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Research report

Using the theory of planned behaviour to measure motivation for recovery in anorexia nervosa ☆

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ABSTRACT

Anorexia nervosa (AN) is a difficult to treat mental illness associated with low motivation for change. Despite criticisms of the transtheoretical stages of change model, both generally and in the eating disorders (EDs), this remains the only model to have been applied to the understanding of motivation to recover from AN. The aim of this pilot study was to determine whether the theory of planned behaviour (TPB) would provide a good fit for understanding and predicting motivation to recover from AN. Two studies were conducted – in the first study eight women who had recovered from chronic AN were interviewed about their experiences of recovery. The interview data were subsequently used to inform the development of a purpose-designed questionnaire to measure the components of the TPB in relation to recovery. In the second study, the resultant measure was administered to 67 females with a current diagnosis of AN, along with measures of eating disorder psychopathology, psychological symptoms, and an existing measure of motivation to recover (based on the transtheoretical model). Data from the interview study confirmed that the TPB is an appropriate model for understanding the factors that influence motivation to recover from AN. The results of the questionnaire study indicated that the pre-intention variables of the TPB accounted for large proportions of variance in the intention to recover (72%), and more specifically the intention to eat normally and gain weight (51%). Perceived behavioural control was the strongest predictor of intention to recover, while attitudes were more important in the prediction of the intention to eat normally/gain weight. The positive results suggest that the TPB is an appropriate model for understanding and predicting motivation in AN. Implications for theory and practice are discussed.

Introduction

Anorexia nervosa (AN) is a mental illness associated with low motivation to change, with motivational issues identified in the clinical literature since the earliest descriptions of the illness (Gull, 1874). People with AN often exhibit an extreme ambivalence towards change and are ego-syntonically attached to their disorder (Attia, 2010). Low motivation to change has been linked to both high dropout from, and lack of engagement in, treatment (DeJong, Broadbent, & Schmidt, 2012; Serpell, Treasure, Teasdale, & Sullivan, 1999), while increased motivation has been associated with improved outcomes in selected studies (e.g., Wade, Frayne, Edwards, Robertson, & Gilchrist, 2009). Thus, measuring motivation in AN remains an area of clinical interest and is integral for designing effective interventions for this population.

The Transtheoretical Model of Change (TTM; Prochaska & DiClemente, 1982) has been the model of choice for understanding motivation in the eating disorders (EDs) (for a review see Hotzel, von Brachel, Schlossmacher, & Vocks, 2013). The TTM posits that in achieving behaviour change, individuals move through a series of discrete stages reflecting their increasing readiness for change (pre-contemplation, contemplation, preparation, action, and maintenance) before reaching the end point of engaging in and maintaining a new health behaviour, as well as including three other core concepts (processes of change, decisional balance, and self-efficacy), which support movement through the stages. Consistent with the TTM focus, a number of tools for assessment of motivation in AN have been developed based on the model (e.g., Geller, Cockell, & Drab, 2001; Gusella, Butler, Nichols, & Bird, 2003), the most popular of which is the Anorexia Nervosa Stages of Change Questionnaire (ANSOC-Q; Rieger et al., 2000).

Despite its popularity, reviews of the application of the TTM to eating disorders have drawn mixed conclusions (Dray & Wade, 2012; Wilson & Schlam, 2004). Wilson and Schlam found little relevance of the TTM, for example, demonstrating that stage of change predicted neither treatment drop-out (Geller et al., 2001) or weight gain

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in patients with AN (Levy, Lucks, & Pike, 1998). In contrast, Dray and Wade (2012) found that stage of change was predictive of several treatment outcomes, including BMI and psychopathology; however, a strong connection between stage of change and actual ED pathology could not be demonstrated. Similarly, an intervention study, which employed the ANSOC-Q and several Likert scales to measure motivation, found that the latter better predicted change from pre- to post-intervention (Wade et al., 2009). These findings are consistent with the more general criticism of the model as failing to predict behaviour (beyond the scope of this paper; however, for relevant reviews see Armitage, 2009; Armitage & Arden, 2002; Freeman & Dolan, 2001), and suggest that the TTM may be limited in its utility to understand motivation and to predict recovery from an ED. Consequently, this raises questions regarding the suitability of measures of motivation derived from the TTM, and emphasises the need to continue to investigate and develop valid, reliable tools for assessing motivation to change in AN (Wade et al., 2009).

Due to the focus on stage of change conceptualisations of motivation in AN, there has been limited consideration of other factors that may impact desire for recovery. In contrast, in other areas of psychology, various alternatives to the TTM have been proposed to explain motivation to change. For example, the Theory of Planned Behaviour (TPB; Ajzen, 1991) is a widely used model in health and social psychology and has been successfully applied to the prediction of a number of health intentions and behaviours, including diet, physical activity, smoking cessation, and condom use (Armitage & Conner, 2001). The TPB proposes that behaviour is directly influenced by one's intention to perform that behaviour (see Fig. 1). Intention is, in turn, influenced by three factors: (1) an individual's attitudes, which includes beliefs about the likely outcomes of performing the behaviour (behavioural beliefs) and an evaluation of the desirability of these outcomes (outcome evaluations); (2) subjective norms, which includes perceptions of pressure from significant others to engage in the behaviour (normative beliefs) and motivation to comply with such expectations; and (3) perceived behavioural control (PBC), which reflects beliefs about any internal and external factors that might facilitate or impede the performance of the behaviour (control beliefs) and the perceived likelihood that these factors will actually impact behaviour (perceived power) (Ajzen, 1991).

The TPB has received extensive support in a diverse range of behaviours including various dietary behaviours (Armitage & Conner, 2001; McEachan, Conner, Taylor, & Lawton, 2011). For example, it was found that individuals with more positive attitudes and higher perceptions of control had more positive intentions to follow a gluten free diet (coeliac disease patients; Sainsbury & Mullan, 2011; Sainsbury, Mullan, & Sharpe, 2013), to consume the recommended amounts of fruit and vegetables (Kothe, Mullan, & Butow, 2012), and to consume breakfast (Wong & Mullan, 2009). Consistent with the post-intentional phase of the model, individuals with more positive intentions and better PBC were more likely to actually engage in each of these behaviours than those with lower intentions and PBC (Armitage & Conner, 2001; McEachan et al., 2011). Several meta-analyses including studies on a range of behaviours (e.g., exercise, sunscreen use, self-examination, diet, and sexual behaviour) have shown that the TPB is a superior model in explaining behaviour compared to the TTM and other models of health behaviour (e.g., the health belief model and social cognitive theory) (Webb, Joseph, Yardley, & Michie, 2010; Webb & Sheeran, 2006).

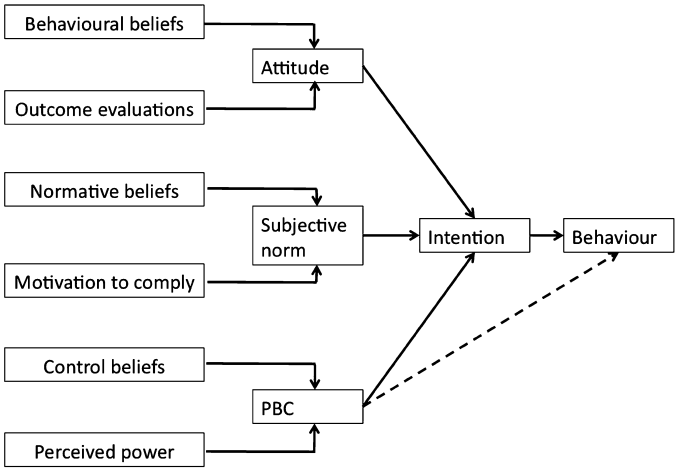

Fig. 1. The theory of planned behaviour.

Although the TPB has never been explicitly applied to AN, additional factors that have been identified as barriers to change in this population such as hopelessness and helplessness (Waller, 2012), poor self-efficacy (Wade, Treasure, & Schmidt, 2011), and perceiving recovery as impossible (Dawson, Rhodes, & Touyz, 2014), would all be encompassed by the components of the TPB, suggesting that this may be an appropriate alternative to the TTM. Another potential advantage of the TPB is the emphasis on conducting extensive formative research in order to demonstrate that the theory is indeed appropriate for the target population and behaviour, and the existence of guidelines for how to conduct such research to develop a TPB-based questionnaire to measure the components of theory in relation to the target behaviour (Ajzen, 2006; Francis et al., 2004).

Following these guidelines, the aim of the current pilot study was therefore to firstly, identify the salient beliefs associated with recovery from AN in order to determine the appropriateness of the TPB for use in this population; and secondly, to develop a purpose-designed TPB measure to assess and predict intentions (akin to motivation) to recover from this illness.

Study 1: Elicitation interviews

Method

Participants and procedure

The first phase of the research involved conducting in-depth interviews with eight women who were assessed as being fully recovered from chronic AN (defined as having suffered with the illness for seven years or more). Although this phase was not originally designed around the TPB, examination of the interview responses suggested that beliefs relevant to the TPB could be extracted and meaningfully used to develop the questionnaire, which was designed with the purpose of assessing change in motivation across the course of an intervention. The reason for selecting a recovered sample was to reduce any bias that might be associated with currently being unwell and because factors perceived as being relevant to recovery by women who had not yet achieved this state may not actually be indicative of recovery. Full recovery was defined as having met the following criteria: (i) a body mass index between 20 and 25 kg/m^2 (placing participants out of the under- or over-weight range); (b) the absence of behavioural features of an ED for a period of five years or more (e.g., restrictive eating, bingeing, purging); and (c) currently scoring within one standard deviation of community norms on all subscales of the Eating Disorder Examination: Restraint, Eating Concern, Weight Concern, and Shape Concern (placing participants in the normal ranges for body-image concerns). The Eating Disorder Examination (Fairburn & Cooper, 1993) is a standardized investigator-based interview that measures the severity of the characteristic psychopathology of EDs and is considered the "gold-standard" assessment tool in