Eating Behaviors 13 (2012) 100–105

Contents lists available at SciVerse ScienceDirect

Eating Behaviors

The role of experiential avoidance, rumination and mindfulness in eating disorders

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ARTICLE INFO

Article history:
Received 17 October 2011
Accepted 9 January 2012
Available online 24 January 2012

Keywords:
Eating disorders
Rumination
Brooding
Reflection
Experiential avoidance
Mindfulness

ABSTRACT

Anorexia nervosa has been associated with high levels of ruminative thoughts about eating, shape and weight as well as avoidance of emotion and experience. This study examined the associations between disorder-specific rumination, mindfulness, experiential avoidance and eating disorder symptoms. A sample of healthy females ($n=228$) completed a battery of on-line self-report measures. A hierarchical regression analysis revealed that ruminative brooding on eating, weight and shape concerns was uniquely associated with eating disorder symptoms, above and beyond anxiety and depression symptoms. In a small group ($n=42$) of individuals with a history of anorexia nervosa, only reflection on eating weight and shape was able to predict eating disorder symptoms when controlling for depression and anxiety. The results suggest that rumination (both brooding and reflection) on eating, weight and shape concerns may be a process which exacerbates eating disorder symptoms. Examining rumination may improve understanding of the cognitive processes which underpin anorexia nervosa and this may in turn aid the development of novel strategies to augment existing interventions. Replication in a larger clinical sample is warranted.

1. Introduction

Rumination is a cognitive avoidance strategy that has been implicated in psychiatric disorders (Aldao & Nolen-Hoeksema, 2010; Aldao, Nolen-Hoeksema, & Schweizer, 2011; Harvey, Watkins, Mansell, & Shafran, 2004), most notably in depression where it has been defined as a negative form of self-focused attention which occurs passively in response to low or depressed mood (Lyubomirsky & Nolen-Hoeksema, 1993). Using prospective research designs it has been shown that rumination can predict the onset of depression (Robinson & Alloy, 2003; Roelofs et al., 2009) and also has a role in its maintenance (Lara, Klein, & Kasch, 2000; Nolen-Hoeksema, 2000) and recurrence (Roberts, Gilboa, & Gotlib, 1998; Watkins et al., 2007).

There is evidence to suggest that ruminative *thinking about* the causes, current symptoms and consequences of depression interferes with the direct experiencing of, and effective responses to, emotionally relevant information (Teasdale, 1999). Depressed participants demonstrate significant impairment on a social problem task after adopting a ruminative style of thinking that focuses on why they have a problem opposed to focusing on how to solve the problem (Watkins & Baracaia, 2002). Further, participants with depression have a tendency to retrieve less emotionally-laden observer perspective memories (Kuyken & Moulds, 2009). Importantly, this memory recall style has been associated with greater negative self-evaluation, lower dispositional mindfulness, and greater use of avoidance (Kuyken & Moulds, 2009). This supports idea that rumination and avoidance are part of the same mental model or mode of processing which can become maladaptive in psychological disorders (Williams, 2008; Williams, 2010).

In posttraumatic stress disorder (PTSD), rumination involves *thinking about* the causes and consequences of the trauma, thus avoiding direct reliving of the traumatic event which is proposed to interfere with the consolidation of the trauma memory (Ehlers & Clark, 2000). Indeed, one study suggests that employment of rumination in those with PTSD hinders the emotional processing of negative events resulting in the maintenance of intrusive imagery (Williams & Moulds, 2007). It may therefore be important to consider rumination as a transdiagnostic process that exacerbates psychopathology rather than being a process only associated with depression (Harvey et al., 2004).

Current diagnostic criteria and frameworks for the eating disorder anorexia nervosa have highlighted the role that preoccupation on eating, weight and shape concerns have in the disorders onset and maintenance (American Psychiatric Association, 1994; Fairburn, Cooper, & Shafran, 2003; Fairburn, Shafran, & Cooper, 1999; Park, Dunn & Barnard, 2011). Behavioural and neuroimaging studies have supported this by demonstrating that individuals with current and past anorexia nervosa show attentional biases and heightened vigilance to cues relating to eating and/or the body (for reviews see (Brooks, Prince, Stahl, Campbell, & Treasure, 2011; Giel et al., 2011)).

A novel process account of anorexia nervosa conceptualises preoccupation on eating weight and shape as disorder-specific rumination with a focus on *thinking about* control of eating, weight and shape, rather than direct experiencing of the broader emotional meaning and bodily states associated with starvation (Park et al., 2011). This

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doi:10.1016/j.eatbeh.2012.01.001

account suggests that disorder-specific rumination may play a role in the maintenance of anorexia nervosa as exclusive mental focus on food and eating may be associated with emotions becoming less salient. As individuals with anorexia nervosa tend to be avoidant of experience and have difficulty tolerating emotions (Hambrook et al., 2011), the effect of rumination may be experienced positively and thus potentially reinforce eating disorder behaviours (Schmidt & Treasure, 2006; Serpell, Treasure, Teasdale, & Sullivan, 1999).

In support of the idea that in anorexia nervosa rumination removes individuals from starvation-related body cues as proposed by Park et al. (2011, 2012), it has been shown that individuals with anorexia nervosa show decreased interoceptive awareness and sensitivity (Fassino, Pierò, Gramaglia, & Abbate-Daga, 2004; Pollatos et al., 2008). More generally, avoidance of experience has been shown to contribute to disordered eating patterns (Lavender & Anderson, 2010; Lavender, Gratz, & Tull, 2011; Rawal, Park, & Williams, 2010) and influence ED outcome at follow-up (Herpertz-Dahlmann, Muller, Herpertz, Heussen, & Remschmidt, 2001; Smith, Feldman, Nasserbakht, & Steiner, 1993). Previous work by our group has shown that participants with a history of anorexia nervosa had significantly higher scores on a measure of rumination on eating, weight and shape, compared to healthy control participants (Cowdrey & Park, 2011) and that rumination on eating, weight and shape significantly predicted eating disorder symptoms after controlling for depression and anxiety. Furthermore, in an experimental study with a clinical and an 'at risk' samples it was found that inducing a ruminative '*thinking about*' mode of processing before an imaginary meal procedure resulted in a greater stress response and attempt to neutralise compared to when a sensory based, mindful mode of processing was adopted (Rawal, Williams, & Park, 2011). This supports that notion that the way in which information about the self is processed can influence eating disorder cognitions and behaviour.

The adaptive counterpart of rumination and experiential avoidance is mindfulness, defined as purposefully and non-judgementally attending to the present moment (Bishop et al., 2004). Park, Dunn and Barnard suggest that this alternative mode of attending to information relating to the self and the body may be fundamental to recovery from anorexia nervosa (Park et al., 2011). Previous studies show that there is an inverse relationship between mindfulness and eating disorder-related cognitions (Lavender, Jardin, & Anderson, 2009; Lavender et al., 2011) and also that mindfulness may mediate the link between eating disorder cognitions and psychological distress (Masuda & Wendell, 2010). Mindfulness practices have also been incorporated to '*third generation*' behaviour therapies for eating disorders, such as Emotion Acceptance Behaviour Therapy (Wildes, Ringham, & Marcus, 2010), Dialectical Behaviour Therapy (Palmer et al., 2003), Mindful Movement classes (Rawal, Enayati, Williams, & Park, 2009) and Mindfulness Based Eating Awareness Training (Kristeller & Wolever, 2010), which support the potential use of such strategies.

This study aimed to investigate, initially in a healthy adult sample, the specific hypotheses of Park et al. (2011, 2012) that rumination on eating, weight and shape, experiential avoidance and low levels of mindfulness are associated with eating disorder symptoms. To our knowledge this is the first study to investigate the association between these cognitive–affective processes. It is hoped that the findings will aid the development of interventions targeting specific processes in anorexia nervosa.

2. Method and materials

2.1. Participants

Participants between the ages of 16 and 65 were included in this study. There were no other inclusion or exclusion criteria. Participants were recruited via posters, internet advertisements and email circulars.

2.2. Measures

2.2.1. The Eating Disorder Examination Questionnaire (EDE-Q)

The EDE-Q (Fairburn & Beglin, 2008) is a 28-item self-report questionnaire. In addition to the global score, the EDE-Q comprises the following subscales: eating concerns, weight concerns, shape concerns and restraint. The measure also yields a global score. The global score was used here for a measure of eating disorder symptoms. The questionnaire focuses on the last 28 days and responses are on a 7-point scale with higher scores reflect greater eating-related symptoms. The questionnaire has good reliability and validity (Fairburn & Beglin, 2008) and acceptable internal consistency and test–retest reliability (Luce & Crowther, 1999).

2.2.2. The Patient Health Questionnaire-9 (PHQ-9)

The PHQ-9 (Kroenke, Spitzer, & Williams, 2001) is a 9-item brief scale for diagnosing and measuring severity of depression over a period of two weeks. Scores of 5, 10, 15 and 20 represent cut-points for mild, moderate, moderately severe and severe depression respectively. The PHQ-9 has good validity and reliability (Kroenke et al., 2001).

2.2.3. The Generalised Anxiety Disorder Assessment-7 (GAD-7)

The GAD-7 (Spitzer, Kroenke, Williams, & Lowe, 2006) is a 7-item scale for assessing the symptoms of generalised anxiety disorder over the last two weeks. Scores of 5, 10 and 15 represent cut-points for mild, moderate and severe anxiety respectively. As well as a screening and severity measure for GAD, it has moderately good operating characteristics for three other common anxiety disorders — panic disorder, social anxiety disorder and posttraumatic stress disorder (Spitzer et al., 2006).

2.2.4. Ruminative Response Scale for Eating Disorders (RRS-ED)

The RRS-ED (Cowdrey & Park, 2011) is a new measure used to assess eating disorder-specific rumination. It was adapted from the 10-item subset of the Ruminative Response Scale (Nolen-Hoeksema & Morrow, 1991; Treynor, Gonzalez, & Nolsen-Hoeksema, 2003). It comprises two factors: 'brooding' and 'reflection'. In line with the original RRS, the six item brooding factor refers to dwelling on eating disorder symptoms, more specifically, comparing the current situation which is predominantly focused on control on eating, weight and shape with some other ideal standard. The reflection factor was made up of three items which represented active attempts to gain insight into eating disorder symptoms. The resulting 9-item RRS-ED requires participants to indicate what they generally do when they are concerned about controlling their eating, weight and shape. Response categories range from '*almost never*' to '*almost always*' and scores from 1 to 4 are assigned to each response category. The RRS-ED has good levels of convergent and discriminant validity and satisfactory test–retest reliability. The 9-item scale is also not redundant when comparing the content items from the EDE-Q.

2.2.5. The Acceptance and Action Questionnaire-II (AAQ-II)

The AAQ-II (Bond et al., 2011) is a 7-item measure of psychological flexibility and acceptance. This involves both the ability to accept difficult thoughts and feelings and to engage in valued activity in their presence. Items are rated on a 7 point scale ranging from '*never true*' to '*always true*'with higher scores indicating greater levels of psychological inflexibility and avoidance. The AAQ-II has been designed to assess the same construct as the AAQ-I (Hayes et al., 2004) and does correlate with the original scale (.97), but it has obtained better psychometric properties (Bond et al., 2011).

2.2.6. The Five Factor Mindfulness Questionnaire (FFMQ)

The FFMQ (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) is a 39-item measure of everyday mindfulness. The five factors are: non reactivity to inner experience, observing thoughts and feelings, acting with awareness, describing/labelling with words and non-judging of