The Eating Disorder Inventory-2 Perfectionism scale: Factor structure and associations with dietary restraint and weight and shape concern in eating disorders

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ABSTRACT

The Eating Disorder Inventory-2 Perfectionism subscale (EDI-P) was originally construed as a unidimensional measure of perfectionism. However, research in non-clinical samples suggests that the EDI-P measures two dimensions of perfectionism: self-oriented and socially prescribed perfectionism. This study aimed to investigate the factor structure of the EDI-P in a transdiagnostic sample of females seeking treatment for an eating disorder, and to determine the unique association between EDI-P dimensions, weight and shape concern, and dietary restraint in anorexia nervosa (AN), bulimia nervosa (BN), and eating disorder not otherwise specified. Two hundred and ninety nine females seeking treatment for an eating disorder at an outpatient eating disorder service completed the Eating Disorder Examination and the EDI-P. Confirmatory factor analysis supported a two-factor model of the EDI-P comprising self-oriented and socially prescribed perfectionism. Self-oriented perfectionism, but not socially prescribed perfectionism, accounted for unique variance in weight and shape concern and dietary restraint in both AN and BN. Results highlight the potential importance of self-oriented perfectionism in eating disorders and support the argument that self-imposed standards are central to perfectionism in eating disorders.

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1. Introduction

Perfectionism has been implicated in the development and maintenance of all forms of eating disorders, including anorexia nervosa (AN), bulimia nervosa (BN), and eating disorders not otherwise specified (EDNOS) (Fairburn, Cooper, & Shafran, 2003; Pratt, Telch, Labouvie, Wilson, & Agras, 2001; Schmidt & Treasure, 2006; Shafran, Cooper, & Fairburn, 2002; Slade, 1982). The Eating Disorder Inventory-2 Perfectionism subscale (EDI-P; Garner, 1991) has been widely used in the study of perfectionism and eating disorders. The EDI-P was originally construed as a unidimensional measure of perfectionism. However, it has been observed that the EDI-P measures beliefs about perfectionism in the intrapersonal and interpersonal domains, which correspond to the “self-oriented” and “socially prescribed” perfectionism dimensions outlined in the Hewitt and Flett (1991) multidimensional model of perfectionism (Sherry, Hewitt, Besser, McGee, & Flett, 2004). Specifically, the EDI-P comprises three items that appear to assess self-oriented perfectionism (the belief that perfection is required in personal performance) and three items that appear to measure socially prescribed perfectionism (the belief that perfection in personal performance is expected by others). The EDI-P may therefore be composed of two correlated factors of self-oriented and socially prescribed perfectionism. Two studies have used confirmatory factor analysis (CFA) to evaluate the factor structure of the EDI-P in samples of university students (Joiner & Schmidt, 1995; Sherry et al., 2004), and both studies supported the two factor model. However, it has yet to be tested if the EDI-P is best represented by a two factor structure in a clinical eating disorder sample.

Moreover, it is unclear how self-oriented and socially prescribed perfectionism dimensions are associated with eating disorders. A number of studies have compared self-oriented and socially prescribed perfectionism in eating disorder diagnostic groups and non-eating disorder control groups. Self-oriented perfectionism has been shown to be elevated in both AN and BN relative to psychiatric and healthy controls (Bastiani, Rao, Weltzin, & Kaye, 1995; Castro-Fornieles et al., 2007; Cockell et al., 2002; Pratt et al., 2001). In contrast, socially prescribed perfectionism has been shown to be elevated in AN relative to controls in some studies (Bastiani et al., 1995; Cockell et al., 2002), but not others (Castro et al., 2004; Castro-Fornieles et al., 2007), and no difference in socially prescribed perfectionism has been observed between BN and controls (Castro-Fornieles et al., 2007; Pratt et al., 2001). Overall, these results suggest that self-oriented perfectionism may be more strongly associated with AN and BN than socially prescribed perfectionism.

Only one study has investigated the relationship between EDI-P dimensions and eating disorder psychopathology in AN and BN. Watson, Raykos, Street, Fursland, and Nathan (2011) observed that EDI-P self-oriented perfectionism, but not socially prescribed perfectionism, was
2.2. Measures

2.2.1. EDI-P

The EDI-P is a six item, self-report measure of perfectionism (e.g., “I hate being less than best at things”) from the Eating Disorder Inventory-2 (Garner, 1991). Items are rated on a six point scale and item responses are weighted from 0 to 3 (“always” = 3; “usually” = 2; “often” = 1; and “sometimes”, “rarely”, or “never” = 0) (Garner, 1991). Subscale scores are computed by summing item scores. Higher scores indicate greater perfectionism.

2.2.2. Eating disorder symptoms

The EDE (version 12; Fairburn & Cooper, 1993), a semi-structured interview that assesses the attitudinal and behavioural components associated with eating disorders, was used to measure weight and shape concern and dietary restraint. Two recent factor analyses of the EDE and Eating Disorder Examination Questionnaire have supported a brief one-factor model composed of eight Weight and Shape Concern items (Allen, Byrne, Lampard, Watson, & Fursland, 2011; Byrne, Allen, Lampard, Dove, & Fursland, 2010). Brief EDE score provided a measure of weight and shape concerns (range = 0 to 6). The five-item Restraint subscale was used to measure dietary restraint (range = 0 to 6).

2.3. Data analysis

CFA was performed using robust maximum likelihood estimation in LISREL 8.7 (Joreskog & Sorbom, 2002) to determine if the covariance structure of the EDI-P was better represented by one or two factors. For a good fit, it is recommended chi-square be non-significant, the root mean square error of approximation (RMSEA) and the standardised root mean squared residual (SRMR) be less than .05, and the goodness of fit index (GFI) and comparative fit index (CFI) be greater than .95 (Hu & Bentler, 1999; Schermelleh-Engel, Moosbrugger, & Muller, 2003).

3. Results

3.1. Preliminary analysis

Histograms suggested that EDI-P items were non-normally distributed. To accommodate the skewed data, asymptotic covariance matrices were used in CFA in LISREL. Satorra–Bentler chi-square was reported as it is recommended for multivariate non-normal samples, where N>200 (Curran, West, & Finch, 1996). Missing data were observed on three EDE variables (6 missing values) and were imputed using the expectation-maximisation algorithm in SPSS.

3.2. Confirmatory factor analysis

CFA of the one-factor model (N = 288) showed that all six items loaded significantly on the global EDI-P factor. However, chi-square was significant [$\chi^2$ (9) = 83.50, p < .001] and fit statistics suggested a poor fit to the data (GFI = .81, CFI = .96, RMSEA = .17 and SRMR = .09). CFA of the two factor model showed that all items loaded significantly on their specific factor. Factors were significantly correlated (r = .74, p < .001). Chi-square was not significant [$\chi^2$ (8) = 14.20, p = .08] and fit statistics indicated that the model was a good fit to the data (GFI = .96, CFI = .99, RMSEA = .05 and SRMR = .04). Parameter estimates for the one and two-factor models are presented in Fig. 1. Descriptive statistics and Cronbach’s alpha for the EDI-P factors are presented in Table 1.

CFA was repeated using the six-point rating scale that has been employed in a number of previous studies (e.g., Bardone-Cone, 2007; Watson et al., 2011). Similarly to the results with the four-point rating scale, fit statistics for the two factor model indicated a better fit to the data than the one factor model.

3.3. Multiple regression analyses

Correlations between EDI-P dimensions and study variables were examined (Table 1). Self-oriented perfectionism was significantly correlated with Brief EDE score and Restraint in AN, BN, and EDNOS. Socially prescribed perfectionism was significantly correlated with Brief EDE score in AN and EDNOS, but not BN, and was not significantly correlated with Restraint in any diagnostic group.

Two multiple regression analyses were performed in each diagnostic group (AN, BN, and EDNOS) to identify the unique relationship between EDI-P dimensions and (i) Brief EDE score, and (ii) Restraint. Independent variables (self-oriented and socially prescribed perfectionism) were entered simultaneously. Output was explored to ensure assumptions for regression analysis were met. There was no indication of multicollinearity as tolerance statistics were well above .2 and variance influence factors were well below 10. Scatter plots of predicted
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