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A phenomenological investigation of overvalued ideas and delusions in clinical and subclinical anorexia nervosa

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ABSTRACT

Anorexia Nervosa (AN) is an eating disorder characterised by distorted cognitions about body weight and shape; but little is known about the phenomenological characteristics of these beliefs. In this study, multidimensional and insight-based measurements were used to compare beliefs about body weight and shape in AN to body image dissatisfaction in the general population, and delusional beliefs in schizophrenia. Twenty participants with clinical and sub-clinical AN, 27 participants with schizophrenia and schizoaffective disorder, and 23 healthy controls completed the Brown Assessment of Beliefs Scale and the Psychotic Symptom Rating Scale in relation to a dominant belief regarding body weight/shape (or body dissatisfaction in healthy controls) or a current delusion. All groups completed the Peters Delusions Inventory to assess the prevalence of a range of delusion-like beliefs. Participants with clinical and subclinical AN experienced significantly higher preoccupation and distress for their belief in comparison to both participants with schizophrenia/schizoaffective disorder rating a delusional belief and the healthy controls rating a belief of body dissatisfaction. Both clinical groups were comparable on ratings of belief conviction and disruption. The data raise questions regarding the current frameworks that are used to describe beliefs in AN.

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1. Introduction

Anorexia Nervosa (AN) is a chronic eating disorder that is readily recognised by significant weight loss and irrational beliefs about body weight and shape. The various symptoms required for a diagnosis of AN fall into three interrelated categories: physical; behavioural; and cognitive (Maguire et al., 2008). The cognitive symptoms in AN are generally referred to as body image distortion, and are commonly expressed via belief content that the individual is "too fat", either in reference to the body as a whole, or to specific body parts. Cognitive-behavioural models have proposed the cognitive symptoms of AN as the most pervasive symptoms, and they play a more significant role in the development, maintenance and severity of AN than do the physical or behavioural symptoms (Hetherington, 1993; Mizes and Christiano, 1994; Anderson et al., 2004; Maguire et al., 2008). Beliefs about body weight and shape are the first symptoms to develop, often present for at least 6 months before diagnosis, and are the symptoms most resistant to change (Stewart and Williamson, 2003; Lena et al., 2004).

Despite this recognition, very little is understood about the phenomenology of body image beliefs in AN.

The nature of beliefs in AN has been debated, where these beliefs have primarily been characterised as overvalued ideas (OI). An OI is defined as an unreasonable and sustained belief that is not obsessional in nature, and is maintained with less than delusional intensity, meaning the individual can acknowledge that the belief might not be true, although insight may nonetheless be poor (Veale, 2002). This description places beliefs in AN on a continuum somewhere between obsessions with 'good' insight and delusions with 'no' insight (Veale, 2002). However, a number of comparisons have been made of beliefs in AN to obsessions in Obsessive-Compulsive Disorder (OCD), and delusions in psychotic disorders, with findings of some similarities rather than clear differences between these different types of beliefs (Hetherington, 1993; Phillips et al., 1995; Anderson et al., 2004; Powers et al., 2005). Comparisons to obsessions highlight similarities in preoccupation and distress levels (Phillips et al., 1995), while varying proportions of AN samples have been shown to display at least one delusional belief, or a belief with no insight (Grant et al., 2002; Powers et al., 2005; Konstantakopoulos et al., 2012). Early descriptions of AN also considered an individual's conviction of being fat, despite an obvious state of emaciation, to be a false belief or delusion (Powers

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et al., 2005). Efforts to classify beliefs of body image distortion in AN by drawing these comparisons has not yet lead to any consensus, with it remaining unclear whether the beliefs in AN are best classified as OIs, obsessions, delusions, or a combination of the three (Phillips et al., 1995).

Further efforts to describe beliefs in AN have drawn on research of another disorder of body image, Body Dysmorphic Disorder (BDD) (Phillips, 2004; Phillips and McElroy, 1993). In the recently released DSM-5, BDD has specifiers for absent insight and delusional beliefs (American Psychiatric Association, 2013). Comparisons of BDD with and without the presence of delusional beliefs have found few differences in demographic or illness-related characteristics. These variations are seen as part of the same disorder with different belief intensity, and a continuum based on the level of insight has been proposed, where a belief can shift in either direction along the continuum over time, with improvements in insight in response to treatment, or stressors and social exposure reducing insight, and thus making a belief more delusional (Phillips et al., 1994, 1995; Phillips, 2004; Castle et al., 2006; Labuschagne et al., 2010). This model may also have some relevance to belief intensity in AN and provide an alternative model for describing beliefs in AN beyond their definition as OIs (Phillips et al., 1994).

The use of a dimensional approach to describe belief intensity is further supported by the more general debate around the difficulty in distinguishing the boundary between delusions and OIs, where many have suggested that they are best viewed as lying on a continuum, rather than being two distinct concepts (Kozak and Foa, 1994; Phillips et al., 1995; Dunne, 2000; Veale, 2002; Yaryura-Tobias, 2004). While insight has been identified as an important dimension for understanding variations in belief intensity, similar research on delusional beliefs in psychotic disorders has adopted a multidimensional framework, rather than relying on a one-dimensional concept such as insight (Phillips et al., 1995). Research into the phenomenology of delusions has explored a range of possible dimensions that could be more broadly adopted to describe belief intensity. Reviews in this field have highlighted four consistent dimensions: conviction (how strongly the belief is held); preoccupation (how often the belief is focused on); distress (whether the belief is linked to negative emotions, such as depression, anxiety, or anger); and action (whether the belief is linked to certain behaviours) (Garety and Freeman, 1999; Peters, 2001; Combs et al., 2006). Of these dimensions, emphasis is given to the degree of conviction to distinguish OIs and delusions, where a high level of conviction is considered to be the hallmark feature of a delusion, while other dimensions may vary considerably (Oulis et al., 1996; Jones and Watson, 1997).

The use of a multidimensional approach provides the ability to explore and define belief characteristics in AN via comparison to beliefs in other disorders. Peters (2001) provides a compelling argument for such comparisons, arguing that the consequences of a belief (as highlighted by multidimensional assessment) are more informative than the content in assessing delusionality. In perhaps the only study to use a multidimensional approach to compare belief characteristics in AN with other disorders, Jones and Watson (1997) directly compared beliefs about weight concern in AN and paranoid delusions in schizophrenia. The two groups were found to differ only on conviction, but not preoccupation, action or distress. Those with AN had lower levels of conviction, suggesting their beliefs were not of delusional intensity and perhaps more fitting the description of an OI. However, the similarities between groups on the other dimensions raise the question of whether all dimensions must be significantly different to differentiate OIs from delusions. OIs, from a multidimensional perspective, might share similarities across different dimensions to both 'normal' and delusional beliefs, as well as having their own unique qualities,

and may not fall neatly between 'normal' and delusional beliefs, as descriptions based on a single continuum seem to have assumed (Peters, 2001; Peters et al., 2004). Thus, a multidimensional approach may be able to broaden our understanding of belief phenomenology in AN, highlighting those dimensions that hold true to the description of OIs, as well as illustrating if similarities do exist with beliefs in other disorders.

In summary, little research has explored the phenomenology of beliefs in AN, and research on belief phenomenology in other disorders encourages the consideration that beliefs of body image distortion can vary on a continuum. Beliefs in AN have traditionally been described as OIs, where in a continuum model they will lie between 'normal' beliefs in the general population at the lower end, and delusional beliefs at the upper end. However, multidimensional research in other disorders suggests that this will be most likely for dimensions such as insight and conviction, but provides little guidance for how other dimensions may rate.

The aim of the current study was to explore the nature and intensity of beliefs of body image distortion in AN, with particular reference to the traditional definition of an OI. The study utilised both an insight-based and a multidimensional approach to compare body related beliefs in AN, body dissatisfaction in healthy controls, and delusional beliefs in schizophrenia. It was predicted that beliefs in AN would show features similar to both OIs and delusional beliefs.

2. Method

2.1. Participants

The research was approved by the La Trobe University Human Ethics Committee, Melbourne. Three groups were recruited into the study. Informed consent was obtained after the nature of participation had been fully explained, and capacity for consent of clinical groups was determined by a treating clinician. The "anorexia nervosa (AN)" group comprised 11 inpatient and nine outpatient females with a current DSM-IV-TR diagnosis of Anorexia Nervosa or Eating Disorder Not Otherwise Specified (EDNOS). The "schizophrenia" group comprised 20 males and seven females with a current DSM-IV-TR diagnosis of Schizophrenia or Schizoaffective Disorder who reported currently experiencing one or more delusions and treated as outpatients. The "control" group comprised 23 female members of the general public with no history of mental illness. The Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) was used to confirm current diagnoses. All participants were between 18 and 55 years of age. Clinical groups were recruited from public and private mental health services in Melbourne. The non-clinical group was recruited from a Melbourne-based university. Exclusion criteria for participation involved an IQ below 80 (as scored by the WTAR; The Psychological Corporation, 2001), a history of brain injury or neurological disorder, poor conversational English, substance abuse or dependence within the past 12 months, evidence of grossly disorganised thinking or behaviour, or currently requiring medical intervention or naso-gastric feeding. Gender, age, body mass index (BMI) and education were recorded as demographic variables for all participants.

In the AN group, 7 participants met full criteria for AN (two binge-purge subtype, five restricting subtype), and 13 meet criteria for EDNOS. Those with a diagnosis of EDNOS had historically received a full diagnoses of AN, and had to currently meet all criteria for AN with the exclusion of either the weight or menstruation criteria, and did not meet criteria for Bulimia Nervosa. This was considered a 'sub-threshold' presentation of AN, which has been shown to have clinical similarities to full-criteria AN (Grange et al., 2013). At the time of testing, those who met full criteria for AN had a mean BMI of 15.59 (S.D.=1.70) and those who met EDNOS criteria had a mean BMI of 20.81 (S.D.=3.18) (BMI differences did not show any relationship to the main results). In the schizophrenia sample, 22 participants had a diagnosis of schizophrenia and five of schizoaffective disorder. A majority of the AN group self-reported they were receiving an antidepressant (85%), and 45% were receiving an antipsychotic (all atypicals). All participants in the schizophrenia group reported receiving one or more antipsychotic medications and 30% were receiving one or more antidepressants (see Supplementary Table A for further details).

2.2. Materials

Brown Assessment of Beliefs Scale (BABS; Eisen et al., 1998): a seven-item, clinician administered, semi-structured interview measuring the degree of insight over the past week for a nominated belief. AN and control group participants were