CHAPTER 1

Introduction to BDD

Sometimes clinicians who want to work with patients who have BDD ask us: Why not just use CBT approaches that work for obsessive-compulsive disorder (OCD), social phobia, or eating disorders? Isn't BDD the same as—or pretty similar to—these other disorders? The answer is that BDD has important differences from all of these disorders (e.g., Allen & Hollander, 2004; Chosak et al., 2008). For example, compared to patients with OCD, patients with BDD have more delusional beliefs. Unlike patients with social phobia, patients with BDD tend to engage in extensive ritualistic behaviors. Compared to patients with eating disorders, patients with BDD are concerned with more body areas (typically not weight). Because BDD differs from other disorders, it requires treatment targeting its unique symptoms. For example, because many patients with BDD are convinced they are physically deformed and are thus reluctant to initiate or stay in psychiatric treatment, they need more intensive engagement and ongoing motivational interventions. In addition, exposure exercises and behavioral experiments are needed to address the prominent social avoidance in BDD, and these approaches differ from treatment for OCD and eating disorders. All these differences are reasons why we have written this manual. Although CBT-BDD overlaps in some ways with treatments for these other disorders, much of it is tailored specifically to BDD; we think that this tailoring will increase the likelihood of a successful outcome.

What Is BDD?

BDD has been described for more than a century under such descriptors as "dysmorphophobia" (Morselli, 1891) and "dermatological hypochondriasis" (Ladee, 1966; Veale, 2009). However, BDD has been systematically researched for only the past 15 years or so. In the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, text revision (DSM-IV-TR; American Psychiatric Association, 2000), BDD is defined as a preoccupation with an imagined defect in appearance; if the person does have a slight physical flaw, the concern is excessive. The appearance concern must be associated with considerable upset and/or impairment in functioning (including work and social functioning). In addition, the DSM reminds the reader that the body image concerns should not solely occur in the context of another psychiatric disorder (such as the weight and shape concerns in anorexia nervosa).

BDD occurs somewhat more often among women than among men. Although most of its clinical features appear generally similar in both genders, some gender differences have been found (Perugi et al., 1997; Phillips, Menard, & Fay, 2006). BDD usually begins during early adolescence, and appears to have a chronic and unremitting course unless it is appropriately treated (Phillips, 2002; Phillips, Pagano, Menard, & Stout, 2006).

Clinical Features of BDD

Prevalence of BDD

BDD has been found to occur in 1.7–2.4% of the general population in nationwide surveys (Koran, Abujaoude, Large, & Serpe, 2008; Rief, Buhlmann, Wilhelm, Borkenhagen, & Brähler, 2006), making it somewhat more common than schizophrenia or bipolar I disorder. BDD also occurs in 4–5% of college students (Bohne, Keuthen, Wilhelm, Deckersbach, & Jenike, 2002; Bohne, Wilhelm, et al., 2002) and is common in patients with other psychiatric disorders, such as major depressive disorder, substance use disorders, and anxiety disorders (Grant, Kim, & Crow, 2001; Wilhelm, Otto, Zucker, & Pollack, 1997). However, BDD often goes unrecognized. Because many patients are embarrassed and ashamed of their symptoms, they are reluctant to reveal them to family members, friends, or therapists (Conroy et al., 2008). They may worry that other people will consider them vain and dismiss their concerns. In addition, many patients seek and receive surgery or other cosmetic (e.g., dermatological) treatment, which does not address their underlying psychological problem and leaves the BDD inadequately treated.

Core BDD Symptoms

Appearance Preoccupations

Patients with BDD are preoccupied with the idea that one or more aspects of their appearance are unattractive, deformed, defective, flawed, or "not right" (Buhlmann & Wilhelm, 2004; Phillips, McElroy, Keck, & Pope, 1993). Some patients describe themselves as "unattractive," whereas others use stronger words (e.g., "ugly," "hideous," "repulsive," or "looking like a monster"). In reality, these body areas usually look normal. If an imperfection is present, it is slight and not anything that would typically be noticed at a conversational distance.

Preoccupations may focus on any area of the body. They commonly involve the face or head—most often the skin, hair, or nose (Marques, Weingarden, LeBlanc, & Wilhelm, 2011; Phillips, 1996, 2005; Phillips, Menard, Fay, & Weisberg, 2005). Patients may worry, for example, that their skin is terribly scarred, their hair is thinning, their teeth are not straight enough, or their nose is too big. They may be concerned that they are not muscular enough, their thighs are too fat, or their cheekbones are asymmetrical. On average, over the course of their illness, patients are excessively preoccupied with about five or six different body areas; however, some obsess about only one area, whereas others obsess about virtually every body area. The appearance preoccupations have an obsessive quality, in that they occur frequently (an average of 3–8 hours a day) and are usually difficult to resist or control (Phillips, Gunderson, Mallya, McElroy, & Carter, 1998). The thoughts are very distressing and are associated with low self-esteem, rejection sensitivity, anxiety, and depression, as well as feelings of defectiveness, unworthiness, embarrassment, and shame (Phillips, 2009; Rosen & Ramirez, 1998).

Rituals

Nearly all patients perform behaviors (rituals) that are intended to examine, improve, or hide the perceived defect (Phillips, Menard, Fay, & Weisberg, 2005; Rosen, 1995). Many of these behaviors (e.g., mirror checking and reassurance seeking) are considered compulsive, in that they are repetitive, time-consuming, and difficult to resist or control. Others (e.g., camouflaging the perceived flaw with a hat, clothing, or makeup) may be conceptualized as safety behaviors that are intended to prevent a feared consequence (e.g., being ridiculed by others). Table 1.1 lists the most common BDD behaviors and the percentages of people with BDD who have been found to engage in these behaviors over their lifetimes.

One behavior included in Table 1.1, skin picking, deserves special mention. More than one-third of individuals with BDD compulsively pick their skin to try to improve its appearance (Phillips & Taub, 1995). Because this behavior is difficult to resist and may occur for hours a day, it may cause noticeable skin lesions (Wilhelm et al., 1999), especially if implements such as needles or razor blades are used. Thus, unlike other patients with BDD, those who pick their skin may not look "normal" because the picking may cause skin lesions or scarring. In more extreme cases, this behavior can be life-threatening; for instance, one woman picked at her neck so forcibly that she exposed her carotid artery, requiring emergency surgery (O'Sullivan, Phillips, Keuthen, & Wilhelm, 1999).

TABLE 1.1. Common BDD Behaviors

Behavior	Percentage of people with the behavior
Camouflaging (e.g., with body position/posture, clothing, makeup, hand, hair, or hat)	91%
Comparing body part with that of others/scrutinizing the appearance of others	88%
Checking appearance in mirrors and other reflecting surfaces	87%
Seeking surgery, dermatological, or other cosmetic treatment	72%
Excessive grooming (e.g., combing or styling hair, applying makeup, shaving, removing hair)	59%
Questioning: seeking reassurance or attempting to convince others that the perceived defect is unattractive	54%
Touching the perceived defect	52%
Changing clothes	46%
Dieting	39%
Skin picking	38%
Mirror avoidance (avoidance of all mirrors for at least several days in a row)	24%
Tanning (BDD-related)	22%
Excessive exercise	21%
Excessive weight lifting	18%

Note. Adapted with permission of the publisher from Phillips, K. A. (1996; Revised and Expanded Edition, 2005). *The Broken Mirror: Understanding and Treating Body Dysmorphic Disorder*. New York: Oxford University Press.

During the assessment phase, you will need to ask patients carefully about BDD behaviors, because these will be targeted in treatment with response prevention (or habit reversal for skin picking or hair plucking). BDD behaviors are varied and limitless; Table 1.1 includes only the most common ones. One woman, for example, repeatedly tensed and relaxed her facial muscles to make them less "limp," and another frequently pushed on her eyeballs to change their shape. To make his face look fuller, a man with BDD slept without a pillow, ate large amounts of food, and drank more than three gallons of water a day (Phillips, 1996, 2005). Thus, in addition to asking patients about whether they engage in any of the behaviors in Table 1.1, you will need to ask whether they do any other things to check, fix, hide, or otherwise cope with their perceived flaws.

Avoidance Behaviors

Nearly everyone with BDD avoids at least some social situations, as they typically feel very self-conscious and embarrassed about how they look in the presence of other people; they believe that others consider them unattractive, ugly, or disfigured. A majority experience ideas or delusions of reference, believing that other people take special notice of them and single them out of the crowd in a negative way—for example, stare at them, talk about them, or laugh at them because of how they look.

As a result, many patients avoid social gatherings, dating, and/or sexual intimacy; places with lots of mirrors (e.g., stores); places where their bodies will be more exposed (e.g., the beach); or places with lots of people (e.g., shopping malls). Some people avoid only certain situations, whereas others avoid virtually any situation where other people might see them. Many patients avoid work or school, because they feel too ugly to be seen or feel too depressed and distracted by their appearance obsessions or rituals to focus on the task at hand. About one-third of patients have been completely housebound for at least 1 week because of their BDD symptoms (Phillips & Diaz, 1997; Phillips, Menard, Fay, & Pagano, 2005).

Impairment in BDD

It is easy to trivialize BDD by confusing patients' appearance concerns with vanity. However, BDD is very distressing and impairing (Hollander & Aronowitz, 1999; Marques et al., 2011; Phillips, Menard, Fay, & Pagano, 2005). Although levels of functioning vary, nearly all individuals with BDD experience impairment in social and occupational/academic functioning, often to a debilitating degree. They may avoid usual social and leisure activities, stop working, or drop out of school. As noted above, they often avoid dating and other social interactions, and some may even become housebound. A high proportion of patients require psychiatric hospitalization (Phillips & Diaz, 1997). On average, individuals with BDD appear to have poorer quality of life than either patients with clinical depression (major depression and/or dysthymia) or patients with a medical condition such as type II diabetes or a recent heart attack (Phillips, 2000; Phillips, Menard, Fay, & Pagano, 2005).

Poor Insight or Delusional Beliefs

Most patients with BDD have poor insight or have delusional BDD beliefs. That is, they do not recognize that the appearance flaws they perceive are actually minimal or nonexistent (Mancuso, Knoesen, & Castle, 2010; Phillips, 2004). Very few untreated patients have good insight.

They typically say things like "I'm pretty sure I'm right about my nose—it really looks strange," or "I'm certain I really do look deformed; otherwise, why would everyone be staring at me?" They also tend to think that most other people share their view of the supposed defects. It's usually hard to talk people with BDD out of their appearance beliefs. Whereas some patients realize that their appearance beliefs have a psychological or psychiatric cause, many do not; they simply think that their beliefs are true.

Patients with poor insight or delusional beliefs can be more difficult to engage and work with in treatment. Although delusional and nondelusional patients have many similarities, the former appear to have a greater likelihood of attempting suicide, a higher rate of substance use disorders, poorer social functioning, and more severe BDD symptoms (Phillips, Menard, Pagano, Fay, & Stout, 2006).

Co-Occurring Mental Health Problems

Most patients with BDD have other mental disorders. Major depressive disorder is most common, with the largest studies reporting a current prevalence of 38–58% and a lifetime prevalence of 74–76% (Gunstad & Phillips, 2003; Phillips, Didie, & Menard, 2007). In these studies, the BDD usually began before the depression, and the depressive symptoms often appeared to be secondary to the BDD. A longitudinal study found that improvement of BDD was often quickly followed by improvement of depression, and, conversely, that improvement of depression might also be quickly followed by improvement of BDD (Phillips & Stout, 2006).

Lifetime comorbidity of BDD with other disorders—including substance abuse or dependence (40%), social phobia (38%), and OCD (33%) (Gunstad & Phillips, 2003; Phillips, Menard, Fay, & Weisberg, 2005)—is also common. Other studies have reported lower comorbidity rates (Veale, Boocock, Gournay, & Dryden, 1996), which may reflect the treatment setting, referral sources, or other factors. Reported rates of a personality disorder in sizable samples of patients seen in psychiatric settings range from 40 to 72%, with avoidant personality disorder most common (Phillips & McElroy, 2000; Phillips, Menard, Fay, & Weisberg, 2005; Veale et al., 1996).

Suicidal Ideation and Suicide Attempts

An important consideration in treating patients with BDD is that suicidal ideation and suicide attempts are common (e.g., Buhlmann et al., 2010; Hollander & Allen, 2006). Lifetime rates of suicidal ideation are in the range of 78–81%, and 24–28% of patients have attempted suicide (Phillips, Coles, et al., 2005; Phillips & Diaz, 1997; Veale et al., 1996). The lifetime suicide attempt rate for BDD is an estimated 6–23 times higher than in the general U.S. population, and appears higher than for many other psychiatric disorders (Phillips, Coles, et al., 2005).

It is not known with certainty how many people with BDD commit suicide. However, completed suicides have been reported, and the suicide rate (though the data are limited) appears to be very high (Phillips & Menard, 2006). In a retrospective study of patients in two dermatology practices who were known to have committed suicide over 20 years, most had acne or BDD (Cotterill & Cunliffe, 1997). Furthermore, patients with BDD have many suicide risk factors, including (in addition to high rates of suicidal ideation and suicide attempts) psychiatric hospitalization; unemployment and/or disability; being single or divorced; poor social supports; and high rates of major depressive disorder, eating disorders, and substance use disorders (Phillips, 2009; Phillips, Menard, Fay, & Weisberg, 2005). Additional risk factors include high levels of anxiety and depression, feelings of shame and humiliation, and poor self-esteem. From a

clinical perspective, patients' often delusional belief that they look deformed causes distress and self-loathing. This distress is further fueled by time-consuming intrusive obsessions about the "defect," as well as the belief that other people share their belief and even mock and ostracize them because of how they look.

Thus patients with BDD must be carefully monitored for suicidality. For patients with worrisome levels of suicidality, hospitalization may be required. Medication can also be considered in addition to CBT (see below), as suicidal thinking often diminishes in patients who receive appropriate medication for BDD (Phillips, 2009; Phillips & Kelly, 2009).

Research on Treatments for BDD

Cognitive-Behavioral Therapy

Data from available studies indicate that CBT is often efficacious for BDD. Most published studies of CBT have included both cognitive therapy and behavioral components consisting mainly of exposure and response prevention to reduce social avoidance and compulsive behaviors (e.g., mirror checking). CBT has led to consistently good outcomes in studies of individual treatment, studies of group treatment, and one study that used both individual and group treatment. These studies are described briefly below.

CBT was conducted in an individual intensive format by Neziroglu, McKay, Todaro, and Yaryura-Tobias (1996), who provided 20 daily 90-minute sessions to patients with BDD over 1 month. The treatment included exposure to perceived physical defects and social situations; prevention of compulsive behaviors; and cognitive therapy aimed at challenging faulty appearance-related beliefs, perfectionism, and concerns about social acceptance and attractiveness. This treatment produced a 50% reduction in BDD symptoms for 12 of 17 patients.

Veale et al. (1996) compared a less intensive individual treatment (12 sessions of 1-hour CBT) to a wait-list control condition; 90% of the patients were women. Their CBT focused on education about a cognitive-behavioral model for BDD to foster engagement in therapy, as well as Socratic questioning, cognitive restructuring, and exposure and response prevention. The investigators reported substantial improvement with CBT, compared to the wait-list condition.

In a third study, McKay, Todaro, Neziroglu, and Campisi (1997) used a 6-week intensive treatment of 30 sessions, but only included exposure and response prevention *in vivo* and in imagery, without cognitive therapy. Half of their 10 patients received a 6-month relapse prevention program after treatment, which included psychoeducation about lapses and relapses, exposure and response prevention assignments, and brief therapist contacts. Patients' BDD symptoms were significantly improved after treatment and remained stable at follow-up. The relapse prevention program did not confer more benefit at longer-term follow-up.

Although the McKay et al. (1997) study suggests that cognitive therapy may not be a necessary component of CBT for BDD, all other studies have included a cognitive component. In addition, in contrast to McKay et al.'s findings, some data suggest that exposure and response prevention alone may not be effective for BDD (Campisi, 1996). Poor treatment outcome with exposure and response prevention alone is perhaps due to the poor insight and depression characteristic of this disorder (Phillips, Didie, & Menard, 2007; Phillips, Menard, Pagano, Fay, & Stout, 2006; Phillips, Siniscalchi, & McElroy, 2004); these factors may also predict poor response to CBT in patients with OCD (Foa, 1979).

Further supporting the value of a cognitive approach, a preliminary report suggests that cognitive therapy alone may be efficacious for BDD (Geremia & Neziroglu, 2001). In this multiple-baseline study, four patients with BDD received cognitive therapy based on Beck's model (14 twice-weekly 75-minute sessions). Body satisfaction and mood improved for three of the four patients, and BDD symptoms improved for two patients. Consonant with our own clinical experience, the authors suggested that cognitive therapy may be advantageous in reducing inaccurate beliefs and increasing compliance with behavioral interventions. Future dismantling studies will be needed to identify specific effects of treatment components.

Rosen, Reiter, and Orosan (1995) compared group CBT to a wait-list control condition for 54 women with BDD. CBT was provided in 2-hour sessions for 4–5 patients per group; it consisted of education, perceptual comparisons, feedback from group members, exposure and response prevention, thought stopping, relaxation, cognitive correction, and relapse prevention. CBT was significantly more efficacious than no treatment on measures of BDD symptoms, body appearance, and self-esteem. BDD symptoms improved in 82% of the CBT group after treatment and 77% up to 5 months later. However, this study did not include men, and it focused mainly on concerns about body weight and shape.

In the second study of group CBT, Wilhelm et al. (1999) demonstrated significant improvement in 13 adults with BDD who received 12 group sessions of 90 minutes each. The dropout rate of 31% was high, probably because these patients were severely ill and impaired. Treatment led to moderate reductions in BDD symptoms and depressed mood, and longer treatment would probably have led to more gains. Finally, a retrospective study of 11 patients with BDD utilized a 6-week combination of daily CBT, medication, and psychosocial rehabilitation in a partial hospital setting (Saxena et al., 2001). Again, BDD symptoms improved after treatment.

We (Wilhelm et al., 2009; Wilhelm, Phillips, Fama, Greenberg, & Steketee, 2011) then conducted a study of individual CBT-BDD that was funded by the National Institute of Mental Health. This study used and tested the present manual. The study had three phases: (1) development of this manual, which was an expansion of the manual used in the Wilhelm et al. group study described above; (2) treatment of 12 patients, during which we further refined the manual on the basis of our experience with these patients; and (3) a study in which 18 patients treated with the revised manual were compared to a wait-list control group. We found that the majority of patients improved with respect to their BDD symptom severity, delusionality, and depression. Thus there is empirical support for the effectiveness of our manualized CBT-BDD.

In summary, the studies described above suggest that CBT specifically developed for BDD is very promising for patients with BDD. Patients improved not only with regard to BDD symptoms, but also with respect to associated features of BDD, such as depression. Nevertheless, these treatment studies leave many important questions unanswered. For example, it is not yet clear how many sessions at what frequency are most useful. Nor is it clear whether individual treatment is superior to group treatment. This treatment also needs to be compared to other types of therapy. Thus more research is needed.

Pharmacotherapy

Available data indicate that serotonin reuptake inhibitors (called SRIs or SSRIs) are often efficacious for BDD (Phillips, 2009; Phillips & Hollander, 2008). SRIs that are marketed in the United States at this writing include escitalopram (Lexapro), citalopram (Celexa), fluoxetine (Prozac), fluvoxamine (Luvox), sertraline (Zoloft), paroxetine (Paxil), and clomipramine (Anafranil). SRIs are currently recommended as the first-line medications for BDD. SRIs affect the

neurotransmitter serotonin, which is one of the brain's natural chemicals used to communicate between brain cells. Specially, SRIs block the reabsorption (reuptake) of serotonin into the releasing nerve cells. This changes the serotonin balance in the brain, and more serotonin is made available to affect key brain areas.

Two randomized double-blind controlled studies of SRIs have been done. A randomized double-blind parallel-group study found that fluoxetine (Prozac) was more efficacious than placebo for BDD symptoms and psychosocial functioning (Phillips, Albertini, & Rasmussen, 2002; Phillips & Rasmussen, 2004). In a randomized double-blind crossover study, the SRI clomipramine (Anafranil) was more efficacious for BDD than the non-SRI tricyclic antidepressant desipramine (Hollander et al., 1999). This latter study is consistent with previous case series in indicating that SRI antidepressants may be more efficacious than non-SRI antidepressants for BDD.

Systematic, methodologically rigorous open-label studies with the SRIs fluvoxamine (Perugi et al., 1996; Phillips, Dwight, & McElroy, 1998), citalopram (Phillips & Najar, 2003), and escitalopram (Phillips, 2006a) found that these SRIs are also often efficacious for BDD. Although methodologically rigorous open-label studies of the SRIs sertraline (Zoloft) and paroxetine (Paxil) have not been conducted for BDD, our clinical experience indicates that they are often efficacious (Phillips, Albertini, Siniscalchi, Khan, & Robinson, 2001).

Among all six SRI studies, BDD response rates in intention-to-treat analyses (which included study dropouts, who may not have had adequate time to improve) ranged from 53 to 77%, and BDD symptoms significantly improved. Response rates were higher than this among those patients who completed the studies. In addition to improving BDD symptoms, these medications also often significantly improved suicidal ideation, depressive symptoms, anxiety, anger/hostility, somatization, psychosocial functioning, and mental-health-related quality of life in patients with BDD. Of note, SRIs alone also appeared to be efficacious for patients who were completely convinced that they looked ugly or deformed (i.e., who had delusional BDD beliefs).

SRI doses that are needed for successful treatment of BDD are often higher than those typically needed for many other disorders, such as depression. Also, BDD may require a longer time to respond (sometimes as long as 12–14 weeks) than many other disorders require. If one SRI is not adequately helpful for BDD, another SRI may be. Alternatively, some patients improve when a different type of medication is added to an ineffective or partially effective SRI.

Although less is known about the efficacy of serotonin–norepinephrine reuptake inhibitors for BDD, a small open-label trial (Allen et al., 2008) and our clinical experience suggest that venlafaxine (Effexor) may be helpful for some patients (Phillips, 2009), although it is not currently considered a first-line treatment for BDD. And a recent open-label pilot study suggested that the antiepileptic medication levetiracetam (Keppra) may also be efficacious for BDD, although this medication is also not considered a first-line treatment (Phillips & Menard, 2009). No medications currently have U.S. Food and Drug Administration approval for the treatment of BDD, because not enough placebo-controlled studies have been conducted.

Medication can be used in combination with CBT; the two are compatible treatments. For more severely ill patients who are having difficulty engaging in CBT because they are so ill, medication may enable patients to improve to the point where they are more willing or able to participate meaningfully in CBT. A combination of CBT with medication should especially be considered for patients who appear at high risk of committing suicide. Detailed guidelines about treating BDD with medications may be found elsewhere (National Collaborating Centre for Mental Health, 2006; Phillips, 2009; Phillips & Hollander, 2008).

Surgical, Dermatological, and Other Cosmetic Treatments

A majority of patients with BDD seek and receive cosmetic treatment (e.g., surgical, dermatological, dental) for their BDD concerns (Cotterill, 1996; Crerand, Phillips, Menard, & Fay, 2005; Fukuda, 1977; Marques et al., 2011; Phillips, Grant, Siniscalchi, & Albertini, 2001). In fact, studies have found that 9–12% of patients in dermatology clinics and 3–53% in cosmetic surgery clinics have BDD (Ishigooka et al., 1998; Phillips, 2006b; Sarwer, Wadden, Pertschuk, & Whitaker, 1998). Not surprisingly, they may request extensive procedures (Fukuda, 1977). Some patients even attempt their own surgery, as in the case of a patient who attempted to replace his nose cartilage with chicken cartilage in the desired shape (Phillips, 1996); another patient used a staple gun to do a facelift (Veale, 2000).

The outcomes of cosmetic treatments usually appear to be poor. In fact, they can lead to increased or new appearance preoccupations and multiple medical procedures without improvement (Cotterill, 1996; Crerand et al., 2005; Fukuda, 1977; Koblenzer, 1994; Phillips, Grant, Siniscalchi, & Albertini, 2001). Occasionally, dissatisfied patients have committed suicide or become violent toward treating physicians (Cotterill, 1996; Phillips, 1991). Thus we do not recommend these treatments for BDD. Our CBT-BDD includes a treatment module for patients who are receiving or considering cosmetic treatment.

Theories for Understanding BDD

What Causes BDD?

The cause of BDD is currently largely unknown, although some possible risk factors have been identified. Like other mental disorders, BDD is likely to be multifactorial—that is, to result from a complex interplay of genetic and environmental risk factors (Buhlmann & Wilhelm, 2004; Phillips, 2009; Wilhelm, 2006). Preliminary data indicate that the $GABA_A$-γ2 gene may be implicated in BDD (Phillips & Kaye, 2007). Environmental risk factors may include perceived childhood neglect and/or abuse, teasing, an overemphasis on appearance, and low parental warmth. Sociocultural factors (such as the emphasis on looking attractive) and evolutionary factors may also play a role.

Individuals with BDD score very high on measures of neuroticism and very low on measures of extroversion (Phillips & McElroy, 2000), and it is possible that these traits are risk factors for the development of BDD. Dysfunction in various brain circuits—such as the amygdala, striatum, and other brain regions involved in processing of body image, faces, and facial emotions—may also be involved in BDD. Of more direct relevance to our CBT-BDD, neuropsychological studies have found that people with BDD tend to focus overly on details of visual and verbal stimuli (such as abstract drawings, and word lists), rather than on more global, configural attributes of these stimuli (Deckersbach et al., 2000). Visual processing of faces is also characterized by a focus on detail, at the expense of a more holistic processing style (e.g., Feusner, Townsend, Bystritsky, & Bookheimer, 2007). These findings are consistent with clinical observations that patients selectively attend to and overly focus on specific aspects of their appearance or minor flaws (Wilhelm, 2006). This manual's perceptual retraining exercises help patients learn to "see the big picture" and focus less on disliked details of their appearance.

Studies of cognitive and emotional processing suggest that people with BDD tend to misinterpret ambiguous social situations, and other situations, as threatening (Buhlmann et al.,

2002). They also tend to misinterpret self-referent facial expressions as contemptuous and angry (Buhlmann, Etcoff, & Wilhelm, 2006). Interpretive biases such as these may possibly combine with traits of perfectionism, overestimation of the attractiveness of others (Buhlmann, Etcoff, & Wilhelm, 2007), rejection sensitivity, and an overestimation of the importance of beauty to contribute to the development of BDD. The approaches described in this manual target misinterpretations, biases, and traits such as these.

A Cognitive-Behavioral Model for Understanding BDD

Several writers have contributed to a cognitive-behavioral model for understanding BDD (Rosen et al., 1995; Veale et al., 1996; Wilhelm & Neziroglu, 2002). This model is similar to models proposed for OCD and other disorders. People's behaviors and emotions are thought to be determined by their interpretation of events. Thus it is not a situation itself that determines what a person feels, but how the person perceives it. Most people uncritically accept their perceptions of situations or events as true, and may not even be aware that they are making interpretations because this happens so automatically and quickly. Instead, most people notice only the shift in emotion that follows the interpretation. But why does one person interpret the same situation differently from another? Different interpretations spring from different beliefs.

Beliefs about Appearance and the Self

Beginning in childhood, people develop beliefs or understandings about themselves, other people, and their personal worlds. Healthy individuals attribute little importance to minor appearance flaws or negative intrusive thoughts about their appearance. Therefore, they experience little discomfort when they have such thoughts, easily ignoring or dismissing them. Those who develop BDD, however, pay excessive attention to perceived flaws, perhaps especially at times of stress or low mood. They interpret minor imperfections in appearance as signaling major personal flaws, because they hold predisposing beliefs or assumptions learned previously. As Geremia and Neziroglu (2001) have noted, patients with BDD endorse negative beliefs such as the following:

"If my appearance is defective, I am inadequate/worthless."
"If I am unattractive, I will be alone and isolated all my life."
"Others will notice [my defect] and be appalled by it."

They also confuse physical attractiveness with happiness and self-worth:

"If I looked better, my whole life would be better."
"How I feel about myself is based on how I feel about the way I look."
"If only I can change my appearance, I will be able to achieve what others can do."

"Core beliefs" (or "schemas") are central ideas about the self and others. Most people have relatively adaptive core beliefs, such as "I am a functional person." Negative core beliefs have an absolute, global, or overgeneralized quality. Patients with BDD usually have very negative core beliefs pertaining to their personal worth, which underlie their negative view of their appearance. Here are some examples of patients' core beliefs about themselves:

"I am defective."
"I am worthless."
"I am different."

Patients with BDD may also have negative core beliefs about others, such as "People only like attractive people," which feed their core beliefs that they themselves are worthless and unlovable. When a negative core belief is activated, most people easily process information consistent with this core belief, but ignore or distort information inconsistent with the belief. Like patients with schizophrenia who have delusional beliefs, patients with BDD tend to jump to conclusions without considering alternative explanations for their negative interpretations of situations. For example, if others are glancing in the direction of a person with BDD, the person may assume that the other people are thinking, "You are ugly and therefore defective." These negative interpretations provoke anxiety, depressed mood, and increased attention to the perceived flaws, in an increasing spiral of negative beliefs, emotions, and perceptions. Although the causes of this distorted cognitive processing are unknown, possible causes include fear of negative evaluation and sensitivity to rejection; childhood experiences of feeling unloved; and family and cultural values about attractiveness and self-worth. Stress and current mood may also contribute to emotional reactions to perceived flaws.

Perfectionistic beliefs may also play a role in BDD thinking (Buhlmann et al., 2007; Neziroglu, Anderson, & Yaryura-Tobias, 1999). Veale et al. (1996) observed that about 70% of individuals with BDD endorsed the belief "I have to have perfection in my appearance." In our clinical experience, this typically refers to the "defective" body areas, but for most patients it doesn't imply a desire to be unusually attractive; most simply want to look normal. From an evolutionary perspective, flaws and asymmetries in appearance may interfere with mating success in animals and humans (Feusner, Hembacher, & Phillips, 2009). Because good looks increase the odds of finding a biologically fit partner, it makes sense that humans, as well as animals, are concerned about it. Nevertheless, beliefs about symmetry or good looks are held rigidly in BDD, and they contribute to extreme negative evaluation and heightened attention to minor flaws in appearance (Neziroglu & Yaryura-Tobias, 1997; Veale et al., 1996). Extreme and perfectionistic views about appearance might include the following:

"If there is one flaw in my overall appearance, then I feel unattractive."
"If my [body part] is not beautiful, then it must be ugly."

Progression of Dysfunctional Beliefs to Rituals, Avoidance Behaviors, and More Negative Thinking

As shown in the CBT model of BDD presented in Chapter 7, the negative emotions (e.g., fear, anxiety, depression, and shame) that are triggered by negative appearance-related thoughts and beliefs provoke efforts to neutralize these feelings with avoidance behaviors and ritualistic actions. As discussed above, avoidance behaviors include (but are not limited to) avoiding social contacts and other situations where the person can be seen. Rituals (also discussed above) include mirror checking, skin picking, reassurance seeking, repeated plastic surgery, comparing one's body with that of other people, and excessive grooming. Unfortunately, these efforts have a rebound effect in which the negative thoughts about appearance actually increase after attempts to block them. In addition, they keep a patient focused on the BDD. Because these

rituals and avoidance behaviors may temporarily diminish painful emotions, they are negatively reinforced and actually maintain the dysfunctional BDD beliefs and behaviors.

CBT-BDD as described in this manual is based on this model. This treatment's cognitive and behavioral components target different components of the BDD model. For example, cognitive restructuring focuses on developing more accurate and helpful beliefs about appearance. Other cognitive approaches focus on developing more positive core beliefs. Ritual prevention helps patients cut back on or stop repetitive rituals, and exposure and behavioral experiments decrease the avoidance of anxiety-provoking situations and help patients feel more comfortable around other people.

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