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The reliability and validity of the dichotomous thinking in eating disorders scale

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Abstract

The Dichotomous Thinking in Eating Disorders Scale (DTEDS) is a short, self-report measure that can be used to assess the presence of a rigid, "black-and-white" cognitive thinking style. It was originally developed for use in a study of psychological predictors of weight regain in obesity. The DTEDS consists of two subscales. Items on the Eating subscale assess dichotomous thinking with regards to eating, dieting or weight, and items on the General subscale assess dichotomous thinking more generally. This study aimed to examine the factor structure and psychometric properties of the DTEDS in a sample of treatment-seeking eating disordered ($N=87$) and overweight/obese ($N=111$) women. Confirmatory factor analysis demonstrated that a two-factor model provided a better fit to the data than a one-factor model. The psychometric properties of the final scale were excellent, with evidence being provided for the reliability and validity of the two subscales. Overall, the results indicated that the DTEDS is a reliable instrument that can be used to assess eating-specific as well as more general aspects of dichotomous thinking.

Keywords: Dichotomous thinking; Scale; Reliability; Validity; Eating disorders

1. Introduction

The Dichotomous Thinking in Eating Disorders Scale (DTEDS; Byrne, Cooper, & Fairburn, 2004) is a short, self-report measure of a dichotomous ("all-or-nothing") cognitive style. It was developed to assess dichotomous thinking in the context of eating-related problems and is primarily intended for use with dieters, overweight/ obese patients and eating disordered patients. To date, the DTEDS has been used in two published studies: one investigating the role of dichotomous thinking in weight regain among obese patients (Byrne et al., 2004), and the other examining the

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relationship between dichotomous thinking and perfectionism (Egan, Piek, Dyck, & Rees, 2007). The aim of this study was to refine the DTEDS and test its psychometric properties in eating disordered and overweight/ obese participants.

Dichotomous thinking is a form of cognitive rigidity whereby individuals tend to see reality in polarised categories of "either-or" rather than as a continuum of possibilities, (e.g., "If I'm not a total success, I'm a failure") (Linehan, 1993). Dichotomous thinking is one of a range of cognitive distortions that have been identified as contributing to the maintenance of disorders such as depression (Beck, 1995; Teasdale, Scott, Moore, Hayhurst, & Paykel, 2001), anxiety (Clark, 1986) and borderline personality disorder (Sheffield et al., 1999).

Dichotomous thinking has also been identified as a key maintaining factor in cognitive behavioural models of eating disorders (e.g., Fairburn, Cooper, & Shafran, 2003; Garner & Bemis, 1982). These models propose that a dichotomous thinking style may contribute to eating disorder maintenance in two ways – by contributing to the development of rigid dietary "rules", and by increasing the likelihood of binge eating following any transgression from these dietary rules. Despite this, the role of dichotomous thinking in eating disorders has not been studied empirically (Cooper, 1997).

Byrne et al. (2004) also found dichotomous thinking to be predictive of weight regain in formerly obese women, who had lost weight by attending community slimming clubs. These participants were interviewed immediately after losing 10% of their initial body weight and then followed-up every two months for a period of one year, and a range of psychological factors were investigated as potential predictors of relapse. A dichotomous thinking style was the most important prospective predictor of weight regain, such that a greater degree of dichotomous thinking at baseline significantly predicted weight regain at one-year follow-up. It was suggested that individuals with a dichotomous thinking style may interpret falling short of their goal weight as evidence of failure, which, in turn, may lead to the abandonment of any efforts toward weight maintenance or further weight loss.

Byrne et al. (2004) developed the DTEDS for use in the above study, since no previous measures had focused specifically and exclusively on the construct of dichotomous thinking in the context of eating and weight disorders. The DTEDS was developed after an examination of items that appeared to reflect the construct of dichotomous thinking embedded in several existing scales, such as the Dysfunctional Attitude Scale (DAS; Weissman, 1979); several perfectionism scales (Burns, 1980; Frost, Marten, Lahart, & Rosenblate, 1990; Garner, 1991; Hewitt & Flett, 1991); and two Tolerance of Ambiguity scales (Budner, 1962; MacDonald, 1970). None of the items included in the DTEDS replicated items from these existing measures. A total of 24 items were initially developed, loading on two subscales: an "Eating" subscale which contains items relating to eating, dieting and weight, and a "General" subscale which contains items related to more general issues. The number of items was reduced to 16 after piloting the DTEDS on obese subjects participating in a clinical treatment trial in Oxford, and removing items on which there was a restricted range of responses or which yielded low inter-item and item-total correlations.

The current study aimed to confirm the factor structure of the DTEDS and to assess its psychometric properties, in a sample of eating disorder patients attending an outpatient eating disorder service and obese women attending a university-based weight loss programme. It was expected (i) that a two-factor solution would be confirmed, (ii) that scores on measures of eating disorder symptoms would correlate more strongly with the DTEDS Eating scores than with the DTEDS General scores, and (iii) that scores on measures of depression and perfectionism would correlate more strongly with the DTEDS General scores than with the DTEDS Eating scores.

2. Method

2.1. Measures

2.1.1. The Dichotomous Thinking in Eating Disorders Scale

The original DTEDS (DTEDS-16) is a self-report questionnaire consisting of 16 items. It generates scores on an Eating subscale (the mean of 6 items assessing dichotomous thinking about eating, dieting and weight) and a General subscale (the mean of 10 items assessing dichotomous thinking more generally). Total scores are calculated by averaging the two subscale scores. Items are rated on a 4-point Likert-type scale ("not at all true of me" to "very true of me"). All scores can range from one to four, with higher scores indicating a greater degree of dichotomous thinking.

2.1.2. The Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994)

The EDE-Q is a self-report version of the Eating Disorder Examination (EDE; Fairburn & Cooper, 1993). Both measures assess the cognitive and behavioural symptoms of eating disorders and generate four subscales scores