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Mirror gazing in body dysmorphic disorder and healthy controls: Effects of duration of gazing

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ABSTRACT

Cognitive-behavioural models of body dysmorphic disorder (BDD) suggest that mirrors can act as a trigger for individuals with BDD, resulting in a specific mode of cognitive processing, characterised by an increase in self-focussed attention and associated distress. The aim of the current study was to investigate these factors experimentally by exposing participants with BDD ($n = 25$) and without BDD ($n = 25$) to a mirror in a controlled setting. An additional aim was to ascertain the role of duration of mirror gazing in the maintenance of distress and self-consciousness by manipulating the length of gazing (short check vs. long gazing). Findings demonstrated that contrary to what was predicted, not only participants with BDD, but also those without BDD experienced an increase in distress and self-focused attention upon exposure to the mirror. In addition, people without BDD, unlike those with BDD, experienced more distress when looking in the mirror for a long period of time as opposed to a short period of time. This lends some support to the idea that, for people with BDD, gazing in a mirror, regardless of duration, might act as an immediate trigger for an abnormal mode of processing and associated distress, and that this association has developed from past excessive mirror gazing. Further theoretical implications of these findings, as well as subsidiary research questions relating to additional cognitive factors are discussed.

Introduction

People with body dysmorphic disorder (BDD) are preoccupied with either an imagined defect or a slight anomaly in their appearance, which causes them clinically significant distress and/or impairments in functioning (American Psychiatric Association, 1994). Appearance-related concerns in BDD can centre on specific features of the body (e.g. skin or hair) or on generalised feelings of being ugly, deformed, or odd-looking (Phillips, McElroy, Keck, Pope, & Hudson, 1993; Rosen, 1996; Veale, Boocock, et al., 1996). In most cases multiple aspects of appearance are disliked (Hollander, Cohen, & Simeon, 1993; Perugi, Akiskal, et al., 1997; Phillips et al., 1993; Phillips, McElroy, Keck, Pope, & Hudson, 1994; Rosen, 1996, 1998; Veale, Boocock, et al., 1996). Concerns about appearance in BDD are frequently accompanied by a host of repetitive and time-consuming behaviours, aimed at verifying, camouflaging, or enhancing the person's appearance (Allen, 2006; Cororve & Gleaves, 2001; Perugi, Akiskal, et al., 1997; Phillips et al., 1993; Rosen, Reiter, & Orosan, 1995). These include mirror gazing, excessive grooming, compulsive skin-picking, attempting to conceal perceived flaws, reassurance seeking, and seeking cosmetic procedures. Taken together, the features of BDD frequently lead to a high degree of morbidity and impairments in functioning. People with BDD often experience high levels of distress (Phillips, Siniscalchi, & McElroy, 2004), a high life-time rate of psychiatric hospitalisation (Phillips et al., 1993; Veale, Boocock, et al., 1996) and a high rate of suicidal ideation and suicide attempts (Grant, Kim, & Crow, 2001; Hollander et al., 1993; Perugi, Giannotti, et al., 1997; Phillips, 1991; Phillips & Diaz, 1997; Phillips et al., 1993, 1994; Phillips & Menard, 2006; Rief, Buhlman, Wilhelm, Borkenhagen, & Brahler, 2006; Veale, Boocock, et al., 1996). In addition, many individuals with BDD are single and unemployed (Neziroglu & Yaryura-Tobias, 1993; Veale, Boocock, et al., 1996).

Mirror gazing in body dysmorphic disorder

One study found that about 80% of individuals with BDD will repetitively check their appearance in mirrors, often for considerable lengths of time, whilst the remaining 20% tend to avoid mirrors

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altogether (Veale & Riley, 2001). An understanding of these processes, which are likely to contribute to and maintain the disorder, is important for the development of cognitive behaviour therapy. Veale and Riley (2001) conducted a descriptive study on mirror gazing in which they administered a self-report Mirror Gazing Questionnaire to 52 participants who met DSM-IV diagnostic criteria for BDD and 55 healthy controls. Results suggested that the majority of mirror checkers with BDD (85%) have one long session (on average one hour) and numerous short sessions (on average fifteen) in front of the mirror per day. They use a series of mirrors from varying angles and with varying degrees of magnification. In addition, they check their appearance in a wide array of reflective surfaces, such as shop windows, car mirrors, cutlery, or television screens. Only a small proportion of control participants reported a long session in front of the mirror (30%). In addition, they checked themselves less often (on average four times a day) and did not report the frequent use of different mirrors and reflective surfaces. This study also revealed that patients with BDD seem to have an ambivalent relationship with mirrors with 67% of mirror checkers admitting to selectively avoiding mirrors, e.g. mirrors exposed to certain lighting conditions or mirrors in public. In addition, there were subtle avoidance behaviours during mirror gazing, such as avoiding looking at certain disliked features of appearance. Only a small minority of healthy control subjects reported mirror avoidance.

Conceptualisation of mirror gazing within a cognitive-behavioural model of body dysmorphic disorder

From their research Veale and Riley (2001) concluded that mirror gazing might best be construed as a network of complex and idiosyncratic "safety seeking behaviours" (Salkovskis, 1991) linked to a person's imagery and beliefs and aimed at reducing distress. This is in line with a cognitive-behavioural model of BDD (Neziroglu, Khemlani-Patel, & Veale, 2008; Veale, 2004; Veale, Gournay, et al., 1996), which suggests that when people with BDD are confronted with an appearance-related trigger (such as their reflection in a mirror) a dysfunctional mode of processing is activated. They shift their focus of attention inwards and start processing themselves as aesthetic objects. This involves comparing an internalised, mostly negative, image of their appearance (as seen from an observer perspective) to the external representation of their appearance in the mirror and to an internal image of their desired appearance. This repeated comparison renders the internal image unstable and causes the person with BDD to be uncertain about the way he/she looks (Veale & Riley, 2001). The increased self-focussed attention makes it more difficult to attend to any corrective external information and strengthens the negative internal image of one's appearance. The model also proposes that the person pays selective attention to certain features of the internal and external images, which magnifies perceived defects and further distorts the internal image. Processing the self as an aesthetic object will also activate negative beliefs about the importance of appearance in terms of self-worth, as well as triggering negative emotions, such as shame and sadness. The person might then feel compelled to engage in safety behaviours, such as mirror checking, to reduce the unpleasant emotions. They might, for example, use repetitive mirror gazing in an attempt to reduce anxiety associated with the uncertainty about how they look (caused by the unstable internal image). The motivations for mirror gazing and specific behaviours vary from person to person.

The role of mirror gazing in the maintenance of BDD

Mirror gazing might briefly reduce distress but has been hypothesised to maintain the disorder through the exacerbation of symptoms, such as preoccupation and anxiety (Neziroglu et al., 2008; Neziroglu, Roberts, & Yaryura-Tobias, 2004; Veale, Gournay, et al., 1996; Veale & Riley, 2001). In line with this hypothesis, participants with BDD in the descriptive mirror-gazing study (Veale & Riley, 2001) reported more distress than control participants before and after gazing and reported higher levels of distress after looking at their appearance for a long time. A recent study also found that participants with low body-image satisfaction evaluated the attractiveness of their faces more negatively after mirror gazing for 3.5 min, which differed from participants with high body-image satisfaction, whose attractiveness ratings increased after gazing (Mulken & Jansen, 2009). Therefore, negative appraisals of appearance in individuals with body-image problems seem to be enhanced through mirror gazing. Furthermore, participants with BDD in the Veale and Riley (2001) study were more likely than controls to focus their attention on an internal impression of their looks when gazing, thereby increasing self-focussed attention. This mechanism might depend on the length of time an individual spends in front of the mirror, as participants with BDD only reported it for the longer gazing time. Mirror gazing might also enhance selective attention to certain body parts that an individual with BDD is dissatisfied with. In the Veale and Riley (2001) study participants reported that they were more likely to focus their attention on specific parts of their appearance when gazing for a long time. Similarly, Farrell, Shafran, and Fairburn (2004) found an association between high levels of body shape concern and looking at disliked parts of the body, such as stomach and hips, when they administered an adapted version of Veale and Riley's (2001) Mirror Gazing Questionnaire to women with high and low body shape concerns. In addition, 99% of women with clinical eating disorders reported paying specific attention to disliked body parts, rather than examining their whole body when mirror gazing (Shafran, Fairburn, Robinson, & Lask, 2003). In contrast, women in the control group of this study tended to look at their faces.

Primary aims and hypotheses of the current study

A limitation of the Veale and Riley (2001) study was that cognitive and affective processes related to mirror gazing were investigated through a questionnaire, which might have led to some inaccuracies in reporting. The current study sought to address this limitation by directly manipulating mirror gazing within an experimental design to replicate and extend the previous findings.

In the Veale and Riley (2001) study, BDD patients reported an increase in distress from baseline (before mirror gazing) to after looking at their reflection for a long time. The first aim of the current study was therefore to investigate whether exposure to a mirror led to an increase in appearance-related distress and self-focus in patients with BDD as compared to individuals without BDD. Participants' ratings of appearance-related distress and focus of attention (self vs. external) were taken before and after looking in a mirror. It was hypothesised that patients with BDD would experience an increase in appearance-related distress and their attention would become more self-focused compared to baseline after mirror gazing, whilst the reported levels of these dependent variables would remain similar to baseline for the control group.

It should be noted that participants in the Veale and Riley (2001) study reported an increase in selective and self-focussed attention after a *long* gazing time, but not after a *short* check. Viewing one's reflection in the mirror is a commonplace behaviour that most people engage in on a daily basis. It is possible that even in patients with BDD it is the *duration* of gazing that leads to a more pathological mode of processing, rather than the gazing per se, as patients with BDD reported gazing in mirrors for significantly longer periods of time than individuals without BDD (Veale & Riley,