Body dysmorphic disorder and obsessive–compulsive disorder: similarities, differences and the classification debate


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Obsessive–compulsive disorder and body dysmorphic disorder have many similarities in clinical presentation. Obsessive–compulsive disorder has historically been considered an anxiety disorder, whereas body dysmorphic disorder has been grouped among the somatoform disorders. Researchers in these areas are currently debating whether the similarities warrant the inclusion of body dysmorphic disorder within a proposed category of obsessive–compulsive spectrum disorders. This article describes the association between obsessive–compulsive disorder and body dysmorphic disorder as evidenced by the emerging literature, and presents theoretical and clinical implications of this association.

Conceptual and practical disputes surround the nosology of obsessive–compulsive disorder (OCD) and body dysmorphic disorder (BDD). Although BDD is classified as a somatoform disorder and OCD as an anxiety disorder in the Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV there has been much debate regarding the classification of and the relationship between these disorders. For instance, the similar pathophysiology and treatment response of OCD to other disorders with repetitive thoughts and behaviors has led many researchers to group OCD under its own entity with similar disorders, the obsessive–compulsive spectrum disorders (OCSDs). Similarly, controversies surround the classification of BDD, including its current classification as a somatoform disorder, its relationship to the affective spectrum, and its relationship to OCD. Diagnosis around the delusional variants of both disorders has also incited debate. The classification of BDD and OCD has important diagnostic and treatment implications for these disorders and the general taxonomic system. The present article reviews current literature on clinical features, biological bases, and treatment options for OCD and BDD, and then describes the contemporary classification debate.

Obsessive–compulsive disorder: definition & key features
In the DSM, OCD is currently classified as a unitary disorder under the anxiety disorders. However, OCD is a clinically heterogeneous disorder, which has long been noted in the literature [1]. In 1869 Falret made the distinction between folie du doute (madness of doubt) and délire du toucher (delusion of touch) [1], and several factor analytic studies have attempted to delineate OCD into more homogeneous subtypes. These factor-analytic studies have yielded mixed results; however, at least four symptom dimensions (symmetry/ordering, hoarding, contamination/cleaning and obsessions/checking) have consistently emerged, each associated with distinct patterns of pathophysiology, comorbidity and treatment response [1].

In its current classification as an anxiety disorder, the DSM defines the central feature of OCD as recurrent obsessions or compulsions that are time-consuming, distressing or impairing [2]. Obsessions are intrusive thoughts, images or impulses, whereas compulsions are repeated behaviors or mental actions designed to reduce distress. Common obsessions include excessive concerns with contamination, doubt whether an action has been performed correctly,
order/symmetry, and aggressive or sexual thoughts or impulses. Obsessions cause distress or anxiety, and consequently the person with OCD tries to ignore, suppress or neutralize the thoughts via compulsions. Typical compulsions include washing, counting, checking, seeking reassurance and ordering/arranging. Often individuals with OCD will avoid situations, people or activities that trigger OCD-related anxiety.

For an adult to meet criteria for OCD, the obsessions or compulsions must be recognized as somewhat unreasonable or excessive at some time during the course of the disorder (may be absent in children). Insight in OCD occurs on a continuum, and patients with good and poor insight are similar in terms of demographic and clinical characteristics [3]. Obsessions must be different from real-life worries such as finances or relationship issues. The individual must also understand that the thoughts, images or urges are generated internally, as opposed to believing some external force is causing the intrusions. Compulsions are performed in response to an intrusion or are performed according to a specific and rigid routine. Compulsions are intended to decrease distress or prevent an adverse event, but are not appropriate responses (for instance, washing hands for hours at a time to prevent a cold).

In adults, OCD tends to co-occur with other DSM-IV diagnoses, such as depression, other anxiety disorders, eating disorders, tic disorders, obsessive–compulsive personality disorder, avoidant personality disorder and dependent personality disorder. Children with OCD may have co-occurring learning disorders or disruptive behavior disorders. OCD symptoms at subclinical levels are common, and the diagnosis should only be given when the symptoms cross a threshold of distress or impairment, or are significant enough to be time-consuming.

The lifetime prevalence of OCD is estimated at approximately 1.6%, making it a relatively common psychiatric disorder [4]. OCD frequently begins during early adolescence, although some cases do have onset in early childhood and some in adulthood. OCD symptoms tend to persist over the lifespan, although symptoms may change in content and severity. OCD is as common among females as it is among males in adulthood, although because symptoms may start earlier in boys, it is more common in childhood among boys than among girls [2].

**Body dysmorphic disorder: definition & key features**

Morselli first described BDD in 1886 as 'dysmorphophobia,' and its symptoms have since been categorized under various nomenclatures in the psychiatric, dermatologic and cosmetic surgery literature [5]. However, dysmorphophobia did not receive diagnostic recognition until DSM-III [6], and its new name, body dysmorphic disorder, until DSM-III-Revised [7]. Since 1980, BDD has been classified in the DSM as a somatoform disorder.

The DSM-IV-Text Revision (TR) defines BDD as an excessive preoccupation with an imagined or minor flaw in appearance [2]. The appearance concerns must be distressing and/or interfering with social, occupational or other areas of functioning. The preoccupations can involve any part of the body but most often focuses on the skin, hair or the nose. The preoccupation should not be better accounted for by another mental disorder (e.g., dissatisfaction with body shape and size in anorexia nervosa). Individuals with BDD frequently describe the thoughts about their presumed defects as difficult to control and often spend many hours a day ruminating about imperfections in their appearance. Most individuals with BDD engage in repetitive behaviors, usually done to check on, hide or improve the perceived appearance flaws. They may check mirrors and other reflecting surfaces, spend an inordinate amount of time grooming, ask others for reassurance, attempt to camouflage, compare their appearance to that of others around them or in the media, or exercise excessively [8].

Because of their appearance concerns, many individuals with BDD will avoid social and public situations. This can restrict educational and vocational options. Some individuals with BDD become extremely socially isolated or housebound [9]. Individuals with BDD may look for medical solutions to their appearance concerns, such as dermatological, surgical and dental procedures [10]. These procedures may or may not alleviate the concern, and some individuals will have repeated surgeries on the same area. Individuals with BDD have a relatively high rate of suicidal ideation, suicide attempts and completed suicide [11], with as many as 25% of individuals with BDD reporting having attempted suicide at least once [11,12]. In a direct comparison of suicidal ideation in OCD and BDD, individuals with BDD were significantly more likely than individuals with OCD to experience lifetime suicidal ideation (77.8 vs 54.8%), although in this particular sample the OCD group were as likely as the BDD group to have attempted suicide (13.3% for BDD vs 15.9% for OCD) [13]. Earlier reports (e.g., [14]) had shown higher levels of suicidal ideation in a BDD sample compared with an OCD sample (70 vs 47%) and a higher rate of suicide attempts (22 vs 8%) in the BDD sample compared with the OCD sample. Only one study has reported on completed suicide in BDD, but the annual rate appears to be extremely high (0.3%), and much higher than for almost all other mental disorders [15,16]. Suicidality in BDD underscores its high morbidity, the importance of identifying and treating the disorder, and represents one clear difference from the clinical presentation of OCD.

Level of insight in individuals with BDD is frequently poor in contrast to OCD, where the majority (~90%) of those affected have insight [3,17]. The delusional and nondelusional variants of BDD are classified as separate disorders in DSM-IV; that is, a patient who has BDD with complete lack of insight will meet DSM-IV-TR criteria for two disorders, BDD and delusional disorder, somatic type. However, a growing body of research suggests that delusional and nondelusional variants may reflect varying degrees of insight within a single disorder [18]. For example, available data suggest no significant differences between BDD and its delusional disorder variant with regard to demographics, phenomenology, course, associated psychopathology, family history or treatment response [18]. Individuals with delusional BDD tend to report more impairment and poorer quality of life than those with the nondelusional variant, which may suggest the delusional variant to be a more severe form of the disorder [18]. Individuals who meet criteria for BDD frequently meet criteria for depressive disorders, OCD, substance use, social phobia and personality disorders [10].
Several prevalence studies have examined BDD, but their obtained rates vary widely, which may be due to methodological differences. The largest study so far has been completed in Germany and found a prevalence rate of 1.7% [19]. Rates of BDD are high in dermatology settings, cosmetic surgery settings and other psychiatric groups [20]. BDD may be present at a very high rate among general inpatients [21]. One recent report found BDD to be present in 15% of severely ill (residential) patients with OCD [22]. In another study of psychiatric inpatients, BDD was identified in half the inpatients with borderline personality disorder [23]. Despite its prevalence and severity, BDD is often missed in clinical settings. Often individuals with BDD are too ashamed of their symptoms to report them, even to their own providers [21]. Currently, few clinicians are experienced with the diagnosis and treatment of BDD, so many cases may be missed. Patients may receive medical treatment, such as surgery, rather than seek psychiatric help. However, surgical interventions rarely lead to a sufficiently satisfying outcome [24].

The onset of BDD tends to be in adolescence, although, like OCD, it can have a childhood onset. BDD is sometimes found to be more common in women than in men (e.g., 60% in [19]), although other studies suggest approximately equivalent prevalence in men and women [10]. Like OCD, BDD is a chronic disorder although the specific concerns and severity may vary over the lifespan [13].

Clinical presentation of OCD & BDD

Individuals with OCD tend to have distorted beliefs that are consistent with their specific OCD symptoms, but there are also some cognitive themes that are common to many individuals with OCD. The cognitive themes that tend to be similar are beliefs about the importance of thoughts and the importance of controlling thoughts, perfectionism, intolerance of uncertainty, over-responsibility and overestimations of danger [25]. Such beliefs may contribute to the maintenance of OCD patterns.

Like people with OCD, many individuals with BDD show evidence of distorted beliefs that may play a role in maintaining their disorder. However, unlike OCD, BDD beliefs are seldom experienced as intrusive and senseless [26]. Some researchers (e.g., [27]) have found it useful to look at BDD from the perspective of overvalued ideation (excessive preoccupation around a certain fixed and overvalued notion), also found in hypochondriasis and anorexia. Some of the cognitive themes in BDD are similar to those in individuals with OCD, such as overvaluing perfectionism and symmetry [28]. Other cognitive themes appear more specific to the BDD pathology, such as an over-focus on the importance of, and meaning ascribed to, thoughts about appearance. For instance, one woman with BDD reported believing that the age lines around her eyes and mouth made her ‘hideous’, and that because of these lines she was not only unattractive but also unlovable and unworthy. Because of this belief she would avoid leaving the house for days at a time, was unable to work and completely avoided dating. Unlike OCD beliefs, BDD beliefs frequently involve shame or inferiority, similar to beliefs seen in social phobia [29].

In BDD, but not in OCD, appearance is a central component in the individual’s valuation of self worth. Individuals with BDD are apt to think that others notice and judge appearance flaws harshly, or are laughing at or mocking them. Depending on how strongly these erroneous beliefs are held, they may be classified as ideas of reference or delusions of reference. Individuals who have delusional ideas of reference related to their appearance, and are completely convinced that others are taking special notice of (e.g., laughing about or staring at) their perceived flaw, may in fact be diagnosed with a delusional disorder, somatic type. With respect to beliefs, the delusional aspect of BDD (including delusional appearance-related beliefs and delusions of reference) is markedly different from the clinical presentation of OCD [8,30]; although individuals with OCD may also have low insight and some are delusional, a higher proportion of people with OCD have at least some insight into the reasonableness of their concerns. In a direct comparison of individuals with BDD to individuals with OCD, those with BDD were three times as likely as those with OCD to meet the delusional criterion [13].

Behavioral patterns and compulsions in OCD are highly varied. Even two individuals with the same general OCD concerns may exhibit quite different compulsions. One person with contamination concerns may wash his hands with scalding water for a certain number of times; another may feel ‘decontaminated’ after wiping his hands with a tissue or moistened wipe or saying a particular prayer silently. In general, the compulsions and avoidance habits are designed to satisfy an urge or to decrease anxiety generated by contact with OCD triggers. At times the compulsions are successful with regard to reducing anxiety in the short term; at other times a person with OCD may get caught up in an episode in which their compulsions trigger further doubt and a need to perform even more compulsions, which may increase rather than decrease anxiety.

People with BDD may engage in some repetitive behaviors similar or identical to those in OCD, but there are also a number of behavioral patterns that are specific to BDD. Individuals with BDD may repeatedly check the specific aspect(s) of their appearance they consider problematic, seek out and/or avoid mirrors or other reflective surfaces, seek reassurance, dress to camouflage, pick skin and groom excessively [8,10]. These behaviors may take hours each day. Many individuals with BDD are hyperaware of the effect of lighting arrangements and will seek out or avoid particular types of lighting (most prefer to avoid strong or harsh lighting). Most individuals with BDD compare aspects of their appearance to others they know, or to celebrities or actors. Dietary restrictions and excessive exercise are also common in this population. As noted previously, some individuals with BDD pursue dermatological, dental and surgical interventions, and some will perform self-surgery in an attempt to remedy the supposed defect.

Avoidance is a key behavioral component of most types of OCD. Individuals with OCD will avoid subtle and obvious triggers, and opportunities for triggers. For example, a contamination phobic person might well avoid touching surfaces, shaking hands and using public restrooms. She/he might avoid crowds or public transportation. More subtle contamination-related avoidance
could include standing a certain distance from another person or averting the head rather than facing the person to whom she/he is speaking. Some OCD patients will avoid or cancel social or professional obligations if there is word of a virus going around. A parent with intrusive thoughts of causing harm may avoid spending time alone with the child, avoid using sharp implements such as a knife or even avoid certain aspects of caring for the child (such as changing diapers) out of the irrational fear she/he might molest the infant.

Individuals with BDD tend to avoid triggering situations, as do those with OCD, but again there are differences in the type of avoidance patterns in the two disorders. Individuals with BDD characteristically dread and feel a need to avoid many social and public situations so as to avoid any attention directed towards the perceived imperfections. People with BDD will often avoid intimate contact, for example, potential romantic partners, parties and city streets, in their efforts to minimize distress due to appearance concerns. Individuals with BDD may even avoid contact (so as to avoid scrutiny) with close family members. Social avoidance is part of the reason so many individuals with BDD are impaired in their vocational and social lives. In their excessive concerns about being judged by others and avoidance of social situations, individuals with BDD are more similar to individuals with social phobia than they are to individuals with OCD. This intense avoidance and social isolation may be part of the reason why depression and suicidal ideations are so common in this group.

**Biological factors in OCD & BDD**

OCD is a familial condition and the presence of OCD in the family increases the risk for OCD and other putative OCSDs (see ‘Classification debate’ section). One early study demonstrated that first-degree relatives of OCD probands have a significantly greater risk of developing OCD or of experiencing subthreshold OCD symptoms (10.3 and 7.9%) than controls (1.9 and 2.0%) [31]. Similar results have been found in BDD, where 5.8% of the first-degree relatives of 200 BDD probands were found to have BDD, a number that is most likely underestimated owing to the methodology of the study and the fact that BDD symptoms are often concealed [39].

Furthermore, familial OCD puts family members at significantly higher risk for developing other possible OCSDs, such as BDD, hypochondriasis, skin picking, eating disorders, grooming disorders [32] and Tourette’s disorder [33]. This pattern suggests that BDD may be familial, and some have argued that such findings merit inclusion in the putative OCSDs.

Genetic linkage studies in OCD using families with multiple affected relatives have been conducted and some promising linkage peaks have been discovered [33]. The multiple linkage peaks suggest that the genetic etiology of the disorder is multifactorial, and current research is focusing on examining gene–gene interactions and gene–environment interactions, along with the exploration of the genotypes related to various OCD symptoms (symptom dimension), age of onset or comorbidities [33]. While multiple linkage peaks in OCD have been studied, the glutamate transporter gene *SLC1A1* in chromosome 9p24 currently appears to be one of the most promising [34–36]. Further investigation into the genetics of BDD is needed at this time to identify candidate genes that may help improve treatment for BDD patients.

Psychopharmacologic studies involving the use of selective serotonin reuptake inhibitors (SSRIs) to treat OCD and spectrum disorders are consistent with theories that the 5-hydroxytryptamine (5-HT; serotonin) neurotransmitter system is implicated in OCD and BDD, as patients suffering from both disorders seem to respond to SSRIs. In addition, administration of 1-(3-chlorophenyl)piperazine (mCPP), which is a modulator of central serotonergic functioning, has been found to escalate OCD symptoms in multiple studies [37–40].

Neuroimaging research suggests that OCD patients have increased activity in a cortico–striatal–thalamo-cortical circuit that includes the orbitofrontal cortex, caudate and dorsomedial thalamus, and that this activity increases during exposure to feared stimuli and decreases with treatment with SSRIs and behavioral therapy (e.g., [41]). Additionally, imaging studies have potentially found a bifurcation between OCD and Tourette syndrome (TS), suggesting that a dysfunction in the striatum may lead to the obsessions and compulsions that characterize OCD, and that putamen dysfunction may lead to the sensorimotor symptoms of TS [42]. It is unclear whether frontal lobe activation is a primary deficit in OCD or if it is a compensatory response to basal ganglia dysfunction [43].

In the BDD literature, one case report describes a 24-year-old male who developed BDD at age 21 years after an inflammatory brain process caused a lesion to develop in the frontotemporal region of the brain [44]. Two neuropsychological studies showed that BDD patients performed below average in verbal and nonverbal memory tasks, suggesting that there may be deficiencies in the frontotemporal system [45], a system that acts as a mediator between the basal ganglia and frontal lobe, structures which are both also implicated in OCD and possible OCSDs. Frontostriatal circuitry deficiencies have also been observed in OCD [46]. One study has found caudate abnormalities in severe OCD patients [47].

At this time, only three neuroimaging studies have been completed on BDD. Morphometric MRI in eight women with BDD indicated a leftward shift in caudate asymmetry and greater overall white matter than controls [48]. A single-photon emission computed tomography imaging study of BDD yielded evidence of parietal involvement [49]. A recent study that observed brain activation via functional MRI during exposure to pictures of neutral faces identified overactivation of the detail-oriented left hemisphere in the BDD brain compared with controls, indicating that BDD patients may attach unnecessary significance to small abnormalities when processing faces, rather than processing faces holistically via right hemisphere activation like controls [50]. Specifically, the lateral prefrontal cortex, lateral temporal lobe regions and dorsal anterior cingulate demonstrated increased activation during the exercise compared with controls [50]. More imaging work needs to be done in the BDD realm before the neurological similarities and differences between BDD and OCD can be fully elucidated.
Treatment
Currently, multiple placebo-controlled studies in OCD have demonstrated the effectiveness of relatively high doses of SRI medications including clomipramine and SSRIs medications such as fluoxetine \[51,52\]. These medications often need to be taken for a minimum of 12 weeks to see benefit. Nonresponders or partial responders to SRIs may benefit from pharmacological augmentation with an atypical antipsychotic or other medication \[52\]. Although many individuals with OCD will benefit from high doses of SSRIs, some will not respond sufficiently \[51\].

The pharmacotherapy of BDD is less studied than that of OCD, but the current literature suggests a similar pattern of benefit from high dosages of SRIs for a period of 12–14 weeks \[53\]. Based on the published studies to date, perhaps half of patients with BDD will benefit from SRI pharmacotherapy. As with OCD treatment, insufficient response may be augmented with benefit to patients \[54\]. However, many patients being treated in the community may receive an insufficient dose of SRI and therefore experience suboptimal symptom reduction \[55\], which suggests that the prescribing community need to be better educated about optimal medication approaches to BDD.

While SRIs are effective and available treatments for OCD, alternative therapeutic approaches also exist. Traditional forms of psychotherapy do not have data to suggest they are effective for OCD, whereas behavioral and cognitive therapies are considered a treatment of choice for OCD \[56\]. Behavioral therapy involves exposing patients to their feared OCD triggers and coaching them to resist their typical rituals. This strategy is also known as exposure and response prevention (ERP). For example, a person with contamination concerns might be encouraged to shake hands with the therapist, then refrain from washing his hands despite urges to do so. Cognitive therapy involves training individuals to monitor and challenge their maladaptive OCD interpretations and beliefs. When working with the patient suffering from contamination fears described previously, the therapist might ask Socratic questions about what the evidence is that shaking hands is dangerous, and train the person with OCD to evaluate such fears more rationally. Often in practice a combination of these two approaches is used. Cognitive–behavioral therapy (CBT) approaches have been well studied and have been shown to be very effective in the treatment of OCD symptoms in both individual \[57,58\] and group treatment \[59,60\].

For BDD as with OCD, there are no data to support the utility of traditional psychotherapies, whereas cognitive–behavioral approaches to BDD symptoms appear to be effective in many cases \[8\]. CBT for BDD is not identical to CBT for OCD, although there are many similarities. As with CBT for OCD, the key components of CBT for BDD are psychoeducation about the disorder, cognitive strategies, behavioral change strategies and relapse-prevention strategies. Even when the same strategies are used, they may be used in a way that is tailored to the particular needs of the individual and the idiosyncrasies of the specific disorder. Moreover, some of the strategies are unique to CBT for BDD. For example, the cognitive aspects of treatment must be tailored to the beliefs underlying the individual’s specific BDD symptoms. Some of those belief systems will resemble those seen in OCD (e.g., perfectionism and symmetry), but other targeted belief systems will be unique to BDD (e.g., the cognitive tendency to overvalue physical appearance as a component of self-worth). Likewise, behavioral change strategies may sometimes appear similar to those used in CBT for OCD, such as ERP exercises for reducing repetitive checking or reassurance-seeking, but other behavioral components are unique to the behavioral treatment of BDD. One strategy unique to CBT for BDD is mirror retraining, in which the individual is taught to use a mirror to see the big picture and to observe him/herself more objectively. This variant of exposure and response prevention may be a powerful component of treatment \[8\], although empirical evaluation of its utility is in the early stages. Although studies of CBT for BDD thus far are very encouraging, there has been comparatively little published on CBT for BDD, and much more research is needed in this area.

Classification debate
As noted above, OCD is itself a relatively heterogeneous disorder, with some researchers questioning whether or not OCD can best be conceptualized as a unitary disorder given the distinctive symptom dimensions \[1,29\]. For example, the hoarding subtype of OCD appears very difficult to treat compared with the other subtypes, and it is not clear how or to what extent it fits into the current nosological system \[61\]. As currently classified, neither BDD nor OCD fit neatly into their respective categories. Insight into the disorder and pathophysiological and functional overlap with other disorders suggest consideration of an alternate, dimensional classification approach. The dimensional approach represents an attempt to use empirical findings from the literature to inform the current categorical classification system, not overturn it. This dimensional approach to classification has yielded the notion of a spectrum of overlapping and related, but distinct, disorders.

Based on its high rates of comorbidity with depression and favorable treatment response to SRIs and CBT, some researchers (e.g., \[10,62\]) have argued that BDD could be conceptualized within a group of disorders known as the affective spectrum. Major depression, anxiety disorders (e.g., OCD, generalized anxiety disorder and panic disorder) and bulimia have been considered in this affective spectrum based on similar family history, comorbidities and treatment response to CBT and SRIs. Still, many researchers believe that BDD is better classified in a group of disorders related to OCD, the OCSDs, given its greater similarities with regard to biological correlates, demographic and clinical features, and preferential response to SRIs \[10,63\]. It is important to note that treatment response is consistent with, but not proof of, a relationship among disorders; responses to CBT and to SRIs are common in many Axis I disorders.

The term OCSD has been used to describe disorders that share features with OCD, including symptoms (e.g., repetitive thoughts and behaviors), treatment response, comorbidity, family history, demographics, onset, course and presumed etiology \[63,64\]. Supporters of the OCSD concept recommend development of a new section in the DSM-V that would group together
previously disparate disorders from the somatoform, anxiety and impulse-control sections (e.g., [64]). The new classification system would differ from the current classification by moving towards a more dimensional rather than purely categorical approach and in its use of pathogenesis rather than descriptive symptoms alone to classify disorders. Thus far, pathophysiologically and functional overlap between somatoform disorders (BDD and hypochondriasis), eating disorders (anorexia nervosa, bulimia nervosa and binge eating disorder), neurological disorders (TS), and impulse-control disorders (e.g., trichotillomania) has led to their consideration as part of the OCSDs. The heterogeneity of the putative spectrum reflects the heterogeneity of its core disorder, OCD [65].

The articulation of an OCSD has important theoretical, research and clinical advantages over the current nosological system. The putative obsessive–compulsive spectrum helps to group together phenomenologically and pathogenically related disorders. Clinically, a spectrum approach may help clinicians to more effectively assess for comorbidity, family history, level of insight and risk for suicidality. In addition, if BDD and OCD are pathophysiologically and functionally related, this provides important treatment implications (e.g., likely preferential response to CBT and SRIs), and may provide future insight into risk and protective factors. Moreover, understanding the relationship between BDD and OCD and the broader spectrum may help to predict increased risk for related disorders among family members [10]. The obsessive–compulsive spectrum approach also allows for dimensional conceptualization of phenomenology that is more consistent with empirical evidence and across disorders (e.g., affective and schizophrenic spectrums). While proponents of the OCSD suggest its clear implications for improving assessment, diagnosis, treatment and compatibility with the WHO classification system (e.g., OCD is currently classified separately from the anxiety disorders in the International Classification of Diseases [ICD]-10; [65]), the OCSD has been criticized on conceptual and empirical grounds.

One criticism of the OCSD has been its inconsistent basis for membership (e.g., [29,66]). In 2006, a group of experts in the field of OCD and related disorders, the DSM-V Obsessive–Compulsive-Related Disorders Work Group, convened to review existing data in preparation for DSM-V taxonomy. In light of the differences between OCD and other anxiety disorders, particularly its hallmark repetitive thoughts and behaviors, the OCSD Work Group suggested moving OCD from the anxiety disorders to a new rubric of OCSDs, and proposed entrance criteria for OCSDs. In order for a disorder to be considered as an OCSD, the disorder must [65]:

- Be characterized by obsessions and/or compulsions;
- Meet criteria from at least three of five domains: phenomenology, comorbidity, family history, frontal–striatal brain circuitry (e.g., caudate hyperactivity) and treatment response;
- Meet criteria from at least one of the two etiological domains.

Based on these criteria, BDD and TS were determined to be the most strongly related to OCD and the OCSDs; many of the impulse control disorders (e.g., kleptomania and pyromania) were implicated in a separate, parallel spectrum of behavioral and substance addiction disorders along with binge eating, compulsive sexual behavior and pathological gambling.

The strong mapping of BDD onto the OCSD is not surprising in light of its similarities to OCD with regard to demographics, onset, course, comorbidity and response to CBT and SRIs. As noted previously, OCD is the most common psychiatric disorder in relatives of BDD patients [63], and BDD has been found to occur significantly more frequently in first-degree relatives of OCD probands than in healthy controls [32]. While etiology and pathophysiology have been suggested to have the most valid basis for determining a disorder’s entrance into the OCSD [10,63,64], the taxonomical focus on etiology has been criticized as being premature and lacking practicality (e.g., feasibility of clinicians to diagnose based on genetics, neurotransmitters and neurocircuitry given limitations of available measures and cost) and clinical utility [67]. Some critics (e.g., [66]) have argued that it is the functional relationship between anxiety-evoking thoughts (obsessions) and anxiety-reducing strategies (over and covert compulsions) that may be particularly important in determining the relatedness of potential spectrum disorders.

In the same vein, critics have noted that by focusing taxonomy on the presence of repetitive behaviors, and thus excising OCD from the anxiety disorders, the OCSD approach fails to take into consideration the likeness of OCD to other anxiety disorders, and also the differences between some disorders within the spectrum [66,67]. For example, compulsive behaviors (e.g., rituals, mental rituals and avoidance) intended to reduce distress or negative consequences that are triggered by obsessions (focused on fear of a particular situation/stimuli) occur in OCD, the anxiety disorders [67] and in BDD. Moreover, this conceptualization is the basis for theoretically derived and empirically supported treatments for OCD, anxiety disorders and BDD, namely CBT. As the taxonomic system should have implications for treatment, entrance criteria may need to be revisited in light of the functional relationship between symptoms.

Both the current classification of OCD and the proposed OCSD implicate obsessions and compulsions as independent phenomena; Storch and colleagues point out the lack of empirical support for this superficial distinction (e.g., [68] found 96% of 411 OCD patients reported both obsessions and compulsions on the Yale-Brown Obsessive Compulsive Scale [Y-BOCS] checklist) and warn of the potential for drawing parallels between OCD and other repetitive behaviors, such as compulsive gambling or nail biting [67]. However, as previously noted, repetitive behaviors without additional, etiological overlap, such as the behavioral addictions, have been omitted from the putative OCSD.

The marked similarities between BDD and OCD have led some researchers to question whether BDD would not be better classified as an anxiety disorder or even a subtype of OCD [13,29]. Studies directly comparing BDD, OCD and related disorders are limited. However, neuropsychological (e.g., [28,30,69,70]), neurological (e.g., [50]), pathophysiological, phenomenological and comorbidity differences [13,71] between BDD and OCD suggest they are not the same disorder.
In a recent, direct comparison of individuals with BDD and OCD, BDD and OCD patients shared many demographic and clinical features; however, BDD patients were more likely than OCD patients to have poor insight, delusional beliefs or a lifetime history of suicidal ideation, mood disorder or substance-use disorder [13]. Although comorbidity and family history have been used as entrance criteria to the OCSDs, there is also evidence for high rates of comorbidity and family history of anxiety disorders among individuals with OCD [67]. Thus, while BDD and OCD share many similarities, they are more likely distinct, but related disorders.

Expert commentary
The classification of OCD and BDD remain controversial and more research is needed to resolve spectrum-related debates. At the present time, the authors believe that OCD and BDD, while similar in many regards, represent two separate psychiatric disorders. There is preliminary evidence to support an OCSD and the membership of BDD within this spectrum; however, the obsessive–compulsive spectrum is not without limitations. The heterogeneity of OCD and related disorders make relationships between disorders within and outside of the spectrum complex, and decisions regarding which and how much data are necessary or sufficient to determine classification more challenging. Furthermore, the validity of these new diagnostic categories requires more support, and would need to be revisited as new data emerge from genetic, family, neurobiological and psychotherapeutic treatment studies.

Five-year view
Although ever more attention is being drawn to the association of BDD with OCD, there is a need for further research on every dimension of this relationship. Both disorders will benefit from ongoing research with more culturally and geographically diverse clinical and nonclinical samples. Continued research into pharmacological and cognitive–behavioral therapies for OCD and BDD may provide more specific and effective approaches to treating these two disorders. Of particular interest will be treatment dismantling studies for both disorders. Some groups are beginning to study treatments specifically targeting the high rates of suicidality in individuals with BDD and to study treatments for OCD across the lifespan. As individuals with BDD are often reluctant to engage in psychiatric treatment, researchers should explore ways to make effective treatments more palatable to patients with poor insight.

The next 5 years of biological and clinical research may well yield significant insights into a more accurate understanding of the association between these disorders. As BDD genetics, imaging and information processing research are in the beginning stages, progress in these areas should inform development and refinement of the classification issues described above. Finally, the authors hope that the next 5 years will bring an increased global attention to the presence and severity of BDD as a public health issue, so that appropriate diagnosis and treatment may be more widely available to individuals who suffer from this disorder.

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Key issues
- Obsessive–compulsive disorder (OCD) is a complex and heterogeneous, but relatively well-researched, Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV disorder.
- Body dysmorphic disorder (BDD) is relatively new to the classification system, less well researched and therefore less well understood.
- BDD has high morbidity and is associated with high levels of suicidal ideation, suicide attempts and completed suicides.
- BDD is under-recognized, and clinicians (as well as the public) need to be educated about assessment and treatment of this serious and common disorder.
- OCD and BDD are classified in different sections of the DSM-IV.
- OCD and BDD show overlap in a number of important features.
- OCD and BDD may respond well to pharmacotherapy or to cognitive–behavioral therapy.
- More research is required to elucidate the precise association, but current research supports the notion that OCD and BDD are related but distinct disorders.

References


Body dysmorphic disorder & obsessive–compulsive disorder

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