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Body-related cognitions, affect and post-event processing in body dysmorphic disorder

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ABSTRACT

Background and objectives: Cognitive behavioural models postulate that individuals with BDD engage in negative appearance-related appraisals and affect. External representations of one's appearance are thought to activate a specific mode of processing characterized by increased self-focused attention and an activation of negative appraisals and affect.
Methods: The present study used a think-aloud approach including an in vivo body exposure to examine body-related cognitions and affect in individuals with BDD ($n = 30$), as compared to individuals with major depression ($n = 30$) and healthy controls ($n = 30$). Participants were instructed to think aloud during baseline, exposure and follow-up trials.
Results: Individuals with BDD verbalized more body-related and more negative body-related cognitions during all trials and reported higher degrees of negative affect than both control groups. A weaker increase of positive body-related cognitions during exposure, a stronger increase of sadness and anger after exposure and higher levels of post-event processing, were specific processes in individuals with BDD.
Limitations: Individuals with major depression were not excluded from the BDD group. This is associated with a reduction of internal validity, as the two clinical groups are somewhat interwoven. Key findings need to be replicated.
Conclusion: The findings indicate that outcomes such as negative appearance-related cognitions and affect are specific to individuals with BDD. An external representation of one's appearance activates a specific mode of processing in BDD, manifesting itself in the absence of positive body-related cognitions, increased anger and sadness, and high levels of post-event processing. These specific processes may contribute toward maintenance of BDD psychopathology.

1. Introduction

Body dysmorphic disorder (BDD) is characterized by a preoccupation with a perceived defect or flaw in one's appearance that is either unobservable by others or appears to be only slight (American Psychiatric Association, 2000). The most common body parts of concern are the skin, hair, or nose, but any part of the body may be included and often the preoccupation involves several body parts (Phillips, 2005). Individuals with BDD frequently engage in safety-seeking behaviours, such as camouflaging or mirror gazing (Phillips & Diaz, 1997). Individuals with BDD are also reported to worry or ruminate about their appearance for several hours a day (Phillips, Gunderson, Mallya, McElroy, & Carter, 1998) and they often experience feelings of anxiety, shame, and hopelessness (Phillips, Siniscalchi, & McElroy, 2004). As a consequence, individuals with BDD suffer from severe distress and substantial impairment in psychosocial functioning (Cororve & Gleaves, 2001).

Several cognitive behavioural (CBT) models have been developed that aim to explain BDD symptoms and their maintenance (Feusner, Neziroglu, Wilhlem, Mancusi, & Bohon, 2010; Neziroglu, Khemlani-Patel, & Veale, 2008; Phillips, 2005; Veale, 2004; Wilhelm, 2006). Veale (2004) proposed that an external representation of the individual's appearance, such as looking into a mirror, activates a distorted mental image of how they appear. Increased self-focused attention and selective attention serves to heighten awareness of that image and contributes to its maintenance. Safety-seeking behaviours, negative affect and ruminative thinking interact with the negative appraisal of body image (Veale, 2004; updated in Neziroglu et al., 2008). However, very little is known about appearance-related appraisals in BDD and there is a

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scarcity of research on negative affect and the ruminative processes that are thought to be activated by an external representation of one's appearance. The aim of the present study was therefore to extend the body of knowledge on BDD by using a think-aloud approach as well as an in vivo body exposure to assess individuals' body-related cognitions and affect, as well as their cognitive and affective responses to an external representation of their appearance.

Negative appraisals of appearance are core features of CBT models of BDD. It is postulated that an external representation of one's appearance activates or aggravates such appraisals (Veale, 2004). Empirical evidence indicates that individuals with BDD evaluate their appearance more negatively, compared to healthy and psychiatric controls (Didie, Kuniega-Pietrzak, & Phillips, 2010; Hrabosky et al., 2009). Individuals with BDD have also been shown to endorse assumptions about appearance such as "If my appearance is defective then I am worthless" (Veale et al., 1996, p. 199), and to overvalue physical appearance and attractiveness (Buhlmann, Teachman, & Kathmann, 2011; Hrabosky et al., 2009). However, assessment of cognitive variables has so far been limited to the use of endorsement methods which assess predefined appearance-related attitudes and values retrospectively.

Negative appraisals of body image triggered by an external representation of one's appearance are suggested to activate negative affect and rumination (Veale, 2004). Empirical evidence indicates that individuals with BDD experience more anxiety and discomfort after mirror gazing, than healthy controls (Buhlmann, Teachman, Naumann, Fehlinger, & Rief, 2009). Individuals with BDD have also been found to experience more distress and self-focused attention after mirror gazing. However, an increase of these variables has also been observed in healthy controls (Windheim, Veale, & Anson, 2011). Ruminative thinking in BDD involves several themes such as "'Why'-type questions – for example 'Why am I so ugly?'" (Veale & Neziroglu, 2010, p. 66), as well as self-attacking and is also postulated to include reviews of past appearance-related experiences, for example how they last appeared when they looked in the mirror (Veale & Neziroglu, 2010). It may therefore be similar to post-event processing in individuals with social anxiety disorder, who selectively retrieve negative information about themselves during a social situation and brood over this negative material (Brozovich & Heimberg, 2008). However, rumination in response to an appearance-related trigger has not yet been examined in individuals with BDD.

In the present study we attempted to expand upon previously employed methodologies using a think-aloud approach to assess body-related cognitions in individuals with BDD. Production methods such as the think-aloud technique assess a variety of cognitions including automatic thoughts, appraisals, as well as beliefs also defined as cognitive products (Hollon & Kriss, 1984), and capture the idiosyncratic content of an individual's thoughts (Davison, Robins, & Johnson, 1983). In addition, we used a body exposure task as a priming situation. An activation of cognitive constructs by relevant situations is suggested to be essential for eliciting targeted cognitive content (Clark, 1997). We further expanded upon previous studies by assessing a variety of affective responses that have been found to be relevant in individuals with body image disorders (Vocks, Legenbauer, Wachter, Wucherer, & Kosfelder, 2007) and also examined post-event processing.

Apart from mentally healthy controls we included individuals with major depression as a clinical control group, to investigate whether the assessed characteristics were specific to BDD as a disorder of body image. We expected that individuals with BDD would verbalize more body-related cognitions in general and more negative body-related cognitions than both control groups. We also expected a stronger increase of negative body-related cognitions and negative affect during body exposure, as well as a weaker decrease of these variables after body exposure for individuals with BDD, in comparison to both control groups. We further expected higher levels of post-event processing in individuals with BDD in comparison to both control groups. An exploratory research question focused on different dimensions of a disturbed body image in individuals with BDD. We assessed whether and to what extent individuals with BDD verbalized body-related appraisals and beliefs, body-related behaviours, or body-related emotions when looking at themselves in a mirror.

2. Method

2.1. Participant characteristics

The study comprised 90 participants: 30 individuals with a primary diagnosis of BDD, 30 individuals with a primary diagnosis of major depression and 30 individuals without any current axis I mental disorder. Primary diagnoses were based on symptom severity: In case of comorbidity, participants were asked which disorder caused the most distress. The clinical and healthy control groups were comparable to the BDD group in terms of age (mean, variance) and gender distribution (cf. Table 1).

Individuals with BDD were recruited through flyers and advertisements in local newspapers. Individuals were eligible for the BDD group if they met DSM-IV criteria for current BDD and if BDD was their primary diagnosis. There were no specific exclusion criteria for the BDD group. Primary appearance concerns focused on the skin ($n = 10$), nose ($n = 4$), eyes ($n = 2$), chin ($n = 2$), hair ($n = 2$), ears ($n = 1$), overall face ($n = 1$), body height ($n = 4$), body build ($n = 3$), and legs ($n = 1$). Eleven individuals in the BDD group were currently receiving psychological treatment.

30 individuals with the diagnosis of major depression (MD) were recruited from a psychiatric and a psychosomatic clinic. Individuals were eligible for the MD group if they met DSM-IV criteria for current MD and if MD was their primary diagnosis. Specific exclusion criteria for the MD group included a current or past diagnosis of BDD. All individuals in the MD group were currently receiving psychological treatment.

30 mentally healthy controls (HC) were recruited via advertisements. Individuals were eligible for the HC group if they did not currently fulfil the diagnostic criteria of any axis I mental disorder according to DSM-IV. A past diagnosis of any mental disorder was no exclusion criterion for the HC group.

All participants had to be at least 18 years of age. General exclusion criteria for all groups included the inability to read and understand the information brochure and consent form, as well as any altered mental states that would interfere with their ability to take part in the study (such as psychotic symptoms).

2.2. General procedure

Participants gave written and informed consent after the nature of the study had been fully explained. Participants filled out self-report questionnaires and were interviewed (app. 60–90 min, cf. 2.3). They also participated in a quasi-experimental think-aloud task (app. 30 min, cf. 2.4), and then had a follow-up interview (app. 15 min, cf. 2.5). Before leaving, participants were handed out a follow-up questionnaire (app. 5 min, cf. 2.5) and asked to return it by post within the next 24 h. Participants received 20 € for their participation. The study design was reviewed and approved by the local institutional ethics committee.