



Self-discrepancy in body dysmorphic disorder

David Veale^{1*}, Peter Kinderman², Susan Riley³ and Christina Lambrou⁴

¹ Department of Psychiatry and Behavioural Sciences, Royal Free and University College Medical School, London, UK

² Department of Clinical Psychology, University of Liverpool, UK

³ The Priory Hospital North London, UK

⁴ Department of Psychology, Institute of Psychiatry, UK

Objectives. According to self-discrepancy theory (SDT), depression, social anxiety, eating disorders and paranoia result from different types of conflicting self-beliefs. Body dysmorphic disorder (BDD) consists of a preoccupation with imagined or slight defects in one's appearance, which is often associated with a depressed mood and social anxiety. SDT was therefore applied to BDD patients to further understand their beliefs about their appearance.

Design. Using a comparative group design, BDD patients were compared against a non-patient control group.

Method. A sample of 149 participants, consisting of three groups—BDD (72), BDD preoccupied with their weight and shape (35), and controls (42)—completed a modified version of the Selves Questionnaire (Higgins, Bond, Klein, & Strauman, 1986) requiring them to list and rate physical characteristics according to the following standpoints: (a) self-actual; (b) self-ideal; (c) self-should; (d) other-actual; and (e) other-ideal.

Results. BDD patients displayed significant discrepancies between their self-actual and both their self-ideal and self-should. However, there were no significant discrepancies in BDD patients between their self-actual and other-actual or other-ideal domains. Analysis of variance using depression and social anxiety scores as covariates revealed a significant difference for both the self-ideal and self-should discrepancy.

Conclusion. The results suggest that BDD patients have an unrealistic ideal or demand as to how they should look. BDD patients are more like depressed patients

*Requests for reprints should be addressed to: Dr David Veale, The Priory Hospital North London, The Bourne, Southgate, London N14 6RA (e-mail: David@veale.co.uk).

(rather than social phobics or bulimics), being more concerned with a failure to achieve their own aesthetic standard than with the perceived ideals of others.

Body dysmorphic disorder (BDD) consists of a preoccupation with an ‘imagined’ defect in one’s appearance. If a slight physical anomaly is present, the person’s concern is markedly excessive (American Psychiatric Association, 1994). To fulfil the diagnostic criteria for DSM-IV, the preoccupation must cause clinically significant distress or impairment in social, occupational or other important areas of functioning. In addition, the preoccupation must not be better accounted for by another mental disorder (e.g., the dissatisfaction that occurs in anorexia nervosa). There is frequent comorbidity in BDD with diagnoses of depression, social phobia and obsessive-compulsive disorder (Neziroglu & Yaryura-Tobias, 1993; Phillips, 2000; Phillips, Gunderson, Mallya, McElroy, & Carter, 1998). BDD patients frequently avoid social and public situations or endure them with extreme distress. They usually spend many hours thinking about their perceived defect, compulsively checking in mirrors and comparing themselves to others (Phillips, McElroy, Keck, Jr., Pope, Jr., & Hudson, 1993). They often have multiple preoccupations, but the most common concerns are on the face, especially with the nose, skin or hair. Other researchers have described a slightly different population of patients whose major preoccupation is with their weight and shape without a diagnosable eating disorder (Rosen, Reiter, & Orosan, 1995). This population is thought to be less handicapped and distressed than BDD patients described at other centres.

A cognitive behavioural model of BDD has been proposed which emphasizes factors such as selective attention on a distorted body image and behaviours such as mirror gazing that maintain processing of self as an aesthetic object (Veale, 2001, 2002; Veale et al., 1996). There is some overlap in the model with that of social phobia (Clark & Wells, 1995) in which there is an excessive self-focused attention and processing of the self as a social object. The main clinical difference between BDD and social phobia is that BDD patients evaluate themselves almost exclusively in terms of their appearance and have varying degrees of social anxiety bordering on paranoia. In addition, BDD patients often have repetitive behaviours such as mirror checking. Although family or friends often tell BDD patients that they look perfectly normal, such comments are frequently dismissed (e.g., ‘They’re just saying it to be nice to me’ or ‘All parents think that their children look fine’). They may believe, therefore, that they are lying or humouring them.

We were interested in the application of self-discrepancy theory (SDT) to a cognitive behavioural model of BDD. SDT proposes three basic domains of self-beliefs that are important to understanding emotional experience:

- (a) *the actual self*—the individual’s representation of the attributes that someone (self or significant other) believes the individual actually possesses;
- (b) *the ideal self*—the individual’s representation of the attributes that someone (self or significant other) would ideally hope the individual to possess; and
- (c) *the should or ought self*—the individual’s representation of the attributes that someone (self or significant other) believes the individual should as a sense of duty or moral obligation possess.

The ideal and should selves are referred to as ‘self-guides’. It is assumed that a

discrepancy between the actual self and the self-guides determine the individual's vulnerability to negative emotional states (Higgins, 1987). For example, in a self-actual/self-ideal discrepancy, the individual is vulnerable to dejection-related emotions (e.g., sadness, disappointment), resulting from the appraisal that one's hopes and aspirations are unfulfilled (through the absence of positive reinforcement). In a self-actual/other-should discrepancy, the individual is vulnerable to anxiety resulting from the appraisal that one has been unable to achieve one's responsibilities and is therefore liable for punishment (the anticipated presence of negative outcomes). Patients with social phobia have a marked discrepancy between how they perceive themselves and how they think they should appear to others (Strauman, 1989). Paranoid patients have a high degree of consistency between self-perceptions (actual self) and self-guides (ideal and ought self) together with significant discrepancies between self-perceptions (self-actual) and the believed perceptions of parents about the self (parent-actual; parent-ideal; parent-ought; Kinderman & Bentall, 1996). Compared to either depressed patients or non-patients, paranoid patients also believed their parents had more negative views of them. These findings are consistent with the model proposed by Bentall, Kinderman, and Kaney (1994), which assumes that the causal attribution of negative events to external factors by the deluded patient serves to maintain consistency between self-perceptions and self-ideals at the expense of contributing to negative perceptions of the intentions of others and therefore paranoia.

The relevance of self-discrepancies for body dissatisfaction and disordered eating has also been explored. Strauman, Vookles, Berenstein, Chaiken, and Higgins (1991) reported that body shape dissatisfaction and bulimic behaviours in female undergraduates was associated with actual/ideal self-discrepancy. In contrast, actual/ought self-discrepancy was associated with anorexic-related attitudes. These predicted associations were displayed in both genders and remained even when appearance-related attributes were excluded from scoring of self-discrepancies. However, Forston and Stanton (1992) reported that neither actual/ideal nor actual/ought discrepancies from the self-standpoint were related to bulimia, only the other/ought standpoint significantly predicted bulimic behaviour. Neither of these studies used a control group.

In general, SDT has been developed and applied to general personality factors. For the purposes of the present study, the theory was modified to focus on physical appearance. Because BDD patients have varying degrees of depression, social anxiety and even paranoia, we hypothesized that:

- (1) There would be a significant discrepancy between the way BDD patients perceive their appearance (self-actual) and how they would like to appear in an ideal world (self-ideal) compared to healthy controls.
- (2) There would be a significant discrepancy between the way BDD patients perceive their appearance (self-actual) and how they think they should appear (self-should) compared to controls.
- (3) There would be no discrepancy between the way BDD patients perceive their appearance (self-actual) and the way they think the person who knows them best believes they appear (other-actual) compared to controls.
- (4) There would be a significant discrepancy between BDD patients in the way they perceive themselves (self-actual) and the way they think the person who knows them best would like them to appear (other-ideal) compared to controls.

We were also interested in determining if there were any differences in the self-

discrepancy between the two BDD groups, that is, those BDD patients with preoccupations about their face and other areas of their body and those BDD patients who were mainly preoccupied by their weight and shape. Such patients do not have a diagnosable eating disorder but might have a subclinical syndrome with some abnormal dieting behaviour.

Method

Participants

A total of 107 participants who were recruited were diagnosed as suffering from BDD. The participants were either patients who were being treated clinically, or individuals who had contacted a support group for BDD sufferers. All patients were diagnosed by the first author as suffering from BDD as their main problem using the diagnostic criteria of DSM-IV. None of the participants had an eating disorder. The experimental group was further subdivided into those patients with BDD whose main preoccupation was with face or specific parts of the body ($N = 72$) and those patients with BDD whose main preoccupation was with their weight or shape ($N = 35$). The division was made if they reported that their main preoccupation was with their body shape and weight and highlighted these areas on the Body Dissatisfaction Questionnaire modified from Rosen and Reiter (1996). The authors recruited 42 controls who were nonclinical staff at the Priory Hospital North London. They were not screened for psychopathology.

Measures

All participants completed a modified Selves Questionnaire (Higgins, 1987) that required them to list and rate their physical characteristics.

There were several minor amendments to the Selves Questionnaire used in the present study. These amendments echo similar changes from previous research (Kinderman & Bentall, 1996). The questionnaire required individuals to write up to 10 characteristics to describe:

- (a) his or her actual physical appearance (self-actual);
- (b) how he or she would like their physical appearance to be in an ideal world (self-ideal);
- (c) what he or she believes he or she should look like (self-should);
- (d) how he or she thinks the person who knows him or her best would choose to describe his or her actual physical appearance (other-actual); and
- (e) how the person who knows him or her best would choose to describe how he or she would look like in an ideal world (other-ideal).

For each characteristic, participants were asked to rate the degree to which they possessed each characteristic on a 10-point scale, where 10 signified that they possessed that characteristic extremely or very much and 1 meant that they possessed that characteristic only slightly or very little. We chose not to measure other-should as there were already five domains. Instead, the ideal domain was chosen as it was believed it would best make sense to the individual.

Scoring

Discrepancies were calculated for each of the following sets of domains:

- (a) self-actual/self-ideal;
- (b) self-actual/self-should;
- (c) self-ideal/self-should;
- (d) self-actual/other-actual; and
- (e) self-ideal/other-actual.

Five scores were obtained, one for each comparison. The scoring system developed by Kinderman and Bentall (1996) was used, which was in turn modified from the original (Kinderman & Bentall, 1996; Scott & O'Hara, 1993). Scores were obtained by comparing the words/synonyms across the domains and the ratings for each characteristic were also taken into account. The following scores were awarded:

- +2 if a word/synonym was used in two domains and numerical ratings were *identical*
- +1 if a word/synonym was used in two domains and numerical ratings differed by 1 point
- 0 if a word/synonym was used in two domains and numerical ratings differed by 2 points
- 1 if a word/synonym was used in two domains and numerical ratings differed by 3+ points
- 2 if a word/synonym was used in one domain and the *opposite* was used in the other domain (e.g., tall/short or thin thighs/fat thighs).

The scoring was done blind to group membership. The numerical scores for each comparison were then summed within each domain. Where the score obtained was positive, this indicated consistency; where it was negative, this indicated a discrepancy.

A valence score was also calculated for the self-actual and other-actual domains by scoring the characteristics either negatively (-1), neutrally (0) or positively (+1). The scores were then summated for the total self-actual and total other-actual score and compared across the groups.

The only substantive changes in the procedure and scoring system used in the present study and previous studies (e.g., Kinderman & Bentall, 1996) was that participants were asked to generate self-descriptions that referred to physical characteristics. The modifications developed by previous researchers (Kinderman & Bentall, 1996) from the original use of the Selves Questionnaire (Scott & O'Hara, 1993) were similarly minor, and involved the introduction of the 'other' perspective and the change from a 1-4 rating scale to a 1-10 scale.

The Selves Questionnaire (in either its original or modified form) has demonstrated its validity in a wide range of studies. Clinically depressed and socially phobic patients (Strauman, 1989), clinically anxious and depressed students (Scott & O'Hara, 1993) and dysthymic non-clinical subjects (Strauman & Higgins, 1988) have been shown to exhibit specific patterns of discrepancies between the various domains of self-perception which predict future emotional distress (Strauman & Higgins, 1988). Moreover, manipulations of these self-discrepancies in analogue subjects have been shown to lead to predictable changes in mood (Strauman, 1989), autobiographical memory (Strauman, 1992) and even physiological functioning (Strauman, Lemieux, & Coe, 1993). Specific

patterns of self-discrepancies have also been shown to be related to delusions of persecution (Kinderman & Bentall, 1996).

The reliability of the modified Selves Questionnaire has been established in previous studies (Kinderman & Bentall, 1996). Inter-rater reliability coefficients with two raters blind to each other's ratings revealed a very high level of agreement ($M \alpha = .985$). Such a high reliability coefficient is unsurprising given that the coding of matches and mismatches is strictly governed by the use of thesauruses.

All participants also completed the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), the Social Phobia Scale (SPS) and the Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998).

The BDI, which was used to measure depressive symptomatology in the groups, is a 21-item scale that has been widely used in previous studies. In previously published research, this scale has been shown to have good internal reliability and to be valid for use with both clinical (Williams, Barlow, & Agras, 1972) and non-patient (Blumberry, Oliver, & McClure, 1978) groups.

The SPS and SIAS were developed as companion measures to assess two separate domains of social anxiety. SPS items pertain to situations that involve being observed by others (e.g., eating in a restaurant). SIAS statements describe the individual's affective, behavioural or cognitive processes to a variety of situations that require social interaction (e.g., speaking with someone in authority). The SPS and SIAS have demonstrated strong psychometric properties, including high reliability (alphas exceed .88) and good discriminative, convergent and divergent validity.

Results

Demographic variables

A description of the demographics of the three groups is shown in Table 1. The three groups did not differ significantly in age. There was a significant difference on gender between the groups, accounted for by more women in the BDD (weight & shape) group.

Both BDD groups were significantly depressed and socially anxious compared to the control groups. A one-way ANOVA was conducted on the BDI scores with group membership as a between-participants variable and a difference was found between the BDD groups and control groups. A *post hoc* Scheffé test revealed that there was a significant difference between the BDD and control scores ($p < .001$) and the BDD (weight & shape) and the control population ($p < .001$), but not between the two BDD groups ($p = .29$). Significant differences between the three groups were also found on scores from both the SIAS and the SPS. A *post hoc* Scheffé test on the SIAS scores revealed a significant difference between the BDD and control scores ($p < .001$) and the BDD (weight & shape) and the control population ($p < .001$), but not between the two BDD groups ($p = .83$). Similarly, a *post hoc* Scheffé test on the SPS scores revealed a significant difference between the control group and both the BDD group ($p < .001$) and the BDD (weight & shape) group ($p < .001$), but not between the two BDD groups ($p = .14$).

Table 1. Characteristics of BDD patients and controls

	BDD patients				BDD (weight & shape) patients				Healthy controls				Significance
	M	SD	N		M	SD	N		M	SD	N		
Age	33.15	9.77	72		34.57	12.45	35		29.49	9.80	37		$F(2,143) = 2.347$, $p < .099$
Beck Depression Inventory (BDI)	27.82	12.53	72		31.40	12.21	35		9.26	6.02	42		$F(2,148) = 49.692$, $p < .000$
Social Interaction & Anxiety Scale (SIAS)	48.83	16.14	72		48.83	16.14	35		22.07	13.39	41		$F(2,147) = 43.514$, $p < .000$
Social Phobia Scale (SPS)	38.17	18.57	72		44.94	18.19	35		13.40	9.78	42		$F(2,148) = 42.403$, $p < .000$
Sex:													
N	72				35				42				$\chi^2(4,149) = 11.148$,
% male	33%				9%				20%				$P < .025$
% female	67%				81%				80%				
male:female ratio	1:2				1:10				1:4				

Table 2. Self-discrepancies: positive scores represent consistency and negative scores discrepancy

	BDD patients			BDD (weight & shape) patients			Healthy controls			Significance
	M	SD	N	M	SD	N	M	SD	N	
Self-actual/self-ideal	-6.39	4.44	72	-6.46	6.13	35	-3.24	4.22	42	$F(2,151) = 6.838,$ $p < .001$
Self-actual/self-should	-5.03	4.25	58	-5.12	4.48	26	-1.45	4.27	33	$F(2,116) = 8.286,$ $p < .000$
Self-ideal/self-should	4.13	4.92	60	5.38	5.44	26	3.47	3.65	34	$F(2,119) = 1.228,$ $p < .297$
Self-actual/other-actual	1.22	4.40	60	2.00	4.24	24	2.8	3.02	40	$F(2,98) = 0.590,$ $p < .556$
Self-actual/other-ideal	2.2	3.88	47	3.13	5.22	23	2.45	3.01	29	$F(2,123) = 0.678,$ $p < .509$

Self-discrepancies

Table 2 shows the mean consistency scores for all the self and other domains. A series of one-way ANOVAs were conducted on each domain, with group membership as a between-participants variable. A significant discrepancy was found between the self-actual/self-ideal domain, $F(2,148) = 5.535$, $p < .005$. A *post hoc* Scheffé test revealed a significant difference between the control group and both the BDD group ($p < .01$) and the BDD (weight & shape) group ($p < .05$) but no significant differences between the two BDD groups ($p = .998$). There was also a significant discrepancy between the self-actual/self-should domain, $F(2,116) = 8.286$, $p < .001$. The other three discrepancies—self-actual/other-actual, self-actual/other-ideal and self-ideal/self-should—produced no significant discrepancies. A univariate ANOVA using BDI and SIAS scores as covariates revealed a significant difference for both the self-actual/self-ideal discrepancy, $F(4,147) = 3.722$, $p < .007$, and the self-actual/self-should discrepancy, $F(4,116) = 5.876$, $p < .001$, thus suggesting that the significant discrepancies were accounted for by depression and social anxiety.

Table 3. Valence scores

	BDD patients			BDD (weight & shape patients)			Healthy controls			Significance
	M	SD	N	M	SD	N	M	SD	N	
Total self-actual	-3.20	5.16	65	-3.82	5.19	22	-0.11	3.80	37	$F(2,123) = 6.073$, $p < .003$
Total other-actual	1.00	5.27	62	-0.37	6.07	19	1.78	3.67	37	$F(2,117) = 1.178$, $p < .312$

Valence scores

Table 3 shows the valence scores for the self-actual and other-actual domains. A one-way ANOVA was performed between the total self-actual scores and group, revealing a significant difference, $F(2,123) = 6.073$, $p < .003$. According to the *post hoc* Scheffé test, the control group displayed a significantly less negative mean score (-0.11) than both the BDD group (-3.20, $p < .005$) and the BDD (weight & shape) group (-3.82, $p < .011$). There were no significant differences between group and total other-actual scores, $F(2,117) = 1.178$, $p = .31$.

Case example

An example of how one BDD patient preoccupied by imagined defects answered the self-discrepancy scale is illustrated below:

From self-actual standpoint	Rating
My breasts are saggy	10
My legs are too fat	10
My buttocks are saggy	8
My nose is too big	8
Have too much body hair	7

<i>From the self-ideal standpoint</i>	<i>Rating</i>
Firm high breasts with small nipples	10
Thin, lean legs	10
Small toned, high buttocks	10
Small, straight nose	8
Less body hair	8
 <i>From the self-should standpoint</i>	
Firm high breasts with small nipples	10
Thin, lean legs	10
Small toned, high buttocks	10
Small, straight nose	8
Less body hair	8
 <i>From the other-actual standpoint</i>	
Saggy breasts	10
Legs are too thick	7
Saggy bum	7
Big nose	8
Excess body hair	8
 <i>From the other-ideal standpoint</i>	
Firm breasts, smaller nipples	10
Thinner, leaner legs	7
Toned buttocks	8
Smaller nose	8
Less body hair	9

Discussion

The results support most of the original hypotheses for BDD patients derived from SDT, namely the discrepancy between how BDD patients see themselves and how they would like to appear in an ideal world or how they think they should appear.

As predicted, BDD patients had no discrepancy between how they perceive their appearance and the way they think the person who knows them best sees them. This was despite their belief about being defective as well as others probably reassuring them that they were not ugly. Unfortunately, we did not have a measure of the strength of conviction in the beliefs about their appearance. Patients who have more doubts about their beliefs may acknowledge that others perceive them differently and that their perception of themselves may be distorted.

Our results did not support our hypothesis of a discrepancy between how BDD patients see themselves and how the person who knows them best would want them to be in an ideal world. We predicted that because of their social anxiety, BDD patients would think that others would also want them to appear differently in an ideal world (e.g., by cosmetic surgery). However, the person who knows them best may disagree with their need to change their appearance and try to *dissuade* them from cosmetic surgery or beauty treatments. The result might have been different if we had asked how they think the public believes they should look. Alternatively, some patients may

camouflage their perceived imperfections or use other safety behaviours in public so patients believe that others cannot see their problem. Overall, the results suggest that BDD patients are more concerned about failure to achieve an internal aesthetic standard rather than being punished for not achieving the ideals of others. They are therefore more like depressed patients (who fail to achieve their ideal) than social phobic, paranoid or bulimic patients, who are more concerned with the perceived demands of others. However, our study was only concerned with the domain of physical appearance (compared to studies on depression, social phobia or paranoia). The covariance analyses do not appear to differentiate the process in BDD from depression or social anxiety in terms of self-concept. A different methodology would be required to explore any differences, which could be the focus for future research. Specifically, future studies would need to compare self-discrepancy in BDD patients against patients with social phobia or depression (without BDD) for appearance-related and general attributes.

There are limitations to the data, which include:

- (a) not assessing our controls for psychopathology or body image problems (other than BDI or SPS);
- (b) not assessing the severity of BDD symptoms;
- (c) not using a structured diagnostic instrument to ensure that our BDD did not meet the criteria for 'eating disorder not otherwise specified'; and
- (d) participants may not have fully understood the distinction between an 'ideal' and a 'should' as some reported difficulty differentiating between the two and did not complete the latter.

We recommend that future research teaches participants the distinction between the two with examples. There are also differences between self-discrepancy and cognitive theories about the meaning patients have about an 'ideal' or a 'should'. Cognitive theories differentiate realistic from unrealistic goals (Beck, 1967). In SDT, this would translate to unrealistic self-guides—unrealistic attributes listed in the self-ideal and self-should domains (Strauman, 1994, 1996). Cognitive theories also emphasize that failure to achieve an unrealistic goal is taken personally or catastrophically. This is associated with a high degree of distress and self-defeating behaviours. Healthy emotions are associated with striving for realistic goals but accepting that if they are not achieved then it is not the end of the world and that one can still accept oneself as a fallible human being. However, it is possible that patients would not understand the difference between the two types of beliefs until cognitive therapy is successful. The present methodology was not designed to make such distinctions. A separate methodology looking at the subjective nature or judged appropriateness of the goals would be needed, which could be the focus for further research.

Further research will be required to determine whether the discrepancy about appearance is specific to BDD, or whether it occurs in patients with eating disorders or individuals who seek cosmetic surgery. Future studies may also determine change after treatment and ask the participants to rate the same characteristics to determine how the ratings differ across each domain.

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