION

Despite the significant impact of eating disorders (EDs) on the individual and their caregivers (van Hoeken & Hoek, 2020), only a minority seek treatment (Hart et al., 2011): 23.2% (CI = 16.6., 31.4). Three

systematic reviews have examined barriers to treatment seeking for EDs (Ali et al., 2017; Innes et al., 2017; Regan et al., 2017), identifying shame and stigma, service-related factors, cost of treatment, denial of and failure to perceive the severity of illness, fear of change, and practical issues (e.g., access to treatment), as the most salient barriers to

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treatment. Facilitators included the presence of emotional distress and concerns about health (Ali et al., 2017). A notable limitation of the current literature is a paucity of quantitative studies, together with the lack of validated measures.

Innes et al. (2018) addressed this limitation by examining the factor structure of the Perceived Barriers to Psychological Treatment scale (PBPT; Mohr et al., 2010) in a sample with disordered eating. The PBPT is a 27-item scale designed for individuals with mood disorders, and comprises of eight-factors: stigma, lack of motivation, emotional concerns, negative evaluations of therapy, misfit of therapy to needs, time constraints, participation restriction and access to services. Confirmatory factor analysis (CFA) supported a 25-item 7-factor solution in the disordered eating sample ($TLI = 0.94$, $RMSEA = .05$ [95% CI: .04, .06]).

The PBPT does not include subscales relevant to EDs, namely denial or the failure to perceive the severity of illness and ambivalence. Denial of the symptoms or their significance has been consistently identified as a barrier to help-seeking for EDs (Akey et al., 2013; Ali et al., 2020; Becker et al., 2004; Cachelin & Striegel-Moore, 2006; Griffiths et al., 2018). Failure to identify an ED as problematic is associated with lower intent to seek help (Fatt et al., 2021). Similarly, ambivalence (a strong fear of change, including gaining weight or losing the perceived positive aspects of the ED) has been identified as preventing people from seeking help (Gulliksen et al., 2015; Hepworth & Paxton, 2007). While Ali et al. (2020) identified 40 items representing 15 different barriers for EDs in the Barriers to Seeking Help for EDs (BATSH-ED), there is no report on the psychometric properties of this measure.

The present study examines the factor structure of the PBPT in a female university sample who reported a wide range of disordered eating severity, representing an age group in which emergence of disordered eating is common and EDs are elevated compared to the general population (Fitzsimmons-Craft et al., 2019). We then tested two further factor structures; one with PBPT subscales supplemented with a selection of BATSH-ED items (Ali et al., 2020), and one that only retained BATSH-ED items and PBPT subscales that predicted treatment seeking in women who had disordered eating in our sample. We examine the validity of the best fitting structure against other variables, including attitudes to treatment seeking, eating disorder psychopathology, mood (depression, anxiety, and stress), socio-economic-status (SES) and body-mass-index (BMI).

2 | METHOD

2.1 | Inclusion criteria and procedure

Inclusion criteria were: (1) female, (2) aged 17–25; (3) have eating or body image concerns. All participants volunteered via the Flinders University School of Psychology research pool between July 2020 and December 2021 and received course credit for their participation in the 20-minute online survey. The project was approved by the Flinders University Social and Behavioural Research Ethics Committee (Project Number:1953). In total, 555 survey responses were completed, 99 responses were removed ($n = 18$ did not meet inclusion

criteria; $n = 81$ duplicate responses), resulting in a final sample of 456 participants.

2.2 | Measures

2.2.1 | Sociodemographic variables

BMI (kg/m^2) and SES were assessed, the latter by self-reported post-code used to generate a Socio-Economic Index for Area (SEIFA, 2016) mean score where a quintile score of 1 and 5 represents the most disadvantaged and advantaged areas respectively.

2.2.2 | Eating disorder risk

The five-item Weight Concern Scale (WCS; Killen et al., 1994) yields a score from 0 to 100, with scores greater than 47 demonstrating good predictive validity for the development of an ED (Jacobi et al., 2011; Killen et al., 1994, 1996). In a previous study of female university students (Zhou et al., 2020), 94% of participants meeting the cut-off score reported engaging in disordered eating behaviours in the previous month; 73.8% received an EDE-Q Global score that was higher than the clinical cut-off (i.e., ≥ 2.77) for young adult women (Mond et al., 2006). In the current study, a dichotomised low ED risk (≤ 47) and high ED risk (> 47) score was used to examine mean differences and invariance testing across the two eating disorder risk groups.

2.2.3 | Eating disorder symptomology

The 22-item Eating Disorder Examination Questionnaire (EDE-Q 6.0; Fairburn & Beglin, 2008) was used to assess global eating disorder symptomology over the last 28 days on a 7-point Likert scale (ranging from 0 to 6). A higher score indicates either a greater frequency or severity. The EDE-Q has been validated in clinical ED populations and the general population (Berg et al., 2012). In the present study, Omega total of the subscale was .96.

2.2.4 | Psychological distress

The Depression Anxiety and Stress Scales (DASS-21; Lovibond & Lovibond, 1995) consists of 21-items rated on a 4-point Likert scale ranging from 'did not apply to me at all' (0) to 'nearly every day' (3), with higher scores reflecting greater negative affect. Use of the three subscales have been validated (Henry & Crawford, 2005) and Omega totals in the present study were .92, .86 and .85 respectively.

2.2.5 | Help-seeking attitudes

The 10-item Attitudes Towards Seeking Professional Psychological Help Scale—Short Form (ATSPPH-SF; Fischer & Farina, 1995) has

items rated on a 4-point Likert scale ranging from 'disagree' (0) to 'agree' (4), with higher scores reflecting more positive attitudes towards seeking professional help, for example, 'If I believed I was having a mental breakdown, my first inclination would be to get professional attention'. The ATSPH-SF has been validated in university students and clinical populations (Elhai et al., 2008). Omega total in the present study was .77.

2.2.6 | Treatment seeking status

To determine treatment seeking status, participants were asked: 'Have you previously sought treatment for eating or body image concerns?'. Participants responded with 'yes' (coded as 1) or 'no' (coded as 0).

2.2.7 | Barriers to help-seeking

The 27-item PBPT (Mohr et al., 2010) investigates barriers to individuals attending weekly therapy appointments with items rated on a 5-point Likert scale, ranging from 'not difficult at all' (1) to 'impossible' (5). Higher scores reflect a higher level of difficulty. A total score is derived from all 27 items. A previous CFS (Mohr et al., 2010) supported an eight-factor structure, with four items being repeated in more than one factor (items 13, 20, 25 and 26) and three items being excluded altogether (items 2, 3 and 15), thus resulting in a 28-item 8-factor solution. In the present study, participants were asked 'We would like you to rate the degree to which different kinds of problems might get in the way of seeing a therapist for eating or body image concerns'. Omega total for the total PBPT scale in the present study was .92.

Additionally, 19 items were selected from the BATSH-ED that complemented items not captured by the PBPT (Table 1). The authors collaboratively worked on selecting items from the BATSH-ED based on previous key barrier themes relevant to the EDs (e.g., denial or failure to perceive severity of illness and ambivalence), as well as barriers around lack of mental health literacy around EDs and social support. Items were rated on a 5-point Likert scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5), with higher scores reflecting greater personal resistance to help-seeking.

2.3 | Statistical analyses

CFA was performed with MPlus software version 7.31, using weighted least squares with mean and variance adjustment (WLSMV), for categorical data (Brown, 2015). The following models were tested: Model 1, replication of the original factor structure of the PBPT (Mohr et al., 2010); Model 2, addition of ED relevant items using a selection of BATSH-ED items (Ali et al., 2020); Model 3 retained only subscales shown to be significant in predicting differences between treatment seekers and non-treatment seekers for those women who met the

TABLE 1 Selected items from the Barriers Towards Seeking Help for Eating Disorders (BATSH-ED; Ali et al., 2020)

Item number	Item content
BATSH-ED 1	I don't believe I have a problem
BATSH-ED 2	I don't want others to worry about my problems
BATSH-ED 3	I don't believe I need help
BATSH-ED 4	If I need help I will turn to my friends
BATSH-ED 6	I don't know where to find information about getting help
BATSH-ED 7	I am afraid of being labelled (e.g., as crazy, mentally ill, having an eating disorder)
BATSH-ED 8	I don't know much about the signs of eating and body image concerns
BATSH-ED 12	I can handle my problems on my own
BATSH-ED 13	I am not ready to change my eating behaviour
BATSH-ED 17	I don't think anybody understands my problems
BATSH-ED 19	My family members are not supportive of me in seeking help
BATSH-ED 22	My friends are not supportive of me in seeking help
BATSH-ED 24	I don't know about available treatment resources
BATSH-ED 27	I know my problems are serious, but I don't want to lose them
BATSH-ED 29	I don't want to lose control over my eating or weight (e.g., put on weight)
BATSH-ED 34	I don't know where to find information about eating and body image concerns
BATSH-ED 36	If I need help, I will turn to my family
BATSH-ED 39	I don't feel that my problems are serious enough to warrant treatment
BATSH-ED 40	I feel too depressed and anxious to look for help

Abbreviation: BATSH-ED, Barriers Towards Seeking Help for Eating Disorders.

WCS cut-off score. Chi-square values are sensitive to large samples, and nearly always significant (Byrne, 2012), so each model was judged on the following indices: Root-mean-square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Tucker Lewis Index (TLI) with the following a priori benchmarks: good fit RMSEA <0.10; CFI/TLI \geq 0.9 and excellent fit RMSEA <0.06; CFI/TLI \geq 0.95 (Schreiber et al., 2006).

Given the unrealistic assumptions of Cronbach's alpha (e.g., McNeish, 2018), internal consistency was assessed using Omega total and item-total range. Omega total may be interpreted as per Cronbach's alpha (McNeish, 2018) with scores \geq .7 as acceptable (Pallant, 2013). For item-total correlations >.3 is considered acceptable, with negative correlations considered highly problematic (Field, 2009).

Factor invariance between participants displaying low/high ED risk was evaluated by testing three nested models: Configural invariance, metric invariance, and full invariance. The configural invariance model estimates separate factor loadings and item threshold values (cut points between the ordinal responses) between the two risk

groups, representing the 'baseline' model against which the subsequent two models are compared. The Metric Invariance Model fixes the factor loadings for each item to be equivalent across the two risk groups but allows the item thresholds to differ. The Full Invariance Model fixes both the factor loadings and item threshold values between low ED risk and high ED risk.

All remaining analyses were conducted using the Statistical Package for Social Sciences, Version 28 (SPSS; IBM Corp, 2021). Pearson correlations were performed to evaluate the relationship between the identified factors from the CFA with other variables. Logistic regression was conducted to evaluate the unique contribution of BMI, global eating disorder psychopathology, depression and anxiety entered in the first step, followed by all factors identified from the CFA entered in the second step, to treatment seeking status as the dependent variable.

3 | RESULTS

3.1 | Description of participants

Participants ($n = 456$) included 261 (57.2%) high ED risk where 25.7% ($n = 67$) reported previously seeking help for eating or body image concerns compared to 9.8% of the low ED risk group. When comparing high risk treatment seekers, high risk non-treatment seekers, and low risk, both high ED risk groups had a significantly higher BMI than those in the low ED risk group (Table 2). Those in the high ED risk

with previous treatment seeking displayed higher ED psychopathology than the other two groups.

3.2 | Preliminary analyses

Data were checked for normality (Tabachnick & Fidell, 2012). Across all measured variables there was less than 5% missing data. In addition, analyses were conducted to examine differences between the high ED risk group ($n = 261$) across treatment seekers and non-treatment seekers for PBPT subscales and BATSH-ED items. This was conducted by contrasting the mean and standard deviations of the two groups on each of the continuous PBPT and BATSH-ED variables using an online effect size calculator (Campbell Collaboration tool: <https://www.campbellcollaboration.org/research-resources/effect-size-calculator.html>), which generated r coefficients. The strength of group differences was determined based on regular correlation benchmarks (.10-.30 = small association; .30-.50 = medium association; .50-1.00 = large association). Five BATSH-ED items significantly differentiated between treatment seekers and non-treatment seekers (Table 3). This included items 1, 3, 8, 27 and 39 (see Table 1). Items 1, 3 and 39 can be conceptualized as 'denial' or 'failure to perceive illness severity', whereas item 27 taps into ambivalence. Three items (27, 17 and 29) were selected to be included as an ambivalence subscale. Item 8 was not selected, as the original PBPT scale already taps into 'not knowing where to find counsellor/therapist'.

TABLE 2 Demographic characteristics, eating disorder symptomology, negative affect, and attitudes to help-seeking for with low ED risk, and high ED risk by treatment seeking status

Variable mean (standard deviation) or percentage	Low ED risk ($n = 195$)	High ED risk with previous Tx seeking ($n = 67$)	High ED risk with no previous Tx seeking ($n = 194$)	F (df), p ; χ^2 (df), p
Age	19.59 (1.66)	20.04 (2.02)	19.74 (1.80)	1.36 (2, 451), .26
BMI	22.27 (3.52) ^{b,c}	25.64 (6.16) ^a	25.52 (6.70) ^a	19.22 (2, 435), <.001
Underweight (%)	10.8 ($n = 20$) ^{b,c}	3 ($n = 2$) ^a	2.6 ($n = 5$) ^a	11.49 (2), .01
Healthy weight (%)	70.8 ($n = 131$) ^{b,c}	55.2 ($n = 37$) ^{a,c}	54.6 ($n = 106$) ^{a,b}	7.74 (2), .02
Overweight (%)	13.5 ($n = 25$) ^c	20.9 ($n = 14$) ^c	21.1 ($n = 41$) ^{a,b}	5.44 (2), .07
Obese (%)	4.9 ($n = 9$) ^c	19.4 ($n = 13$) ^c	14.9 ($n = 29$) ^{a,b}	15.60 (2), <.001
SEIFA total score	1000.76 (75.27)	999.78 (76.56)	1004.16 (64.17)	.15 (2), .86
SEIFA quintile score	3.26 (1.53)	3.28 (1.51)	3.32 (1.50)	.26 (2), .77
EDE-Q global (M, SD)	1.76 (.89) ^{b,c}	4.41 (1.02) ^{a,c}	3.62 (1.04) ^{a,b}	263.84 (2, 453), <.001
Depression	.83 (.72) ^{b,c}	1.46 (.72) ^{a,c}	1.23 (.76) ^{a,b}	24.29 (2, 453), <.001
Anxiety	.88 (.67) ^{b,c}	1.47 (.77) ^{a,c}	1.14 (.67) ^{a,b}	19.80 (2, 452), <.001
Stress	1.15 (.66) ^{b,c}	1.82 (.60) ^{a,c}	1.49 (.62) ^{a,b}	31.95 (2, 452), <.001
ATSPPH-SF	1.99 (.53) ^c	2.02 (.54) ^c	1.84 (.53) ^{a,b}	4.89 (2, 452), .01

Note: Superscripts denote which groups differ significantly from each other in post-hoc comparisons.

Abbreviations: ATSPPH, Attitudes Towards Seeking Professional Psychological Help-Short Form; EDE-Q, Eating Disorder Examination Questionnaire; M, mean; n , number of participants; SD, standard deviation; Tx, treatment; WCS, Weight Concerns Scale; %, percentage.

^aSignificantly differs from low ED risk.

^bSignificantly differs from high ED risk with previous Tx seeking.

^cSignificantly differs from high ED risk with no previous Tx seeking.

TABLE 3 Means (standard deviations) and correlation coefficients (95% confidence interval) for barriers to help-seeking measures by participant treatment seeking status for high ED risk group

Subscale/item number	Previous Tx seeking (n = 67)	No previous Tx seeking (n = 194)	r (95% CI)
PBPT total	2.47 (.69)	2.28 (.63)	-.13 (-.25, -.01)
PBPT stigma	2.49 (1.01)	2.43 (.89)	-.03 (-.15, .09)
PBPT lack of motivation	2.85 (1.13)	2.52 (1.08)	-.13 (-.25, -.01)
PBPT emotional concerns	2.73 (1.08)	2.56 (1.02)	-.07 (-.19, .05)
PBPT negative evaluations of therapy	2.71 (1.01)	2.29 (.89)	-.20 (-.31, -.08)
PBPT misfit of therapy to needs	2.53 (1.00)	2.49 (.87)	-.02 (-.14, .10)
PBPT time constraints	2.88 (1.06)	2.56 (1.03)	-.14 (-.26, -.02)
PBPT participation restriction	1.75 (.86)	1.52 (.74)	-.13 (-.25, -.01)
PBPT availability of services	2.59 (1.01)	2.41 (.91)	-.09 (-.21, .03)
PBPT cost of psychotherapy	3.29 (1.10)	3.12 (1.18)	-.07 (-.19, .05)
BATSH-ED 1	2.73 (1.08)	3.10 (1.06)	.15 (.03, .27)
BATSH-ED 2	4.04 (.99)	4.10 (.79)	.03 (-.09, .15)
BATSH-ED 3	2.87 (1.18)	3.39 (1.04)	.21 (.09, .32)
BATSH-ED 4	2.76 (1.21)	2.90 (1.23)	.05 (-.07, .17)
BATSH-ED 6	2.39 (1.19)	2.34 (1.02)	-.02 (-.14, .10)
BATSH-ED 7	3.13 (1.35)	3.01 (1.27)	-.04 (-.16, .08)
BATSH-ED 8	2.43 (1.21)	3.06 (1.06)	.24 (.12, .35)
BATSH-ED 12	3.21 (1.07)	3.49 (1.04)	.12 (-.01, .24)
BATSH-ED 13	2.87 (1.28)	2.85 (1.12)	-.01 (-.13, .11)
BATSH-ED 17	2.93 (1.27)	2.88 (1.16)	-.02 (-.14, .10)
BATSH-ED 19	2.43 (1.76)	2.27 (1.30)	-.05 (-.17, .07)
BATSH-ED 22	1.99 (1.30)	1.87 (.91)	-.05 (-.17, .07)
BATSH-ED 24	2.51 (1.67)	2.95 (1.77)	.11 (-.01, .23)
BATSH-ED 27	2.85 (1.65)	2.26 (1.34)	-.18 (-.30, -.06)
BATSH-ED 29	4.55 (1.37)	4.52 (1.55)	-.01 (-.13, .11)
BATSH-ED 34	2.51 (1.58)	2.79 (1.71)	.07 (-.05, .19)
BATSH-ED 36	3.07 (1.71)	3.39 (1.97)	.07 (-.05, .19)
BATSH-ED 39	3.99 (1.75)	4.46 (1.50)	.13 (.01, .25)
BATSH-ED 40	2.93 (1.74)	2.59 (1.57)	-.09 (-.21, .03)
BATSH denial	3.07 (.91)	3.51 (.77)	-.23 (-.34, -.11)
BATSH ambivalence	3.25 (.82)	3.04 (.72)	.12 (.01, .24)

Note: Bolded subscales and items represent significant group differences between treatment seekers and non-treatment seekers based on correlation coefficients > .10.

Abbreviations: BATSH-ED, Barriers Towards Seeking Help for Eating Disorders; CI, confidence interval; PBPT, Perceived Barriers to Psychological Treatment Scale; r, correlation coefficient; Tx, treatment.

3.3 | Confirmatory factor analyses

Model 1 demonstrated a good fit and replicated the original 8-factor structure of the PBPT (Table 4). Model 2, which added the two subscales (Denial and Ambivalence), also had a good fit. Model 3 retained only subscales demonstrating a significant difference between treatment seekers and non-treatment seekers for those at high risk for disordered eating maintained a good overall model fit. In a fourth model, items with weak factor loadings (< .4) were removed, leaving a total of 15 items. Using the Bayesian Information Criterion (BIC) which can inform comparative fit of non-nested models that have the same set

of observed variables, Model 4 was preferred over Model 3 and was thus examined in the remaining analyses.

3.4 | Invariance testing

Invariance testing was conducted by ED risk group (Table 5) showing the fit of the configural models to be acceptable ($RMSEA = .06$; $CFI = .98$; $TLI = .97$). Analyses revealed metric non-invariance, that is, factor loadings could not be constrained to be equal. Therefore, further testing of invariance was discontinued.

TABLE 4 Confirmatory factor analyses: Model fit indices and internal consistency comparisons

Model	1	2	3	4
Description	Original 8-factor PBPT model	Model 1 with addition of denial and ambivalence	Model 2 only retaining significant subscales	Removal of weak items from Model 3
Items	28	34	18	15
<i>Model fit indices</i>				
RMSEA	.07	.06	.07	.06
CFI	.92	.91	.92	.95
TLI	.91	.89	.89	.93
AIC	28562.736	36720.234	22458.090	18158.884
BIC	28991.475	37293.260	22741.542	18406.234
χ^2 (df)	639.615 (220)*	920.670 (356)*	354.013 (120)*	202.736 (75)*
Internal consistency: Omega total (item-total range)				
<i>Subscales</i>				
PBPT stigma ^a		.84 (.51, .74)		
PBPT lack of motivation		.88 (.78, .78)		
PBPT emotional concerns ^a		.86 (.73, .79)		
PBPT negative evaluations of therapy		.77 (.56, .72)		
PBPT misfit of therapy to needs ^a		.67 (.44, .63)		
PBPT time constraints		.72 (.56, .56)		
PBPT participation restriction		.81 (.34, .69)		.86 (.71, .74)
PBPT availability of services ^a		.61 (.44, .44)		
BATSH-ED denial			.69 (.20, .56)	.80 (.66, .66)
BATSH-ED ambivalence			.45 (.18, .33)	.48 (.32, .32)

Note: Omega totals provided once for each subscale. Subscales which had weak items removed omega totals were updated.

Abbreviations: AIC, Akaike's Information Criteria; BATSH-ED, Barriers towards seeking help for eating disorders; BIC, Bayesian Information Criteria; CFI, comparative fit index; *df*, degrees of freedom; PBPT, Perceived Barriers to Psychological Treatment Scale; RMSEA, root-mean square error of approximation; TLI, Tucker-Lewis index; χ^2 , chi-square.

^aDenotes subscales removed in model 3.

*Significant at $p < .01$.

3.5 | Convergent and divergent validity

Table 6 shows moderate to strong significant positive correlation between the four PBPT subscales for the high ED risk group. Higher levels of denial were associated with lower levels of Lack of Motivation and higher levels of Ambivalence; higher levels of denial were associated with lower levels of depression and eating disorder psychopathology. On the other hand, the Ambivalence subscale displayed moderate correlations with all four PBPT subscales. All relationships between barriers factors and attitudes to help-seeking were in the expected direction, with the strongest relationships being found with Negative Evaluations of Therapy and Ambivalence.

3.6 | Concurrent validity

In the high ED risk group concurrent validity was examined using a logistic regression with treatment seeking status as the categorical dependent variable and BMI, global ED psychopathology, depression,

anxiety entered in Step 1, followed by the six barrier factors in Step 2, explaining 22.3% of the variance in treatment seeking status (Table 7). Global ED psychopathology and denial were the only variables uniquely associated with treatment seeking, where higher levels of disordered eating and lower levels of denial were associated with higher likelihood of treatment seeking.

4 | DISCUSSION

The present study aimed to further develop a measure of barriers for treatment seeking in people with disordered eating (Ali et al., 2020; Innes et al., 2018). Overall, findings replicated the original 8-factor structure of the PBPT in our sample, but the best-fitting model retained only significant subscales predicting treatment seeking and when items with weak loadings were removed. This included four PBPT subscales (Lack of Motivation, Negative Evaluations of Therapy, Participation Restriction, Time Constraints), and two ED related subscales: Denial and Ambivalence. Internal consistency for the Ambivalence subscale remained borderline.

TABLE 5 Invariance testing for model fit results between ED risk group

Model	No. of parameters	Chi-square (df)	Models compared	Chi-square (df)
Configural	150	265.238 (150)*		
Metric	141	289.161 (159)*	Metric versus Configural	27.41 (9)*

Abbreviation: *df*, degrees of freedom.**p* < .01.**TABLE 6** Pearson correlations between model 4 subscales and outcome variables for high ED risk group (*n* = 261)

5	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Lack of Motivation													
2. Negative Evaluations of Therapy	.50*												
3. Time Constraints	.33*	.33*											
4. Participation Restriction	.24*	.26*	.21*										
5. Denial	-.13*	-.06	.01	.02									
6. Ambivalence	.35*	.40*	.13*	.13*	-.16*								
7. DASS-D	.51*	.44*	.25*	.13*	-.23*	.39*							
8. DASS-A	.35*	.29*	.22*	.21*	-.17*	.26*	.55*						
9. DASS-S	.39*	.31*	.33*	.18*	-.16*	.24*	.60*	.74*					
10. EDEQ Global	.30*	.31*	.12	.13*	-.25*	.35*	.43*	.34*	.39*				
11. ATSPPH	-.17*	-.31*	-.15*	-.04	-.18*	-.25*	-.17*	.01	-.01	-.01			
12. BMI	.07	.10	-.13*	.04	-.07	-.02	.09	.06	.01	.18*	.16*		
13. SES	-.10	-.10	-.05	-.02	-.04	-.14*	-.16*	-.04	-.09	-.04	.11	-.01	

Abbreviations: ATSPPH, Attitudes Towards Seeking Professional Psychological Help; BMI, body mass index; DASS-A, Depression and Anxiety Scales—Anxiety; DASS-D, Depression and Anxiety Scales—Depression; DASS-S, Depression and Anxiety Scales—Stress; ED, eating disorder; EDEQ, Eating Disorder Examination Questionnaire; SES, socio-economic status.

p* < .05.TABLE 7** Summary of logistic regression analyses for the high ED risk group with treatment seeking status as the categorical dependent variable and the six barrier factors, BMI, ED psychopathology, depression and anxiety as predictors

Outcome variables	Step	Predictors	Logistic regression statistics			
			<i>B</i>	<i>SE</i>	Wald	<i>p</i>
Tx Seeking Status (<i>N</i> = 261)	1	BMI	.021	.025	.701	.40
		Global EDE-Q	-.735	.175	17.58	<.001
		Depression	.197	.249	.626	.43
		Anxiety	-.439	.252	3.04	.08
	$\chi^2(4) = 30.03, p < .001$. Nagelkerke $R^2 = .165$					
	2	BMI	.023	.027	.701	.40
		Global EDE-Q	-.711	.187	14.42	<.001
		Depression	.417	.296	1.99	.16
		Anxiety	-.329	.263	1.56	.21
		Lack of motivation	.118	.181	.425	.51
		Negative evaluations of therapy	-.315	.214	2.16	.14
		Time constraints	-.188	.169	1.24	.27
		Participation restriction	-.212	.188	1.27	.26
		Denial	.407	.163	6.28	.01
Ambivalence		.015	.188	.006	.94	
$\chi^2(10) = 41.48, p < .001$. Nagelkerke $R^2 = .223$						

Note: Significant subscales bolded.

Abbreviations: *B*, unstandardized beta; BMI, body mass index; *df*, degrees of freedom; EDE-Q, Eating Disorder Examination—Questionnaire; *SE*, standard error; Tx, treatment; Wald, Wald test; χ^2 , chi-square.

Despite stigma being the most cited barrier in the literature (Ali et al., 2017; Innes et al., 2017; Regan et al., 2017) it did not predict treatment seeking. However, most of the previous research in this area is qualitative. These findings highlight how the use of a standardized and validated measure of help-seeking in the EDs will allow for more robust investigation of barriers and their predictive relationship to treatment seeking.

The present study established convergent and divergent validity between the developed barriers questionnaire and a range of psychosocial measures. Of note, more denial was associated with lower levels of ED psychopathology, depression, anxiety, and stress. This finding is not surprising as one would expect that the more denial/failure to perceive the severity of illness endorsed, the lower the self-reported psychopathology. This is consistent with Couturier and Lock (2006), who grouped a sample of 86 adolescents with anorexia nervosa into 'deniers', 'minimizers' and 'admitters', with the former group to having the lowest ED psychopathology.

The Denial subscale strongest had the strongest negative relationship with treatment seeking and was the only unique association found with this outcome along with ED psychopathology. The initial recognition of eating behaviours as problematic has been argued to be one of the major triggers for help-seeking for an ED (Hepworth & Paxton, 2007), with self-recognition of an ED leading to greater likelihood of seeking treatment (Fatt et al., 2021).

In addition, the six factors identified together with psychopathology measures only explained 22% of the variance in treatment seeking, which indicates other factors may play a role in predicting treatment seeking. These may include individual and demographic characteristics such as duration of illness, ethnicity, gender, as well as impairment caused by the ED.

There are limitations of the present study. First, 'treatment-seeking' was measured using a single item. Treatment for ED encompasses a multitude of different providers and settings, and future studies should use standardized measures of treatment/help-seeking or use a more nuanced measure, for example, McLean et al. (2019), as well as investigate the ways in which help-seeking may vary across different diagnostic groups. Second, the present sample was restricted demographically; only females aged 17–25 were included, and COVID-19 pandemic effects may have changed the nature of barriers to treatment seeking during this time. Third, while our mixed sample was similar to that used in the work of Innes et al., 2018, our sample had a small percentage of participants who were in a low ED risk group (with 10% seeking previous help for an ED), future research should further validate this questionnaire in a high-risk sample only. Fourth, the PBPT refers to seeking treatment, while the BATSH-ED refers to seeking help, and future investigations of help-seeking measures should focus on the latter, given the difficulties accessing treatment for EDs post-pandemic (Nuffield Trust, 2022) and the variety of other help available, such as non-government ED helplines, which may encourage a journey to treatment-seeking. Lastly, future studies should validate the PBPT and BATSH-ED in separate ED samples, and further test the factor structure supported in the present study as replication across different sample and diagnoses is warranted.

This study addresses a significant gap in the literature by developing a shorter measure of barriers to treatment seeking that was more applicable for use with disordered eating populations. However, further testing to improve this questionnaire is warranted. Future studies should consider the involvement of individuals with lived experience when further investigating this questionnaire, to help generate further items for both the Denial and Ambivalence subscales.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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