

ANXIETY AND SHAME AS RISK FACTORS FOR DEPRESSION, SUICIDALITY,
AND FUNCTIONAL IMPAIRMENT IN BODY DYSMORPHIC DISORDER AND
OBSESSIVE COMPULSIVE DISORDER

by

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A Dissertation
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Psychology

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Date: _____ Summer Semester 2015
George Mason University
Fairfax, VA

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Acknowledgements

First and foremost, I would like to thank my advisor, Dr. Keith Renshaw, for all of the time and energy you have invested in my training. I have learned and grown tremendously as a clinical researcher through working with you. You have been an enthusiastic, sincere, patient, and motivating teacher who has offered me invaluable advice and guidance throughout this process. I could not ask for a more superb mentor.

Thank you also to Drs. Sabine Wilhelm, June Tangney, and Christianne Esposito-Smythers. I am truly grateful for the time that you have contributed to shaping this project as a member of my dissertation committee, and to providing guidance on my research and career plans. Dr. Wilhelm, I very much appreciate the time that you and your lab have taken to train me in clinical research skills for BDD and OCD. Your mentorship has had an impact on my clinical and research passions, as well as my career aspirations.

To the members of my doctoral cohort, it has been a real privilege to complete this process with such a supportive and fun group of women. I can't imagine having spent the last five years training without each of you along for the ride! Thank you also to the GMU Anxiety, Stress, and Relationships Lab, for your shared excitement for research over the years, and for your feedback on my presentation. I would also like to acknowledge and thank Rabia Datta and Jennifer DiMauro for your help with this project.

Finally, thank you to Edward O'Brien, Debi and Mark Weingarden, Jonathan Weingarden, and my friends for your consistent cheerleading and encouragement over the past five years. I have enjoyed marking the milestones with each of you along the way!

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Abstract

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Body dysmorphic disorder (BDD) and obsessive compulsive disorder (OCD) are associated with elevated rates of comorbid depression, suicide risk, and functional impairment. Despite the severe outcomes associated with these disorders, little research has focused on identifying risk factors for such outcomes in BDD and OCD. Anxiety and shame are negative emotions that are central to both BDD and OCD and that have been linked with these outcomes in other populations. The present study used a quasi-experimental design to compare anxiety and shame as risk factors for depression, suicidality, functional impairment, and days housebound across three groups: individuals with BDD ($n = 114$), individuals with OCD ($n = 114$), and healthy controls (HC; $n = 133$). Clinical groups were recruited online through ads on BDD- and OCD-focused websites. HC participants were recruited through non-mental health websites.

Participants completed survey measures online through Qualtrics. Follow-up semi-structured clinician interviews were conducted by phone with a subsample of BDD ($n = 9$) and OCD ($n = 10$) participants, to verify diagnoses established with self-report measures. Two MANCOVAs testing for group differences in (1) anxiety and shame and (2) the four outcomes, controlling for covariates, were significant. Levels of anxiety, shame, and all four outcomes were lower in the HC group compared to the BDD and OCD groups. BDD and OCD groups had equivalent levels of shame, but anxiety was higher in the OCD group. BDD and OCD groups also had equivalent levels of depression, suicide risk, and housebound rates, but functional impairment was higher in the OCD group. Path analysis was used to compare associations of anxiety and shame with the four outcomes across groups, beginning with a base model that constrained structural paths across groups. We examined improvement in model fit relative to the base model for a series of comparison models, in which structural paths were freed across groups. Freeing structural paths from emotions to outcomes for the HC group (while keeping BDD and OCD paths constrained) yielded significant improvement in model fit. Overall, paths from anxiety and shame to the four outcomes were weaker (and largely non-significant) in the HC group compared to BDD and OCD. Freeing individual structural paths across BDD and OCD groups revealed that, across BDD and OCD groups, most associations of anxiety and shame with outcomes were equivalent and significant. The single exception was that the association of shame with depression was significantly positive in the BDD group ($b = .32$), but non-significant in the OCD group ($b = .07$). Results highlight the potential importance of targeting both anxiety and shame

in the treatment of BDD and OCD. Results also demonstrated that many of the associations of anxiety and shame with negative outcomes were similar across BDD and OCD, with the exception of relatively greater influence of shame on depression in those with BDD. This novel information about shared risk factors across BDD and OCD supports the reclassification of the two disorders in the new Obsessive Compulsive Related Disorders category, and emphasizes the importance of looking beyond anxiety as the primary emotion related to these disorders.

Introduction

The Diagnostic and Statistical Manual – Fifth Edition (DSM-5; American Psychiatric Association [APA], 2013) has established a new diagnostic category of Obsessive Compulsive Related Disorders (OCDs), which includes body dysmorphic disorder (BDD) and obsessive compulsive disorder (OCD), among others. This reclassification formalizes long-recognized similarities between these two disorders. In particular, both BDD and OCD involve the experience of obsessions, which are repetitive intrusive thoughts, urges, or images that cause distress, as well as compulsions, which are rituals completed to reduce distress from obsessions (APA, 2013). In OCD, the content of obsessions and compulsions can be extremely wide-ranging, including contamination obsessions and washing compulsions, doubting obsessions (e.g., that the stove was properly turned off, that doors were locked) and checking compulsions, and religious obsessions and compulsions. In BDD, the content of preoccupations focuses on an imagined flaw in one's physical appearance, and rituals are specifically related to reducing distress felt about this imagined appearance flaw (APA, 2013).

Both BDD and OCD are associated with severe mental health outcomes, including elevated rates of comorbid major depressive disorder (MDD) and markedly increased suicide risk. In fact, in BDD, 53 – 81% of cases may present with comorbid MDD (Frare, Perugi, Ruffolo, & Toni, 2004; Phillips et al., 2006; Phillips, Menard, Fay,

& Weisberg, 2005). In OCD, rates of comorbid MDD are documented to range from 17 – 60% (Abramowitz, 2004; Andrews, Slade, & Issakidis, 2002; Frare et al., 2004; Overbeek, Schruers, Vermetten, & Griez, 2002; Tükel, Polat, Ozdemir, Aksüt, & Türksoy, 2002). Prior suicide attempts are present in 24 – 28% of those with BDD (Phillips, 2007; Phillips, Coles, et al., 2005; Phillips et al., 2006; Veale, Boocock, Gournay, & Dryden, 1996), and 11 – 27% of those with OCD (Kamath, Reddy, & Kandavel, 2007; Torres et al., 2011). Studies that directly compare rates of depression or suicide risk across BDD and OCD show mixed results. Some suggest that risk for comorbid MDD or suicide is similar across the two disorders (Frare et al., 2004; McKay, Neziroglu, & Yaryura-Tobias, 1997), whereas other studies suggest that BDD is associated with greater risk of comorbid MDD and suicide (Phillips, Gunderson, Mallya, McElroy, & Carter, 1998; Saxena et al., 2001).

In addition to these elevated mental health outcomes, BDD and OCD are also associated with higher rates of functional impairment, compared to both the population at large and those with other mental illnesses. For example, the high unemployment rates documented in studies of BDD (39 – 53%) exceed those shown in studies of major depressive disorder (MDD) (e.g., Birnbaum et al., 2010). Even among those with BDD who work, avoidance of work activities due to appearance preoccupation is nearly universal (97-98%; Phillips et al., 2006; Phillips, McElroy, Keck, Pope, & Hudson, 1993) and greater than avoidance documented in other disorders (e.g., Rosen & Ramirez, 1998). Functional impairment in social domains is also pervasive in BDD (Bjornsson et al., 2011; Rief, Buhlmann, Wilhelm, Borkenhagen, & Braehler, 2006). Almost everyone (96 –

100%) in two BDD samples reported moderate to extreme social dysfunction (Phillips & Diaz, 1997; Phillips et al., 2006), and 90% of a third sample was single or divorced (Fontenelle et al., 2006). Perhaps most striking, approximately 30% of a BDD sample reported that they had been housebound for at least one week due to their BDD (Phillips et al., 2006).

Functional impairment within OCD is also notably elevated. In fact, the World Health Organization ranked OCD as the 10th leading cause of impairment among all health-related conditions (Murray & Lopez, 1996). Across a range of studies, 15 – 41% of individuals with OCD reported that they are unemployed (Eisen et al., 2006; Frare et al., 2004; Pinto, Mancebo, Eisen, Pagano, & Rasmussen, 2006; Regier et al., 1993). Additionally, 14.2% of an OCD sample was receiving disability due to OCD (Eisen et al., 2006). Again, studies that directly compare the degree of functional impairment across BDD and OCD vary in their findings. Some have documented similar degrees of functional impairment across the two disorders (Didie, Menard, Stern, & Phillips, 2008; Didie et al., 2007; Phillips et al., 1998), whereas others have found greater functional impairment in BDD compared to OCD (e.g., Frare et al., 2004).

A critical first step in reducing the likelihood of these severe outcomes within BDD and OCD is to identify risk factors for developing such outcomes in the context of these disorders. In particular, the experience of prominent negative emotions may be important risk factors for these severe outcomes in BDD and OCD. Given OCD's former classification as an anxiety disorder (APA, 1994), anxiety's relationship to OCD and related conditions like BDD has been well established. Indeed, within the broader

psychological literature, anxiety has been shown to be a risk factor for depression, suicide risk, and functional impairment (e.g., Batterham, Christensen, & Callear, 2013; Fawcett, 2013; Löwe et al., 2008; Oglesby, Capron, Raines, & Schmidt, 2015). More specifically, some prior work has documented that anxiety may be a risk factor for suicidality (Raines, Capron, Bontempo, Dane, & Schmidt, 2014; Storch et al., 2015) and functional impairment (Albert, Maina, Bogetto, Chiarle, & Mataix-Cols, 2010; Rapaport, Clary, Fayyad, & Endicott, 2005) in OCD. Within the BDD literature, there also is some evidence that anxiety is a risk factor for functional impairment (Marques, LeBlanc, et al., 2011), and that the presence of comorbid anxiety disorders among those with BDD is associated with increased likelihood of having comorbid MDD (Phillips, Didie, & Menard, 2007). Given the small number of studies within individuals with OCD or BDD, specifically, however, additional research is needed.

With OCD's recent reclassification out of the Anxiety Disorders diagnostic category, there has been increased recognition of a wider variety of emotions beyond anxiety that appear central to OCRDs (e.g., Berle & Phillips, 2006; Cisler, Olatunji, & Lohr, 2009; Weingarden & Renshaw, 2015). In particular, shame appears to be a prominent negative emotion in both OCD and BDD, although it is only beginning to garner increased research attention within these conditions (review by Weingarden & Renshaw, 2015). Shame is a highly distressing moral emotion that is felt when a person judges him- or herself broadly as bad or worthless (Tangney & Dearing, 2002). Not surprisingly, shame is linked with depression, suicide, and functional impairment within

the broad psychological literature (Andrews, Qian, & Valentine, 2002; Hastings, Northman, & Tangney, 2000; Tangney, 1993, 2000; Tangney & Dearing, 2002).

Despite strong evidence that shame is a risk factor for the severe outcomes that are elevated among those with OCRDs, very little research has studied the link between shame and these outcomes within OCD or BDD. To the best of our knowledge, the only study in this domain found that shame mediated the link between OCD cognitions and depression symptoms in a non-clinical OCD sample (Weingarden & Renshaw, 2014). Thus, this area represents a clear gap in our current literature. In fact, a recent review of shame within OCRDs called for research investigating shame as a risk factor for these severe outcomes (Weingarden & Renshaw, 2015).

The present study was designed to increase our understanding of the relationships of anxiety and shame with four severe, costly outcomes (i.e., depression severity, suicide risk, functional impairment, housebound rates) among individuals with BDD, individuals with OCD, and healthy controls (HCs). Because prior findings regarding the degree of severe outcomes across BDD and OCD have been equivocal, our first aim was to examine whether levels of severe outcomes were similar or different across our samples of individuals with BDD, individuals with OCD, and HCs. We hypothesized that all severe outcomes would be elevated in our clinical groups compared to HCs, and that the BDD group would possibly report more severe outcomes compared to the OCD group. Our second aim was to contribute to our foundational understanding of these emotions within OCRDs by comparing levels of anxiety and shame across BDD, OCD, and HC groups. Considering OCD's former classification as an anxiety disorder, we expected that

levels of anxiety would be highest in the OCD group, with the BDD group endorsing significantly higher anxiety than the HC group. Because the literature on shame in OCRDs preliminarily suggests that general shame is critical in both disorders, we expected that both clinical groups would report similar, elevated levels of shame compared to the HC group. Finally, to better inform our understanding of similarities and differences between these two OCRDs, we investigated whether the strengths of associations of shame and anxiety with the four outcomes were similar or different between groups. These exploratory analyses were intended to provide information about emotions-based risk factors for some of the most severe outcomes observed in these disorders.

Method

Participants

The final sample consisted of 361 individuals (HC: $n = 133$; BDD: $n = 114$; OCD: $n = 114$). The mean age of the sample differed significantly by group, $F(2, 358) = 11.11$, $p < .001$, with the HC group significantly older than the BDD and OCD groups ($ps < .001$) (see Table 1). Gender also differed significantly by group, $F(2, 358) = 6.13$, $p < .001$, with a higher percentage of females in the BDD group than in the HC group (see Table 1). In addition, relationship status varied significantly by group, $\chi^2(4) = 24.52$, $p < .001$ (see Table 1). The proportion of participants from different races did not vary significantly by diagnostic group, $\chi^2(14) = 20.43$, $p = .11$. Across the sample, 78.6% reported their race as Caucasian, 6.4% reported their race as East Asian, Southeast Asian, or Middle Eastern, 5.6% reported their race as African American or Black, 5.0% reported their race as Hispanic or Latino, and 4.4% reported their race as other.

Table 1
Demographic Characteristics of the Sample by Group

	HC	BDD	OCD
Age <i>M (SD)</i>	36.44 (13.28) ^a	30.22 (10.86) ^b	30.60 (10.66) ^b
Gender (% female)	76% ^a	92% ^b	86% ^{a,b}
Relationship status:			
% single, divorced, widowed	30.1% ^a	41.2% ^{a,b}	53.5% ^b
% dating, cohabiting (unmarried)	27.8%	31.6%	31.6%
% married	42.1% ^a	27.2% ^b	14.9% ^b

Note: HC = healthy control; BDD = body dysmorphic disorder; OCD = obsessive compulsive disorder.

^{a, b} Different superscripts indicate significant group differences in variables detected in follow-up, post-hoc analyses.

Measures

Self-Report Diagnostic Measures. The study employed two self-report measures to evaluate eligibility for diagnostic groups in the study. All participants completed the measures.

Body Dysmorphic Disorder Questionnaire (BDDQ; Phillips, 1996). The BDDQ is a 4-item dichotomous (yes/no) self-report measure of BDD diagnosis. Questions are based on DSM-IV criteria for BDD diagnosis. This measure has demonstrated 100%

sensitivity and 89% specificity in detecting BDD in a clinical sample (Phillips, 1996). The BDDQ excludes individuals who may have a primary eating disorder through an item that asks, “Is your main concern that you aren’t thin enough or that you might become too fat?” In our sample, numerous participants who endorsed this item listed substantial appearance concerns beyond their weight on a separate item that asked for a qualitative description of appearance concerns. In addition, examination of responses on this separate qualitative item also revealed that some participants’ appearance concerns were accounted for by trichotillomania or skin picking disorder. Thus, the first author hand-coded a separate item to determine whether participants’ appearance concerns were better accounted for by an eating disorder, trichotillomania, or skin picking disorder. A second coder (advanced, M.A.-level clinical psychology doctoral student) also independently hand-scored this item. Inter-rater reliability for scores given on this item to any individual who otherwise met criteria for the BDD group indicated substantial agreement ($\kappa = .68$; Landis & Koch, 1977). Additionally, the first author and second coder discussed all cases on which they disagreed. For each case, disagreements were resolved without difficulty, and the agreed-upon score was used to inform the BDD diagnoses.

Yale-Brown Obsessive Compulsive Scale Severity Scale (Y-BOCS; Goodman, Price, Rasmussen, & Mazure, 1989a, 1989b). The Y-BOCS Severity Scale is the gold-standard assessment tool for OCD severity. It demonstrates strong internal consistency and validity as a measure of past-week severity of obsessions and compulsions (Goodman et al., 1989a, 1989b). It uses a Likert scale ranging from 0 (least severe) to 4

(most severe) and contains 12 items, of which the first 10 are included in a final score (range = 0 – 40).

To mirror the use of the BDDQ to establish BDD diagnosis in the present study, we used participants' responses to Y-BOCS items that map directly onto the DSM-IV criteria for OCD to create a dichotomous (yes/no) self-report screener for OCD diagnosis. To meet cutoffs, participants were required to meet one of the following combinations: (1) greater than or equal to 1 hour per day spent on obsessions *and* either (a) *severe to extreme* functional impairment from obsessions or (b) *severe to extreme* distress from obsessions; or (2) greater than or equal to 1 hour per day spent on compulsions *and* either (a) *severe to extreme* functional impairment from compulsions or (b) *prominent, very disturbing to extreme, incapacitating* distress from compulsions. In addition to being similar to the use of the BDDQ, this approach provided a more precise way of establishing whether participants met each diagnostic criterion for OCD, rather than using a simple severity cutoff score.

Self-report symptom severity measures. To avoid also using diagnostic measures as indices of severity, participants completed additional measures of symptom severity. In addition to assessing BDD and OCD symptoms, we included assessment of depression and anxiety to ensure that healthy controls did not endorse high levels of such symptoms.

BDD Y-BOCS (Phillips, E. Hollander, S. A. Rasmussen, & B. R. Aronowitz, 1997). The interview version of the BDD Y-BOCS is the gold-standard measure of BDD severity. Following procedures from prior research (e.g., Marques, Weingarden, LeBlanc,

& Wilhelm, 2011), we used a 10-item, self-report version of the measure that closely follows the clinician-administered BDD Y-BOCS. This self-report version omits two items from the clinician-administered version, which measure insight and avoidance, because these constructs are difficult to assess accurately via self-report. Items ask about symptoms over the past week. Each item is scored on a 5-point Likert scale, with the total sum score ranging from 0 – 40. Higher scores indicate more severe BDD symptoms. The 10-item version of the BDD Y-BOCS has strong reliability, construct validity, sensitivity to change, and factor structure (Phillips et al., 1997). In the present study, internal consistency was strong ($\alpha = .93$).

Obsessive Compulsive Inventory – Revised (OCI-R; Foa et al., 2002). The OCI-R is an 18-item self-report measure of OCD symptom severity, in which items are scored on a Likert scale ranging from 0 (*not at all*) to 4 (*extremely*). Total scores range from 0 – 72. The scale has strong internal consistency, test-retest reliability, and convergent validity (Foa et al., 2002). In the present sample, internal consistency was strong ($\alpha = .94$).

Depression Anxiety and Stress Scale – 21 (DASS-21; Lovibond & Lovibond, 1995). Depression and anxiety were assessed via respective 7-item subscales of the DASS-21. The DASS-21 is a Likert scale, with individual items ranging from 0 to 3. Higher total scores indicate greater symptomatology. The DASS depression and anxiety subscales demonstrate strong internal consistency in non-clinical (Henry & Crawford, 2005) and clinical samples (Brown, Chorpita, Korotitsch, & Barlow, 1997), and strong concurrent and discriminant validity with other measures of depression and anxiety

(Antony, Bieling, Cox, Enns, & Swinson, 1998; Lovibond & Lovibond, 1995). In the present study, the DASS-21 depression and anxiety subscales showed strong internal consistency ($\alpha = .94$, $\alpha = .86$, respectively).

Other self-report measures. Other constructs of interest for the study included shame, suicidality, and overall functioning (note that the depression outcome variable is assessed via the DASS-21, described above). Each construct was assessed by a reliable, well-validated self-report measure, as described below.

Test of Self-Conscious Affect-4 (TOSCA-4; Tangney et al., in preparation).

General shame-proneness was assessed using the TOSCA-4 total shame score. The TOSCA-4 is a self-report measure that assesses one's tendency to respond to situations with shame, guilt, and/or externalization of blame. It presents 15 scenarios that are likely to evoke self-conscious emotions (e.g., "When visiting a favorite relative, you accidentally break something you know is important to them"), and it asks participants to rate their likelihood of reacting to the scenario in various ways (i.e., a shame-driven reaction, a guilt-driven reaction, or an externalization of blame-driven reaction), without explicitly naming the emotion associated with each response. Participants rate their likelihood of responding in each manner (shame, guilt, or externalization-driven) on a 5-point Likert scale, from 1 (*not likely*) to 5 (*very likely*). Participants' scores for each type of response are summed across items to create their total shame, guilt, and externalization scores. The TOSCA scales have strong internal consistency and construct validity (Rusch et al., 2007; Woien, Ernst, Patock-Peckham, & Nagoshi, 2003). In the present study, the total shame scale had strong internal consistency ($\alpha = .97$).

Suicide Behaviors Questionnaire – Revised (SBQ-R; Osman et al., 2001). The SBQ-R is a 4-item measure of suicide risk, assessing lifetime suicidal ideation and attempts, past-year frequency of ideation, communication of suicidal ideation to others, and general likelihood of suicidal behavior some day. Higher scores indicate greater risk. The SBQ-R has strong internal consistency ($\alpha = .87$), as well as good sensitivity (.80) and specificity (.91) in identifying those who are suicidal from an adult psychiatric sample (Osman et al., 2001). In the present study, the SBQ-R demonstrated strong internal consistency ($\alpha = .83$).

Sheehan Disability Scale (SDS; Sheehan, Harnett-Sheehan, & Raj, 1996).

Functional impairment was assessed using the SDS (Sheehan et al., 1996) total score. The measure uses a Likert scale to assess impairment across occupational, social, and family domains, with items ranging from 0 (*not at all*) to 10 (*extremely*). This measure has strong internal consistency and validity (Sheehan et al., 1996). In the present study, the total SDS score had strong internal consistency, as well ($\alpha = .95$). The total score can be supplemented with two items inquiring about the number of work days lost and number of work days unproductive in the past week due to mental health symptoms. Although we did not use these items, we followed their format to include an additional item inquiring about number of days participants have been housebound in the past week due to mental health symptoms.

Interview-based diagnostic measures. To evaluate the appropriateness of the self-report diagnostic measures, the first author conducted semi-structured diagnostic

interviews with a small subsample of participants over the phone. The interviews are described below.

Structured Clinical Interview for the DSM-IV (SCID-I; First, Spitzer, Gibbon, & Williams, 1995). The BDD and OCD modules of the SCID-I are gold-standard semi-structured diagnostic interviews to assess for DSM-IV BDD and OCD diagnoses, respectively.

BDD Y-BOCS. Items 1-3 of the clinician-administered BDD Y-BOCS (described above) map onto the SCID-I BDD module, but elicit further details to inform DSM criteria. Thus, these items were administered as part of the telephone diagnostic interviews, to further assess BDD and to supplement BDD SCID-I items. Of note, as the DSM-5 now recognizes excoriation (skin picking) disorder as its own diagnosis, participants whose appearance concerns and impairment were solely due to skin picking were not given a diagnosis of BDD.

Procedures

All procedures were approved by the George Mason University IRB, as well as the NIH Office of Human Subjects Research Protections.

Survey Procedures. Three groups were recruited: a HC group, a BDD group, and an OCD group. BDD and OCD participants were recruited through study advertisements posted on BDD and OCD clinic and organization websites (e.g., International OCD Foundation [IOCDF]), online BDD or OCD forums (e.g., BDD and OCD Yahoo! Groups), and email listings for BDD or OCD support groups (e.g., through IOCDF). Participants for the control group were recruited through non-mental health related

websites (e.g., online research participation webpages), forums (e.g., Reddit), and Amazon's Mechanical Turk. An Internet-based recruitment strategy was used, because individuals with BDD rarely go to treatment or research clinics for psychological help (Marques, Weingarden, et al., 2011), and up to 30% of adults with BDD have been housebound due to their illness (Phillips et al., 2006).

Study advertisements directed potential participants to the study website, where individuals were presented with the informed consent document and notified that a list of mental health resources would be available at the conclusion of the survey. Participants were able to skip the study and proceed directly to the resource listing if they chose. Individuals who clicked an "I agree" button to indicate consent were directed to the online survey, presented through Qualtrics.

All participants had to be at least 18 years of age. Inclusion criteria for the BDD group also required participants to meet diagnostic criteria for BDD on the BDDQ but not for OCD on the Y-BOCS. Inclusion criteria for the OCD group required that participants meet diagnostic criteria for OCD based on their responses to the Y-BOCS but not for BDD based on the BDDQ. Finally, inclusion criteria for the HC group required that participants (1) did not meet inclusion criteria for either BDD or OCD and (2) scored within the normal to mild range (i.e., no more than 1 *SD* above the normative sample mean) on both the DASS-21 depression subscale (i.e., no greater than 13) and anxiety subscale (i.e., no greater than 9).

Two steps were taken to enhance integrity of data. First, participants were required to complete a CAPTCHA prior to gaining access to the study. Second, two

quality screening questions (e.g., “Choose the correct response to this sentence: The dog has four ____” [a] eyes; [b] teeth; [c] legs; [d] tails) were dispersed in the survey to flag participants who were clicking through without reading questions. Upon completing the survey, which took approximately 30 – 75 minutes, participants could enter their email address for a chance to win one of 75 \$30 electronic gift cards that were raffled off as study compensation. Finally, upon completion, all participants were directed to a list of resources, including BDD, OCD, and depression information, as well as national suicide hotlines, with embedded links to websites.

In total, 1,399 individuals clicked the link to the study survey. Forty-five entries were removed for participants who had taken the survey more than once (identified through repeat IP addresses). Of the remaining 1,354 individuals, 1,186 agreed to the informed consent and completed one or more survey items. Six-hundred seventy-three individuals either did not meet inclusion criteria for one of the three groups or did not complete enough measures to fully evaluate whether they met criteria. Of the remaining 468 participants who met criteria for one of the three study groups, 107 did not pass the two quality screening items (22 from the HC group, 38 from the BDD group, 47 from the OCD group), resulting in a final sample of 361 participants.

Phone Interview Procedures. To evaluate the validity of the self-report measures for establishing diagnosis, semi-structured diagnostic interviews were conducted by phone with a subsample of participants from the BDD ($n = 9$) and OCD ($n = 10$) groups who opted to provide a telephone number in response to a prompt at the end of the online survey. All phone interviews were conducted by the first author, an

advanced graduate student with extensive training in assessment and treatment of OCRDs, including specific training in and supervision of the OCD and BDD assessments with a leading expert. All individuals who completed a telephone interview received a \$25 electronic gift card as compensation. The phone interview was conducted by the first author, who was blind to the group status of each participant. Inter-rater reliability of the phone interviews themselves was evaluated by having a MA-level doctoral student code a subset ($n = 7$) of recorded interviews, with adequate reliability ($\kappa = .78$; Landis & Koch, 1977). The overall level of agreement on BDD and OCD diagnosis between the self-report instruments and the diagnostic interviews was substantial, despite the small sample ($\kappa = .64$; Landis & Koch, 1977).

Data Analysis

We first examined normality of our primary variables with both visual inspection and examination of skewness and kurtosis values. Although some variables tended toward a positive skew, skewness ($\leq .79$) and kurtosis values ($\leq |1.45|$) did not exceed recommended cutoffs for normality (Kim, 2013). Moreover, transformations of variables did not improve skewness or kurtosis, and non-parametric analyses (e.g., Bayesian estimation of path analyses) yielded results that were highly consistent with those of parametric tests. Therefore, non-transformed versions of variables were used in all parametric tests described.

We examined group differences in primary outcome variables and emotion variables with one-way MANCOVAs, controlling for demographic variables that differed by group (i.e., age, sex, relationship status). Subsequently, to examine how shame and

anxiety were associated with each outcome variable across groups, we used multigroup path analysis (see *Figure 1*) via Amos 20 (Arbuckle, 2011). Anxiety and shame were modeled as covarying, exogenous variables, and the primary outcomes (i.e., depression severity, suicide risk, functional impairment, days housebound) were modeled as covarying endogenous variables. Paths were specified from anxiety and shame to each of the four outcomes. Demographic variables that differed significantly by group also were modeled as covarying predictors to each of the four outcomes (with covariances to anxiety and shame) to control for their effects. Participants were grouped according to the three diagnostic groups. Means/intercepts, variances, and covariances were allowed to vary across groups. A small proportion of the sample (range = 9.8 – 16.8%) had missing data on variables of interest; thus, we used full information maximum likelihood to estimate all models.

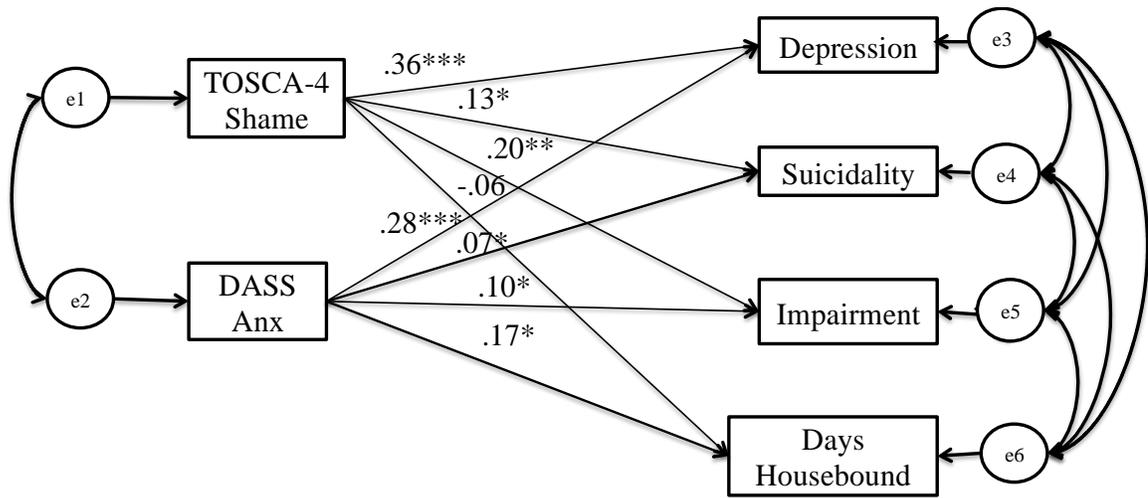


Figure 1. Base path analysis model with standardized path estimates shown.

Demographic controls not shown.

Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

In our base model, each structural path (i.e., paths from the two exogenous emotions variables to the four outcome variables) was constrained to be equal across groups. To address whether the strengths of associations between shame and anxiety with the four outcomes differed by groups, we then tested a series of broader models in which specific structural paths were unconstrained across groups, using chi-square difference scores to determine whether freeing each set of paths resulted in significant improvement in fit. We first freed all structural paths (i.e., from shame and anxiety to the four outcomes) for the HC group, such that paths for the HC group were allowed to vary from paths for the BDD and OCD groups, as we hypothesized that associations would be significantly weaker for HCs compared to the clinical groups. We next freed each

structural path one-by-one across the BDD and OCD groups. Overall, model fit was evaluated using recommended cutoff values for the comparative fit index (CFI > .90 or .95) and root mean square error of approximation (RMSEA < .10, .08, or .05) (Marsh, Hau, & Wen, 2004).

Results

To evaluate the validity of our diagnostic groups, we examined group differences in BDD and OCD severity, controlling for the demographic covariates of age, sex, and relationship status. BDD severity scores on the BDD Y-BOCS differed significantly across groups, $F(2, 347) = 161.61, p < .001, \eta_p^2 = .48$. Bonferonni-corrected post-hocs showed that all three groups differed significantly, with the HC group lower than the OCD group, which was lower than the BDD group (see Table 2). OCD severity scores on the OCI-R also differed significantly across groups, $F(2, 316) = 90.79, p < .001, \eta_p^2 = .37$. Bonferonni-corrected post-hocs again showed that all three groups differed significantly from each other, with HCs lowest, BDD in the middle, and OCD highest (see Table 2). These differences support the validity of our diagnostic groups.

Table 2
Means, SDs of Primary Study Variables

Variable	<u>HC</u> <i>M (SD)</i>	<u>BDD</u> <i>M (SD)</i>	<u>OCD</u> <i>M (SD)</i>
BDD Y-BOCS	5.56 (4.52) ^a	19.85 (5.20) ^b	16.12 (6.82) ^c
OCI-R	6.75 (1.03) ^a	17.43 (1.22) ^b	28.38 (1.17) ^c
TOSCA-4 Shame	58.70 (21.37) ^a	92.75 (26.87) ^b	94.29 (30.42) ^b
DASS-Anxiety	2.17 (2.60) ^a	11.33 (8.47) ^b	16.14 (10.14) ^c
DASS-Depression	3.16 (3.48) ^a	18.61 (11.04) ^b	21.47 (12.13) ^b
SBQ-R	5.23 (1.95) ^a	8.18 (3.70) ^b	9.09 (3.73) ^b
SDS	1.70 (3.92) ^a	12.30 (7.97) ^b	19.26 (7.31) ^c
Days housebound (past week)	0.05 (.27) ^a	1.12 (1.75) ^b	1.40 (1.93) ^b

Note: HC = healthy control; BDD = body dysmorphic disorder; OCD = obsessive compulsive disorder; BDD Y-BOCS = BDD Yale-Brown Obsessive Compulsive Scale; OCI-R = Obsessive Compulsive Inventory-Revised; TOSCA-4 = Test of Self-Conscious Affect-4; DASS = Depression Anxiety Stress Scale-21; SBQ-R = Suicide Behaviors Questionnaire-Revised; SDS = Sheehan Disability Scale.

^{a, b, c} Different superscripts indicate significant group differences ($p < .001$) in variables.

Group Differences in Outcomes and Emotions

A one-way MANCOVA examining group differences in the four outcome variables, controlling for demographic covariates, was significant, $F(8, 586) = 586.00$, $\eta_p^2 = .33$. Tests of between-subjects effects were significant for each outcome, showing group differences in depression severity ($F[2, 295] = 131.46$, $p < .001$, $\eta_p^2 = .47$), suicide risk ($F[2, 295] = 48.99$, $p < .001$, $\eta_p^2 = .25$), functional impairment ($F[2, 295] = 186.65$, $p < .001$, $\eta_p^2 = .56$), and number of days housebound in the past week ($F[2, 295] = 28.12$, $p < .001$, $\eta_p^2 = .16$). Follow-up Bonferroni-corrected pairwise comparisons showed that, as hypothesized, the HC group was lower on all outcomes in comparison to the BDD and OCD groups (see Table 2). Contrary to hypotheses, the BDD and OCD groups did not differ on depression, suicide risk, or number of days housebound, and the BDD group endorsed significantly less functional impairment than the OCD group (see Table 2).

A one-way MANCOVA examining group differences in shame and anxiety, controlling for the demographic variables that differed by groups (i.e., age, sex, relationship status), was also significant, $F(4, 582) = 42.31$, $\eta_p^2 = .23$. Tests of between-subjects effects were significant for both shame ($F[2, 291] = 55.76$, $p < .001$, $\eta_p^2 = .28$) and anxiety ($F[2, 291] = 87.74$, $p < .001$, $\eta_p^2 = .38$). Follow-up Bonferroni-corrected pairwise comparisons showed that the HC group had both significantly lower shame and anxiety scores compared to the BDD and OCD groups (see Table 2). As hypothesized, the BDD and OCD groups did not differ in levels of shame, but the OCD group had significantly higher anxiety compared to the BDD group (see Table 2).

Associations of Shame and Anxiety with Outcomes

Correlations among the primary variables of interest within the whole sample are shown in Table 3. Our overall path analysis model is shown in *Figure 1*. Our base model, in which structural paths from shame and anxiety to outcomes were constrained across groups, had marginal to acceptable indices of model fit ($\chi^2[46] = 70.32, p = .01$; CFI = .91; RMSEA = .04). Standardized path estimates for the base model are shown in *Figure 1*. (Full estimates from the model, including path estimates of demographic covariates, are available from the first author upon request.) All paths from shame and anxiety to outcomes were significant, with the exception of the path from shame to housebound rates. Of note, intercepts were free to vary across groups. Consistent with MANCOVA results, the values of intercepts for the HC group were notably lower than those of the BDD and OCD groups (e.g., shame for HC = 58.70; for BDD = 92.00; for OCD = 94.88). Thus, results for structural paths must be interpreted with group differences in intercepts in mind.

Table 3
Intercorrelations among Primary Study Measures

	1	2	3	4	5
1. TOSCA-4	-	-	-	-	-
2. DASS-Anxiety	.64*	-	-	-	-
3. DASS-Depression	.61*	.68*	-	-	-
4. SBQ-R	.48*	.52*	.69*	-	-
5. SDS	.62*	.65*	.72*	.58*	-
6. Housebound	.32*	.48*	.53*	.42*	.50*

Note: TOSCA-4 = Test of Self-Conscious Affect-4 shame scale; DASS-Anxiety = Depression Anxiety Stress Scale-21 Anxiety subscale; DASS-Depression = Depression Anxiety Stress Scale-21 Depression subscale; SBQ-R = Suicide Behaviors Questionnaire-Revised; SDS = Sheehan Disability Scale.

* $p < .001$.

Our first comparison model allowed structural paths from shame and anxiety to the four outcomes to vary for the HC group (while still constraining those in the BDD and OCD groups). As hypothesized, freeing HC structural paths significantly improved model fit, $\Delta\chi^2(8) = 15.84, p < .05$. The primary differences between HCs and the clinical groups were for the paths from anxiety to suicide risk and housebound rates, and the paths from shame to suicide risk and impairment, which were stronger and significant for the BDD and OCD group, while they were weaker and non-significant for the HC group

(see Table 4). Of note, standardized estimates vary slightly across groups when paths are constrained, due to differences in standard errors across groups, but we reported standardized estimates for ease of interpretation.

Table 4*Path Estimates for First Comparison Model (HC paths allowed to vary)*

Path	<u>HC</u>	<u>BDD</u>	<u>OCD</u>
	Standardized estimate	Standardized estimate	Standardized estimate
Anxiety - Depression	.29***	.31***	.32***
Anxiety – Suicide Risk	.06	.14	.17
Anxiety - Impairment	.14	.14	.18*
Anxiety - Housebound	.08	.32***	.33***
Shame - Depression	.33***	.22**	.19**
Shame – Suicide Risk	.09	.17*	.16*
Shame - Impairment	.12	.23***	.29***
Shame - Housebound	-.01	-.05	-.04

Note: Standardized estimates for paths may vary slightly across BDD and OCD groups due to differences in standard errors between these two groups.

* $p < .05$. ** $p < .01$. *** $p < .001$.

We next tested a series of models in which the paths from emotions to individual outcomes were freed across the BDD and OCD groups, to test whether each association from shame to outcomes and anxiety to outcomes differed for the two OCRDs. (Full results from these models are available from the first author upon request.) The only significant difference that emerged was when the path from shame to depression was freed across groups, $\Delta\chi^2(1) = 4.47, p < .05$. For the BDD group, the path from shame to depression was moderately strong and significant ($b = .32, p < .001$), whereas for the OCD group, this path was weak and non-significant ($b = .07, p = .49$). No other associations differed significantly between the BDD and OCD groups, and associations remained nearly identical to those from the first comparison model described above. This final model had adequate indices of model fit ($\chi^2[37] = 50.01; p = .08; CFI = .95; RMSEA = .03$).

Discussion

Despite high rates of depression, suicidality, and functional impairment in BDD and OCD, empirical information about risk factors for severe outcomes in these disorders is scarce. The present study aimed to address this gap by investigating the associations of anxiety and shame with depression severity, suicide risk, functional impairment, and housebound rates in individuals with BDD, individuals with OCD, and HCs. We also aimed to advance our understanding of the similarities and differences between BDD and OCD, two major disorders in the newly formed OCRD diagnostic category of the DSM-5.

As expected, all negative outcomes, as well as levels of anxiety and shame, were significantly higher in the BDD and OCD groups compared to the HC group. Furthermore, the associations of anxiety and shame with outcomes were generally weaker in the HC group compared to the BDD and OCD groups. Indeed, depression was the only outcome for which shame and anxiety were significant risk factors among HCs. Thus, it does appear that anxiety and shame are more relevant risk factors for poor outcomes in individuals with BDD and OCD than in non-clinical populations.

Findings for individuals with BDD and OCD were largely similar, but a few group differences did emerge. Levels of depression, suicide risk, and housebound rates were similar across both groups, but the level of functional impairment was higher for

those with OCD than those with BDD. Given that prior research showed similar or more severe outcomes in BDD versus OCD (Didie et al., 2008; Didie et al., 2007; Frare et al., 2004; McKay et al., 1997; Phillips et al., 1998), it appears that the Internet-based recruitment may have generated a more severe OCD sample than those included in prior research (e.g., than treatment-seeking samples presenting to a clinic). It also is possible, however, that we recruited a somewhat more severe OCD group than past samples by chance.

As hypothesized, anxiety was significantly higher in individuals with OCD than individuals with BDD, which is consistent with OCD's prior classification as an anxiety disorder (APA, 1994). Despite this difference, anxiety was significantly and similarly associated with depression, housebound rates, and functional impairment in both clinical groups. These results are consistent with cognitive-behavioral conceptualizations and research highlighting the important role of anxiety in contributing to distress and impairment within OCD (e.g., Albert et al., 2010; Raines et al., 2014; Rapaport et al., 2005; Storch et al., 2015). The similarity of findings for those with BDD suggests that, although anxiety is not as high in the BDD group, it is an important risk factor for individuals with BDD, as well. This highlights that, in many ways, anxiety is a key emotional experience across both OCRDs. In contrast to some prior research within OCD (Raines et al., 2014; Storch et al., 2015), anxiety was not a significant risk factor for suicidality in BDD or OCD. This difference may have been due to the inclusion of shame in our risk models.

In contrast to anxiety, levels of shame did not differ significantly between BDD and OCD groups, indicating that shame may be a central emotion in both disorders. This finding was consistent with the re-classification of OCD from the anxiety disorders into the OCRD category, a change which emphasizes that negative emotions beyond anxiety, such as shame, may also be critically involved in the experience of OCRDs. Moreover, as with anxiety, the relationships between shame and outcomes also were largely consistent across BDD and OCD groups. Specifically, shame was significantly and similarly associated with suicide risk and functional impairment in both groups, while it was not a significant risk factor for days housebound in either group.

It is noteworthy that shame and anxiety appear to confer different levels of risk for the outcomes examined. Across both groups, anxiety seems to be a stronger risk factor than shame for housebound rates, whereas shame appears to be a stronger risk factor for functional impairment. Given that individuals experiencing anxiety tend to respond with avoidance, it may be that becoming housebound is an extreme version of avoidance. Shame also leads people to withdraw or hide from others, but this hiding is often broader than focused avoidance, and shame also can trigger anger and blaming reactions toward others (Tangney & Dearing, 2002). The diffuse withdrawal tendencies that shame may promote (e.g., closed-off communication with one's partner or friends, reluctance to take a leadership role at work) could inhibit individuals from fulfilling social or work-related roles, while externalization in response to shame may cause social or work-related problems (Tangney & Dearing, 2002). Both of these responses may contribute to broader functional impairment that extends beyond difficulty leaving the

house. Of note, shame and anxiety both had similar levels of associations with suicide risk, although only the association of shame with suicidality was significant. The withdrawal that shame sparks, coupled with the negative, depressive beliefs about oneself (e.g., “I am bad,” “I am worthless”) that accompany shame (Tangney & Dearing, 2002), may contribute to depression, diminished social supports, or a feeling of burdensomeness, which could place individuals at increased risk for suicide.

Although the associations of anxiety and shame were mostly similar across BDD and OCD, a single difference emerged between groups. Specifically, shame was a significant risk factor for depression among those with BDD, but not among those with OCD. Given the high levels of anxiety in OCD, it is possible that, when anxiety and shame are examined as simultaneous risk factors for depression in OCD, anxiety stands out as the primary emotional risk factor. Within BDD, on the other hand, the conceptual literature describes shame as almost inherent to the disorder itself (Janet, 1903; Weingarden & Renshaw, 2015). For instance, when individuals with BDD judge their appearance to be defective, they may inevitably extend that critical judgment to mean that they are broadly worthless and, thus, feel shame. Given that people respond to shame by withdrawing and feeling intense distress (Tangney & Dearing, 2002), it makes sense that they would correspondingly be at increased risk for depression.

Taken together, our results highlight some potential treatment implications for BDD and OCD. First, given that anxiety appears to be an equally important risk factor in BDD as it is in OCD, addressing anxiety may be a particularly important component of BDD treatment. When treating either disorder, clinicians should be aware that highly

anxious BDD or OCD patients may be at elevated risk for becoming housebound. As such, it may be important for clinicians to use a broad range of exposures aimed at reducing anxiety and avoidance, sometimes extending beyond straightforward OCD- and BDD-related targets. Second, shame's role as a risk factor for negative outcomes in BDD and OCD underscores the importance of targeting shame in the treatment of both disorders. Specifically, when working with BDD or OCD patients who display functional impairment or suicidal ideation, as well as BDD patients at risk for depression, it may be beneficial for clinicians to target shame-prone cognitions with cognitive restructuring and to target shame-driven behaviors (e.g., withdrawal) through behavioral activation. Beyond traditional Cognitive Behavioral Therapy, third wave behavior therapies focused on acceptance and mindfulness, such as Acceptance and Commitment Therapy, Dialectical Behavior Therapy, and Compassion-Focused Therapy may offer rich opportunities to address shame within treatment. Moreover, many overarching techniques may be useful in addressing shame within any of these treatments. For example, providing psychoeducation about shame and how the particular patient appears to respond to their shame (e.g., by withdrawing, by becoming angry) may help the patient to recognize and alter those negative responses (Dearing & Tangney, 2011). Additionally, validation of the patient's emotional experience may be shame reducing, as it can help the patient to feel understood and accepted (Dearing & Tangney, 2011). (For a comprehensive discussion of addressing shame in treatment, see Dearing & Tangney, 2011.)

There are several limitations to the present study that should be considered alongside its findings. Most notably, BDD and OCD diagnoses were established using self-report measures rather than gold-standard clinical interviews. Although we recruited through OCD- and BDD-specific websites and used diagnostic interviews with a subsample, it is possible that using online self-report assessments yielded less valid clinical groups. Of note, prior BDD and OCD research demonstrates that SCID-recruited participants do not differ significantly from Internet-recruited participants (Neziroglu, Clavadetscher, Gokberk, Demas, & Cuskley, 2014), but further research of emotions-based risk factors that uses other methods of recruitment is needed. It is also possible that Internet-collected data could suffer from diminished quality (e.g., if participants click quickly through surveys without answering thoughtfully). However, prior research shows that surveys completed online do not differ significantly from those completed via paper and pencil (Coles, Cook, & Blake, 2007; Kongsved, 2007). Moreover, to address these concerns, we required that participants accurately complete a CAPTCHA prior to starting the study (to ensure they were real people), and we only included data from participants who had accurately answered two quality-screening items dispersed in the study. Finally, the present study was cross-sectional in design. Therefore, our ability to make causal conclusions about shame and anxiety as earlier risk factors for the development of subsequent severe outcomes is limited.

In spite of these limitations, the present study offers novel and clinically-relevant information about anxiety and shame as risk factors for some of the most costly, severe outcomes within BDD and OCD and extends our knowledge of the similarities and

differences between BDD and OCD. The results suggest that longitudinal studies testing anxiety and shame at the time of BDD and OCD diagnosis as risk factors for later development of these outcomes may be warranted. Such research would better enable us to understand whether anxiety and shame are developmental risk factors to these outcomes within BDD and OCD. Additionally, the current research could be extended through future studies that examine whether empirically-supported treatments for BDD and OCD effectively reduce shame and anxiety, and whether reductions in shame and anxiety through treatment are associated with reductions in risk for these four outcomes across treatment.

Appendix

Shame in the obsessive compulsive related disorders: A conceptual review

The DSM-5 (APA, 2013) recognizes Obsessive Compulsive and Related Disorders (OCRDs) as a new diagnostic category. The category includes obsessive compulsive disorder (OCD), which had formerly been categorized as an anxiety disorder, in addition to body dysmorphic disorder (BDD), trichotillomania (TTM; hair pulling disorder), excoriation disorder (skin picking; SP), and hoarding disorder. OCD involves the experience of obsessions, which are recurrent intrusive thoughts, images, or urges that cause distress, as well as compulsions, which are ritualized behaviors completed to reduce distress from obsessions (APA, 2013). Body dysmorphic disorder involves an excessive, distressing, and time-consuming preoccupation with an imagined appearance flaw, in addition to repetitive rituals performed in response to the preoccupations (APA, 2013). TTM is characterized by recurrent hair pulling, resulting in loss of hair (APA, 2013). SP, likewise, is characterized by recurrent skin picking, resulting in lesions (APA, 2013). Finally, hoarding disorder involves persistent difficulty parting with possessions and a perception that items need to be saved, resulting in substantial clutter in a person's active living space that reduces the ability to use the space for its intended purpose (APA, 2013).

Commonalities among these disorders include presence of obsessions and compulsions (e.g., OCD, BDD), cognitive symptoms that are accompanied by varying degrees of insight (e.g., perceived defect in one's appearance in BDD, inflated beliefs about need to save objects in hoarding disorder), and recurrent body-focused repetitive behaviors (BFRBs; e.g., TTM, SP) (APA, 2013). In addition to shared phenomenology, there is evidence of elevated comorbidity among the OCRDs (Arnold et al., 1998; Christenson, Mackenzie, & Mitchell, 1991; Hollander & Benzaquen, 1997; Phillips et al., 1993; Wilhelm et al., 1999), elevated OCD rates within family members of OCD probands (Bienvenu et al., 2000; Castle & Phillips, 2006; Lenane et al., 1992), and some similarities in treatment response across disorders (Castle & Phillips, 2006). Notably, the OCRDs are also associated with elevated social impairment, occupational impairment, depression rates, and suicidality, as well as lowered quality of life (Didie et al., 2008; Didie et al., 2007; Flessner & Woods, 2006; Frare et al., 2004; Hollander et al., 1996; Kamath et al., 2007; Phillips et al., 1998; Phillips & Menard, 2006; Stemberger, Thomas, Mansueto, & Carter, 2000).

Despite the development of this new diagnostic category, which acknowledges compelling similarities across these disorders, there is still much we do not know about how the OCRDs are alike versus distinct. This issue remains a fairly open empirical question, with direct implications ranging from the conceptualization of the diagnostic category and the disorders within it to the commonalities versus nuances of treating them effectively. Because OCD, the most widely researched OCD, was formerly classified as an anxiety disorder, most of our research on emotions involved in the OCRDs has

focused narrowly on anxiety. Relatively less literature has examined and synthesized the role of other potentially prominent emotions across the OCRDs.

This review focuses on one emotion that may be key to the OCRDs: shame.

Below, we begin by providing an overview of shame, after which we broadly describe how shame may be important within the OCRDs and review relevant measurement issues in shame research. Next, we present a full review of all identified articles that address the role of shame in the OCRDs. Finally, we conclude with clinical and research recommendations.

Shame: An Overview

Shame is a deeply painful self-conscious emotion, experienced when a person judges him- or herself as wholly negative (e.g., as unworthy, defective, incompetent, bad) (Lewis, 1971; Tangney & Dearing, 2002). Tangney and colleagues refer to Lewis' (1971) description of shame as leading a person to feel “small,” “worthless,” and “exposed” (Tangney & Dearing, 2002, pg. 18). Shame motivates avoidance and withdrawal (Tangney & Dearing, 2002), which often lead to a deterioration of overall functioning.

Although there are overlaps between shame and other negative emotions, there are also key distinctions. First, shame differs from guilt, in that guilt is felt when a person judges a specific *behavior* negatively, whereas shame is felt when a person judges *oneself* negatively (Tangney & Dearing, 2002). It also differs from embarrassment, which is a more fleeting emotion rooted in public situations (Tangney & Dearing, 2002; Tangney, Miller, Flicker, & Barlow, 1996). Lastly, shame differs from disgust, which is a basic emotion that involves feelings of revulsion and nausea caused by ‘disgusting’ stimuli (Davey, 2011). Disgust may serve an adaptive function by promoting avoidance of stimuli that can cause disease or contamination (Cisler, Brady, Olatunji, & Lohr, 2010; Davey, 2011). Of all of these negative emotions, shame may be the most destructive (Tangney et al., 1996). When compared to guilt and embarrassment, for instance, research suggests that shame is a more painful emotion, is much more consistently

correlated with psychopathology, and is a stronger predictor of damaging outcomes (Tangney & Dearing, 2002; Tangney et al., 1996; Tangney, Wagner, & Gramzow, 1992). We could not identify any research that directly compares shame with disgust (for reviews on disgust in psychopathology, as well as disgust in OCD, see Berle & Phillips, 2006; Cisler et al., 2009; Davey, 2011; Olatunji & McKay, 2007).

Research on the destructive outcomes of shame has been conducted across broad research contexts. Shame has been shown to be damaging in interpersonal relationships and to motivate social withdrawal (Tangney, 1993, 2000; Tangney & Dearing, 2002). It has been linked with both depression (Tangney, 1993) and suicide (Hastings et al., 2000). Finally, shame acts as an influential treatment barrier (Leenaars, Rombouts, & Kok, 1993; Marques et al., 2010; Marques, Weingarden, et al., 2011).

As each of these negative outcomes is elevated in the OCRDs, shame may be influential to understanding and treating severe impairment within the OCRDs. Moreover, there is prominent theoretical and anecdotal support for the role of shame across various OCRDs (e.g., Clerkin, Teachman, Smith, & Buhlmann, 2014; du Toit, van Kradenburg, Niehaus, & Stein, 2001; Fergus, Valentiner, McGrath, & Jencius, 2010; McDermott, 2006; Veale, 2002). Thus, developing our understanding of shame's involvement in each OCRD is an important next step in building relevant knowledge about this new diagnostic category. To this end, the present review aims to provide a consolidated understanding of how shame fits into clinical conceptualizations for each of these disorders, through summarizing existing empirical, clinical, and conceptual work

on shame across diagnoses. We then suggest considerations for areas requiring further examination.

Types of shame in the OCRDs

Shame is a complex human emotion that can vary in terms of its focus. In addition to the experience of general shame, described above, people can also feel shame arising from more specific sources (Gilbert, 2002). Types of shame that appear especially relevant to the OCRDs include shame about having a mental illness, shame about specific symptoms (hereafter referred to as symptom-based shame), and body shame.

Shame about having a mental illness represents a critical scrutiny of oneself as bad or defective based on having a mental illness. This focus of shame is not specific to the OCRDs, but rather can be felt by anyone suffering from mental illness. Related to the construct of shame about having mental illness is fear of stigmatization for having mental illness. Stigma refers to others' negative outlook and responses toward people with mental illness (Corrigan, Larson, & Kuwabara, 2010). Thus, people can simultaneously experience the distress that is part of the mental illness phenomenology itself, in addition to feeling shame about having a mental illness, and fear of stigmatization by others for having a mental illness.

Somewhat more specific to the OCRDs is symptom-based shame. This is the evaluation of oneself as bad or unworthy due to the experience of specific symptoms of one's mental illness. Although this will be discussed in more detail as it relates to each OCD, this type of shame may be especially pertinent in OCD (e.g., "I am bad because I am having violent, intrusive thoughts"), TTM and SP (e.g., "I am defective because I pull

my hair/pick my skin”), and hoarding disorder accompanied by strong insight (e.g., “I am defective because I live with all this clutter/I can’t invite people over to my home due to clutter”).

Lastly, body shame is shame felt as a result of the perception that one’s body is bad, defective, or flawed (and that the person is, by extension, bad, defective, or flawed). Body shame is central to the psychopathology of BDD, and secondary body shame may arise as a result of the damage done to one’s body from symptoms of TTM and SP (e.g., pulling hair, picking skin).

Measuring shame

There is wide variability in approaches to measuring shame. The simplest and most common way that shame is assessed in the OCD literature is through direct requests for participants to rate “shame.” Although common, this method may have poor validity. Tangney and Dearing (2002) note that people are inaccurate in defining and distinguishing shame from related emotions. Thus, measuring shame via a direct request likely has poorer validity than using a validated, multi-item measure of shame. Further, a number of these studies do not separate shame from other emotions in their assessment, and may ask participants to rate “shame and guilt” or “shame and embarrassment” within a single item. This approach likely further dilutes the discriminant validity of the measure.

Other studies of shame in OCDs have used a range of validated self-report measures to assess state or trait shame (the latter is also referred to as shame-proneness). These may or may not directly inquire about “shame,” but they tend to have published

psychometric data and utilize multiple items to assess shame, rather than relying on a single item. Thus, overall they are likely to be stronger assessment tools than a direct, single question about shame.

Lastly, scenario-based measures of shame, such as the Test of Self-Conscious Affect (TOSCA) scales (Tangney, Wagner, & Gramzow, 1989), provide scenarios likely to evoke the experiences of shame, and then ask participants to rate their likelihood of responding in a variety of ways that tap into shame-prone behavioral responses. Such measures do not use the word “shame” directly and are thus considered to be a stronger method (Tangney & Dearing, 2002). (For a comprehensive critical summary of shame measures, see Tangney and Dearing, 2002.)

Literature Search Method

To review the extant knowledge on shame in the OCRDs, we conducted searches for the terms “shame” and each disorder (i.e., body dysmorphic disorder, obsessive compulsive disorder, hair pulling, trichotillomania, skin picking, excoriation disorder, psychogenic excoriation, neurotic excoriation, self-inflicted dermatosis, hoarding, clutter). Literature searches were conducted on PsycINFO and Medline, through January 15, 2014. Searches were conducted for these terms within titles, keywords, abstracts, and any field. After relevant articles were gathered and read, their reference lists were checked for missing pertinent articles. Of the slightly more than 200 articles or books identified in this search, 110 directly studied or discussed shame in OCRDs and were therefore included in the present review.

Shame in OCD

General shame in OCD

The broadest existing research on shame in OCD consists of descriptive and comparison studies of general shame-proneness. For instance, Tangney and Dearing (2002) describe a series of correlational studies (specific citations were not provided) within non-clinical undergraduate samples that consistently found significant positive correlations between general shame-proneness on the TOSCA (Tangney et al., 1989) and the obsessive-compulsive subscale of the Symptom Checklist-90 (SCL-90; Derogatis, Lipman, & Covi, 1973), with small to medium effect sizes (r s ranging from .20-.33) (Tangney & Dearing, 2002; Tangney et al., 1992). Of note, however, the SCL-90 measures a mixture of both OCD symptoms and obsessive compulsive personality disorder symptoms, limiting its validity as a measure of OCD (Woody, Steketee, & Chambless, 1995).

Relatedly, another study tested general shame-proneness (measured with the TOSCA-3; (Tangney, Dearing, Wagner, & Gramzow, 2000) as a mediator of OC symptom severity and OC distorted beliefs with depressive severity in an undergraduate sample (Weingarden & Renshaw, 2014). Results showed that shame partially mediated the relationship of OC beliefs, but not OC symptoms, with depressive severity (Weingarden & Renshaw, 2014). These results suggest that general shame-proneness

may be more related to the distorted cognitive interpretations of one's symptoms than the symptoms themselves. Replication of this study in a clinical sample would further contribute to our understanding of the role of general shame-proneness among those with OCD.

In addition to research within undergraduates, one study examined correlations of general shame-proneness and OCD symptoms within a clinical sample of 124 patients with a variety of anxiety disorders ($n = 53$ with primary OCD) (Fergus et al., 2010). This study found that the correlation between OCD symptoms and shame-proneness was medium in size ($r = .27$), although it was not statistically significant at the Bonferonni-corrected alpha of .001 that was used (Fergus et al., 2010). Furthermore, post-treatment changes in OCD symptoms on the Obsessive Compulsive Inventory-Revised (OCI-R; Foa et al., 2002) were significantly correlated with changes in shame-proneness on the scenario-based TOSCA (Fergus et al., 2010), with a large effect ($r = .51$). This suggests that general shame, even when it is not directly targeted in exposure and response prevention treatment, changes alongside OCD symptom severity.

Another study of a clinical sample involved mailing a survey to members of the Danish OCD Association. Of the 219 respondents, 70% indicated that they experienced "shame, low self-esteem, fear of future" (Sorensen, Kirkeby, & Thomsen, 2004). This rate indicates a high proportion of individuals with OCD who might self-report general shame in conjunction with their disorder. Because these three separate constructs were measured together on a single self-report item, however, it is not possible to infer how frequently this response was endorsed specifically in regard to the shame component.

Moreover, several comparison studies note higher levels of general shame among OCD groups versus healthy comparison groups. In an fMRI study of participants with OCD ($n = 24$) and healthy controls ($n = 24$), participants were asked to estimate the duration of 1 s as precisely as they could, after which they received either positive, negative, or ambiguous performance feedback (Becker et al., 2013). Participants then rated their experience of shame on a 9-point Likert scale. Mann-Whitney tests revealed that the OCD group reported a higher self-reported level of shame than the control group after receiving both ambiguous and negative feedback about performance, with medium to large effects ($r_s = -.39$ and $-.45$, respectively). These results suggest that individuals with OCD may experience more shame after perceiving a possible personal failure compared to healthy individuals. In another comparison of shame across groups, 57 South Korean individuals with OCD endorsed significantly higher scores on the defectiveness/shame subscale of the Young Schema Questionnaire (YSQ; Young, Klosko, & Weishaar, 2003) than 70 healthy South Korean controls, with a large effect ($d = 1.69$) (Kim, Lee, & Lee, 2014). These results remained significant even after controlling for depression. According to Kim and colleagues (2013), these results were consistent with those from an earlier, similar study published in a Korean journal using the same measure of defectiveness/shame (Lee, Won, & Lee, 2010, as cited in Kim et al., 2013), also with a large effect ($d = 1.58$). Furthermore, according to the English abstract of a Persian article, Noie, Farid, Fata, and Ashoori (2010) found similar results comparing a smaller sample of individuals with OCD ($n = 15$) and non-clinical controls ($n = 15$) that measured shame on the handicap/shame subscale of the YSQ (effect sizes

could not be calculated as the full-text of the article was not available in English). Taken together, results of these studies suggest that general shame is stronger among those with OCD compared to healthy controls.

Finally, two studies compare the degree of general shame between an OCD group and another clinical comparison group. Lochner and colleagues (2005) used a Mann-Whitney test to compare defectiveness/shame scores on the YSQ across an OCD group ($n = 59$) and a TTM group ($n = 26$). The authors reported a higher mean defectiveness/shame score for those with OCD compared to those with TTM (Lochner et al., 2005), with a medium effect size ($r = -.33$). Thus, general shame may be elevated in OCD even as compared to other OCDs, although additional studies are needed. On the contrary, in the study by Noie and colleagues (2010) described above, the OCD group was also compared to an obsessive compulsive personality disorder group ($n = 15$), with no difference in mean shame scores across these two clinical samples. Further research comparing shame across OCD and other clinical comparison groups would contribute to our understanding of whether shame is especially elevated in OCD.

Shame about having a mental illness

Another broad source of shame that may be present in OCD is shame about having a mental illness. This type of shame may be present among anyone suffering from a mental illness. Within OCD, the anecdotal literature suggests that shame of having a mental illness may be especially linked with publicly visible behavioral compulsions (Kim et al., 2014; O'Connor, 2001; Vythilingum & Stein, 2005). For individuals who stigmatize mental illness, there may be a poignant sense of shame spurred by fear that

others may observe this ritualizing process and discover that they are “crazy.” Along these lines, shame about having OCD may be linked, in part, to how visible one’s rituals are. For instance, counting and repeating prayers may be less likely to serve as sources of shame, as compared to washing compulsions that are performed in public. Additionally, this type of shame may also vary based on the degree of insight of the sufferer. For instance, someone with more insight may be more aware that their compulsive behavior is excessive and would be perceived as excessive by others. Thus, strong insight may actually contribute to an increased sense of shame of having a mental illness, compared to those who do not believe their compulsive behavior is excessive. However, these hypotheses remain untested at present. Thus, more empirical research into the nature of compulsion-driven shame of having a mental illness in OCD is warranted.

Symptom-based shame in OCD

Within the context of OCD, symptom-based shame includes shame felt in response to the content of obsessions, or shame felt in response to specific behaviors performed as compulsions. As an example of shame in response to obsessions, McDermott (2006) describes a case study of a middle-aged man who experienced violent intrusive thoughts about harming his children. The patient felt shame “about what the images meant about him as a person and a father,” as he interpreted that having such images meant that he himself was a bad, defective, or evil person (McDermott, 2006, p. 28). A handful of other case and anecdotal descriptions in the OCD literature refer to a similar type of symptom-based shame felt in response to obsessions and interpretations of what an obsession means about oneself (e.g., “I am bad,” “I am sick”) (Abbey, Clopton,

& Humphreys, 2007; Berle & Phillips, 2006; Bram & Bjorgvinsson, 2004; Cogle, Lee, Horowitz, Wolitzky-Taylor, & Telch, 2008; Hyman & Pedrick, 2010; Koblenzer, 1993; Marsanic, Aukst-Margetic, Grgic, & Kusmic, 2011; Monti, Sambvani, & Sacrini, 1998; Newth & Rachman, 2001; Pallanti, 2008; Torres, Lima, & de Abreu Ramos-Cerqueira, 2001).

In addition to clinical and anecdotal references, one empirical study has tested differences in implicit, symptom-based shame related to obsessions across an OCD group ($n = 30$), a BDD group ($n = 30$), a social anxiety disorder (SAD) group ($n = 29$), and a healthy control group ($n = 33$) (Clerkin et al., 2014). Specifically, the authors created a series of implicit association tasks (IATs), designed to tap into disorder-relevant shame, including symptom-based shame related to obsessions (for OCD) and body shame (for BDD). The authors found that the OCD group had greater implicit obsession-related shame associations compared to the other groups (partial $\eta^2 = .06$). This study provides support for the notion that symptom-based shame related to obsessions may be especially relevant and present among those with OCD compared to other groups, including other OCD groups.

Moreover, the degree of symptom-based shame felt in response to one's obsessions may vary depending on the obsessional content (also referred to as the symptom dimension). A number of anecdotal, conceptual, and case descriptions of OCD suggest that shame is especially likely to be felt in response to violent or sexual obsessions (Berle & Phillips, 2006; Cogle et al., 2008; Herbst et al., 2012; Marsanic et al., 2011; Stewart, Hezel, & Stachon, 2012; Torres et al., 2001). To date, the only

empirical study of this issue in a clinical sample (Kim, Lee, & Lee, 2013) revealed no significant correlations of specific OCD symptom dimensions with shame (partial r s all non-significant and ranging from $-.08$ to $.24$). However, only nine of the 57 individuals with OCD in this sample endorsed sexual/religious symptoms as major symptoms, and only one endorsed hoarding as a major symptom. Thus, the analyses were likely underpowered.

Finally, two empirical studies suggest that violent and sexual obsessions are viewed by non-clinical individuals as more shame-worthy than other types of obsessions. Participants in a group of 113 undergraduates gave greater negative social evaluation scores to an OCD vignette involving harming obsessions compared to OCD vignettes involving checking or washing obsessions, with medium to large effects (r s = $-.38$, $-.53$) (Simonds & Thorpe, 2003). Participants in this study also indicated that higher amounts of shame should be felt by the person in the harming vignette compared to the other vignettes, and that they themselves would feel the greatest degree of shame and fear if they had the problems described in the harming vignette compared to checking and washing, again with medium-large effects (r s = $-.44$, $-.40$). In a similar study of 376 healthy adults, a greater number of participants indicated that they would feel shame about, and try to hide, aggressive and religious obsessions, as compared to contamination and ordering/arranging/counting obsessions (Beşiroğlu et al., 2010). Taken together, there is some evidence that symptom-based shame related to obsessions may vary depending on the specific obsessional content. However, more research among clinical samples is needed to test these hypotheses.

Shame as a treatment barrier

Finally, each of the different types of shame experienced in OCD may be maintained, and even exacerbated, by the treatment avoidance and social withdrawal that shame promotes. A large base of clinical observations in the OCD literature have noted that shame appears to lead to avoidance of disclosing symptoms to treatment providers or loved ones (Abbey et al., 2007; Bram & Bjorgvinsson, 2004; Canavera, Wilkins, Pincus, & Ehrenreich-May, 2009; Chavira et al., 2008; Herbst et al., 2012; Kim et al., 2014; Marsanic et al., 2011; Monti et al., 1998; Moritz, 2008; Moritz & Jelinek, 2008; Moritz, Wittekind, Hauschildt, & Timpano, 2011; Newth & Rachman, 2001; Rothenberg, 1998; Salkovskis, 1990; School, 2005; Simonds & Thorpe, 2003; Stewart et al., 2012; Sulkowski, Mariaskin, & Storch, 2011; Vythilingum & Stein, 2005; Williams, Chambless, & Steketee, 1998; Zohar, Fostick, Black, & Lopez-Ibor, 2007). Moreover, a number of authors anecdotally observe that such avoidance is likely to impede social support and social functioning (Abbey et al., 2007; Nymberg & Van Noppen, 1994; Sorensen et al., 2004).

In addition to these clinical reports, a small research base supports the assertion that shame in OCD leads people to avoid disclosing symptoms to treatment providers as well as social supports. In an Internet study of 175 participants meeting criteria for OCD on the self-report version of the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989a), 58.2% of participants indicated that feeling “ashamed of needing help for my problem” acted as a treatment barrier, and 53.2% of the sample indicated that feeling “ashamed of my problems” acted as a treatment barrier (Marques et al., 2010).

These data indicate that various sources of shame act as treatment barriers among at least half of individuals with OCD. Further, in the study of 376 healthy individuals who rated OCD vignettes described above, a greater number of participants indicated that they would be likely to hide religious or aggressive-themed symptoms (i.e., those that appear to be most shame-laden) from family and co-workers (Beşiroğlu et al., 2010). Thus, shame in OCD may promote social withdrawal, in addition to acting as a treatment barrier. Given the vast number of anecdotal references to this phenomenon, more empirical work studying shame as a barrier to treatment and broader support in OCD is needed. This research should include investigation of the potential long-term effects of this avoidance (e.g., maintenance or exacerbation of shame over time), to advance our understanding of the role shame may play within OCD.

Shame within a Cognitive Behavioral Model of OCD

According to traditional cognitive-behavioral models of OCD, obsessions trigger an anxiety response. The literature reviewed above, however, highlights a potential role for *shame* within this model, as well. In particular, individuals with OCD may be especially likely to feel symptom-based shame in response to sexual, violent, or blasphemous obsessions, if they interpret that having such obsessions means that they are a bad person. The second important element in the cognitive-behavioral model of OCD is the consequent behavioral response, whereby individuals perform compulsions as a means of avoiding or neutralizing *anxiety* produced by obsessions (and one's interpretations of obsessions). However, compulsions may be performed to neutralize

shame, as well. In fact, behavioral responses to shame, such as withdrawing or hiding, may outwardly appear quite similar to behavioral responses to anxiety.

Rachman (1994) coined the term *mental pollution* to refer to obsessions that produce a feeling of moral “dirtiness” (Rachman, 1994, p. 311). This concept of mental pollution likely taps into symptom-based shame related to obsessions. Consistent with findings discussed above on shame and OCD symptom dimensions, Rachman (1994) specified that mental pollution is most likely to include inappropriate sexual or aggressive images or blasphemous thoughts. Furthermore, in response to mental pollution, Rachman (1994) describes that individuals complete cleaning compulsions to neutralize the experience, lending conceptual evidence that individuals may perform compulsions in response to *shame*, in addition to anxiety.

To empirically study the concept of mental pollution, Cogle, Lee, Horowitz, Wolitzky-Taylor, and Telch (2008) developed and tested a Mental Pollution Questionnaire (MPQ), which contains items such as “For me, feeling dirty inside and feeling shame go together.” Across two non-clinical samples, the authors gathered data demonstrating that scores on the MPQ were significantly, positively correlated with obsession severity, contamination symptom severity, inflated responsibility symptoms, and OCD-related cognitive tendencies, with medium to large effects (r s ranging from .27 to .51). Furthermore, the authors conducted two multiple regressions demonstrating that scores on the MPQ predicted 7.8% of the variance in obsessing symptoms and 25.4% of the variance in washing symptoms, after controlling for trait guilt, disgust sensitivity, and distress (depression was also controlled when predicting obsessing symptoms) (Cogle et

al., 2008). These data provide evidence within non-clinical samples that the shame-laden concept of mental pollution is correlated with both obsessionality and washing symptom severity. To extend this literature, further research is warranted that explores the role of compulsions in neutralizing shame-based, in addition to anxiety-based, obsessions in OCD.

Additionally, from a cognitive perspective, it is one's interpretation of the obsession, more so than the obsession itself, that leads to distress and the need to complete compulsions to reduce distress (Rachman, 1998; Salkovskis, 1985). A common cognitive bias in OCD that may be related to symptom-based shame is thought-action fusion (TAF). TAF is the belief that having a thought (e.g., about committing a violent act) is morally equivalent to acting on that thought (e.g, actually committing the violent act). Rachman (1993) suggested that TAF amplifies a person's sense of moral responsibility over his or her thoughts, and thus leads to feelings of guilt. Although Rachman (1993) connected TAF primarily to the experience of guilt, which would stem from believing that "the *act of having that thought* is morally bad," it can also be inferred that TAF may enhance shame, when the individual believes that "having these immoral thoughts means that *I am a bad person.*"

To this end, one study tested and found support for a three-way interaction among TAF, obsessions, and shame-proneness in predicting severity of compulsions in a non-clinical sample of 690 undergraduate students (Valentiner & Smith, 2008). Specifically, stronger TAF morality beliefs strengthened the association between obsessions and compulsions, particularly in participants who were more shame-prone. Interestingly, their

results did not support a three-way interaction of obsessions, TAF, and *guilt* in predicting compulsions (Valentiner & Smith, 2008). Although the effect associated with the interaction of TAF, obsessions, and shame was small ($\Delta R^2 = .01$), this finding provides some preliminary evidence within a non-clinical sample that TAF and shame-proneness may interact to predict slightly more severe OCD symptoms. Going forward, it would be interesting to test the somewhat more parsimonious hypothesis that TAF may interact with obsessions (and in particular violent, sexual, or religious obsessions) to predict greater symptom-based shame in OCD sufferers.

Taken together, it may be important for clinicians to clarify with clients what emotions they are feeling in response to their OCD symptoms, and clinicians may need to incorporate shame, in addition to anxiety, into cognitive-behavioral conceptualizations of clients' OCD. Relatedly, it may be important for researchers to investigate the effectiveness of current gold-standard treatments, such as exposure and response prevention (ERP), in reducing shame. While much research supports the effectiveness of ERP in reducing anxiety, empirical investigation is necessary in order to know whether this technique is also effective for shame. It is possible that additional cognitive work may be warranted when the primary emotional response to an obsession is shame. Such research would provide critical treatment information.

Shame in BDD

General shame and body shame in BDD

Shame has been acknowledged as central to BDD since the earliest clinical descriptions in the literature, which labeled it “obsession de la honte du corps,” or obsession with shame of the body (Janet, 1903). Since then, case and anecdotal descriptions have continued to reference a prominent role of shame in BDD (de Ridder, 1997; Koran, Abujaoude, Large, & Serpe, 2008; McWilliams, Whitty, Lydon, & Clarke, 2005; Nachshoni & Kotler, 2007; Parker, 2003; Phillips, 1998, 1999; Rosen, 1995; Schmoll, 2011; Shapiro & Gavin, 2006; Velasco, 2011). Other authors have anecdotally posited that shame may be elevated in those with BDD as compared to those with OCD, and in males with muscle dysmorphia compared to healthy male weightlifters (Olivardia, Pope Jr, & Hudson, 2000; Phillips, 2000). Such anecdotal descriptions of shame in BDD do not typically distinguish between general shame and body shame. Because most descriptions appear to imply that they are describing body shame, and because the empirical literature on either form of shame is sparse, we present the descriptive research on both general and body shame together.

Despite early recognition that shame is a central component of BDD, very few studies have empirically evaluated the degree of shame reported in BDD versus other groups. In a recent study, Kollei, Brunhoeber, Rauh, de Zwaan, and Martin (2012)

compared general shame and body shame measured on the Differential Emotions Scale (DES; Izard, 1977) across healthy controls ($n = 33$) and individuals with BDD ($n = 31$), anorexia nervosa ($n = 32$), and bulimia nervosa ($n = 34$). The authors created the body shame measure by adapting the instructions of the DES so that participants were asked to rate the degree of emotions felt when thinking about one's body. The BDD group reported greater general shame and body shame than healthy controls, with large effects ($d = 1.64$ and 1.74 , respectively), while levels of both types of shame for the BDD group were similar to those in the eating disorders groups (Kollei et al., 2012). Additionally, Clerkin et al. (2014) found that 30 participants with BDD had greater implicit body shame associations (partial $\eta^2 = .04$) compared to those in an OCD group ($n = 30$), a social anxiety disorder group ($n = 29$), and a healthy control group ($n = 33$). The results of this study (for further details, see *Symptom-Based Shame in OCD*) provide additional evidence that body shame may be especially relevant among those with BDD compared to other groups.

The overall lack of empirical research on the degree of either general shame or body shame in BDD may be due, in large part, to the seemingly inherent role of shame in the disorder. More empirical work that clarifies the relative importance of general shame and body shame in BDD, particularly in comparison to individuals with eating disorders, could provide useful information for clinicians aiming to understand their clients' shame experiences and work to reduce them in treatment. Given that shame may be connected to impairment and additional distress, developing more nuanced and targeted treatments for

shame may help to reduce the notably elevated severe outcomes common to those suffering from BDD.

Internally based vs. externally based body shame. Conceptualizations of BDD suggest that body shame may be further understood as either stemming from internal or external sources (Cororve & Gleaves, 2001; Veale, 2002). These two sources of body shame may carry their own distinct considerations. Internal body shame in BDD arises in response to one's internal repugnance of his or her appearance (Cororve & Gleaves, 2001), and it may be closely related to the construct of self-disgust. External body shame in BDD is posited to arise from anticipation of social evaluation and rejection of one's physical appearance (Buhlmann & Wilhelm, 2004; Castle & Phillips, 2006; Cororve & Gleaves, 2001; Kollei et al., 2012; Rosen, 1995; Schmoll, 2011; Veale, 2002), and it appears related to social anxiety. Of note, these two sources of body shame in BDD need not be mutually exclusive.

Of these two potential forms of body shame, internal body shame has been addressed less in the literature. One of the sole mentions of this shame comes from Veale (2002), who described BDD cases in which internal body shame (in particular, preoccupations with body parts such as genitals, which were not publically visible) appears especially prominent and problematic. He notes that treating internal body shame may be more difficult than treating external, socially driven body shame (Veale, 2002). Empirical work in this area would boost our understanding of the importance of internal body shame in BDD.

A more substantial number of anecdotal reports discuss external body shame in the BDD literature. Many such reports note that external, social-evaluative-based body shame in BDD appears to drive social isolation (Buhlmann, Gleiss, Rupf, Zschenderlein, & Kathmann, 2011; Frare et al., 2004; Gilbert, 1997). Social isolation is a profound problem in BDD, where housebound rates may be as high as 31% (Phillips, 1999), and social impairment is reported to be almost universally moderate to severe (Phillips & Diaz, 1997; Phillips et al., 2006). Indeed, social withdrawal in BDD is typically worse than that found in OCD (Frare et al., 2004). Thus, the experience of external body shame may be particularly salient for those with BDD. As seen in the OCD literature, some anecdotal reports describe social withdrawal in BDD as a contributor to worse impairment (Parker, 2003; Schmoll, 2011). Moreover, one study has linked social isolation in BDD to shame, reporting that 94% of a sample of 33 youth with BDD described experiencing social interference that stemmed from “embarrassment and shame over appearance” (Albertini & Phillips, 1999). Despite some attention to how external body shame may drive isolation in BDD (and thus worsen overall shame and impairment), empirical work in this area is notably lacking. Given the potentially central role of body shame, and the possible variations in interventions that might be needed for internal vs. external body shame, greater research in this area may improve our understanding of treatment needs for those with BDD.

Shame as a treatment barrier

In addition to promoting social withdrawal, body shame experienced by those with BDD likely leads to avoidance of disclosing one’s appearance concerns and BDD

symptoms to healthcare providers. This observation is widely noted in clinical and anecdotal descriptions (Buhlmann et al., 2010; Buhlmann, Gleiss, et al., 2011; Dingemans, van Rood, de Groot, & van Furth, 2012; Harth, 2008; Holt, Phillips, Shapiro, & Becker, 2003; Kollei, Schieber, de Zwaan, Svitak, & Martin, 2013; Koran et al., 2008; Mancuso, Knoesen, & Castle, 2010; Phillips, 1998, 1999; Phillips & Crino, 2004; Phillips et al., 1993).

This finding also has been documented through empirical work. Grant, Kim, and Crow (2001) conducted BDD assessments in a psychiatric inpatient sample of 122 individuals. Although none of the individuals had a BDD diagnosis, 16 of these patients met diagnostic criteria for BDD when BDD symptoms were directly assessed (Grant, Kim, & Crow, 2001). The authors interpreted these findings to suggest that, even when already seeking help for other mental health-related problems, individuals with BDD may keep appearance concerns and BDD symptoms secret from mental health providers. Results of two Internet-based studies of treatment barriers in BDD offer further support for this notion (Buhlmann, 2011; Marques, Weingarden, et al., 2011). In a sample of 172 individuals meeting criteria for BDD based on several questions assessing DSM-IV criteria, 50% of participants reported “I am too ashamed to talk about my appearance concerns” (Buhlmann, 2011). Similarly, in a sample of 401 participants meeting self-reported cutoffs for BDD on the BDD Yale-Brown Obsessive Compulsive Scale (BDD Y-BOCS; Phillips, Hollander, Rasmussen, & Aronowitz, 1997), 55.6% of participants endorsed the item “I felt ashamed of my problem” (Marques et al., 2011) in response to inquiries about barriers to treatment seeking. Although limited by the reliance on online

recruitment, self-report, and use of a single, unstandardized item, the results of these two studies suggest that approximately half of those with BDD may avoid seeking treatment due to shame.

As discussed in the OCD section above, avoidance of treatment due to shame is likely to maintain and worsen shame in several ways. First, failure to obtain treatment may hinder people from acquiring accurate information about BDD that could normalize their experience. Further, without receiving treatment, individuals are not likely to address cognitive distortions or the cycle of rituals and avoidance that may maintain shame. Finally, avoidance of treatment seeking likely contributes to feelings of separateness, isolation, and being different (Nymberg & Van Noppen, 1994), and may in turn maintain or promote additional shame.

Shame within a Cognitive Behavioral Model of BDD

Some of the conceptual BDD literature helps to elucidate shame's potential role within the cognitive behavioral model. First, cognitive-behavioral conceptualizations of BDD posit that individuals with BDD process information in a biased manner. Biased information processing is hypothesized to lead to distorted cognitions about appearance and beauty that generate shame and other negative emotions (Buhlmann, Cook, Fama, & Wilhelm, 2007; Buhlmann & Wilhelm, 2004; Buhlmann, Wilhelm, et al., 2011; Didie et al., 2006; Feusner, Neziroglu, Wilhelm, Mancusi, & Bohon, 2010; Veale, 2002; Wetterneck, Teng, & Stanley, 2010). Despite these conceptual models of how processing biases and distorted cognitions may generate body shame in BDD, we were unable to identify any direct empirical investigations of this process.

Although there are no direct empirical tests, conceptual discussions highlight specific information processing biases in BDD that could be relevant to the experience of body shame. For instance, Cororve and Gleaves (2001) posited that selective attention to one's perceived defect and to information supporting the existence of the perceived defect could trigger cognitive distortions about one's appearance (Cororve & Gleaves, 2001; Veale, 2002) that may, in turn, generate body shame. Further, two studies have demonstrated that appearance-based self-discrepancies exist between "actual self" and self-guides (e.g., "ideal self," "should self") in individuals with BDD (Lambrou, Veale, & Wilson, 2011; Veale, Kinderman, Riley, & Lambrou, 2003). Self-discrepancy theory posits that such discrepancies may lead to negative affect, such as shame (Higgins, 1987). Thus, appearance-based self-discrepancies in BDD are a potential source of body shame. However, in neither study of self-discrepancy (Lambrou et al., 2011; Veale et al., 2003) did investigators directly measure shame. Therefore, further research is needed testing whether appearance-based self-discrepancies in BDD are related to body shame, as theory would suggest.

Furthermore, cognitive-behavioral conceptualizations highlight a number of cognitive distortions in BDD that may be especially relevant to the experience of body shame. First, individuals with BDD appear to overvalue the importance of physical appearance (Didie, Kuniega-Pietrzak, & Phillips, 2010; Kollei et al., 2012; Rosen & Ramirez, 1998), which the conceptual literature suggests may be central to shame (Castle & Phillips, 2006; Kollei et al., 2012; McWilliams et al., 2005). Second, BDD sufferers may overgeneralize the meaning of having a defect (e.g., "having an appearance defect

means I'm inadequate/ disgusting/ unlovable") (Cororve & Gleaves, 2001; Rosen, 1995). Such distortions may generate body shame among people with BDD. Third, individuals with BDD hold perfectionistic, "black and white" beliefs about their physical appearance (Veale, Gournay, et al., 1996; Wetterneck et al., 2010) that may make the experience of body shame more likely. Thus, individuals with BDD may experience shame because they hold unattainable, all-or-nothing standards of beauty, compounded by an overgeneralized opinion that any failure of physical attractiveness marks failure as a person.

Consistent with the OCD literature, cognitive-behavioral models of BDD suggest that individuals with BDD engage in compulsive rituals, such as repetitive mirror checking, camouflaging body parts of concern, or measuring body parts, in order to reduce distress caused by preoccupations and related distorted beliefs (Buhlmann & Wilhelm, 2004). Again similar to the OCD literature, little attention has been paid to the potential role of *shame* in motivating these compulsions. However, body shame generated by cognitive distortions about one's appearance may indeed drive some of the behavioral manifestations of BDD, in order to reduce shame and distress (Kollei et al., 2012).

Taken together, the conceptual literature suggests that certain information processing biases generate distorted cognitions about one's appearance. These processing biases and cognitive distortions may contribute to the heightened body shame experienced in BDD. Individuals with BDD may then engage in compulsive rituals aimed at reducing shame and distress. However, empirical work testing each aspect of this

cognitive-behavioral model is sorely needed; our understanding of shame in the cognitive-behavioral conceptualization of BDD is currently wholly reliant on theoretical and anecdotal support.

Shame in Trichotillomania (Hair-Pulling Disorder) and Excoriation (Skin Picking) Disorder

Trichotillomania (TTM) and skin picking (SP) are body-focused repetitive behaviors (BFRBs) that share many phenomenological similarities (Bohne, Keuthen, & Wilhelm, 2005). There is very little clinical or research work on shame in either of these disorders. In fact, our literature searches identified only five empirical papers, 11 conceptual or anecdotal papers, and three unpublished dissertations discussing shame in TTM, and two empirical papers and four conceptual or anecdotal papers discussing shame in SP. Given the small amount of literature and the highly overlapping conceptual models of these two disorders, they are reviewed together here.

General shame in TTM and SP

A handful of literature on TTM (Diefenbach, Tolin, Hannan, Crocetto, & Worhunsky, 2005; Drysdale, Jahoda, & Campbell, 2009; Klipstein & Berman, 2012; Ko, 1999; Lochner et al., 2005; Neal-Barnett, Statom, & Stadulis, 2011; Norberg, Wetterneck, Woods, & Conelea, 2007; O'Sullivan, Mansueto, Lerner, & Miguel, 2000; Telegdy, 2009; Vythilingum & Stein, 2005; Walsh & McDougale, 2001) and SP (Flessner & Woods, 2006; Keuthen et al., 2001; Odlaug & Grant, 2010; Yosipovitch & Samuel, 2008) make anecdotal references to the presence and importance of shame. Typically,

these references do not specify the type of shame experienced, or the specific source of the shame experience. Even fewer studies provide empirical descriptive evidence of the presence of shame in these disorders. In a dissertation study, “shame and secrecy” was derived as an important theme for eight women with TTM, who provided qualitative data on TTM’s impact on quality of life via telephone interviews (Herpsberger, 2012). In a similar study of seven women who described their TTM experiences via focus groups, the authors noted that all participants described shame/embarrassment (Casati, Toner, & Yu, 2000), although the authors did not distinguish between these two affective states.

Consistent with these findings, two studies note that high percentages of patients with TTM endorse feelings of shame. In a chart review of 67 TTM patients, researchers found that 75% of patients discussed feeling shame (Stemberger et al., 2000). Likewise, 89.4% of a sample of 47 TTM patients seen in an anxiety disorders hospital clinic described shame related to their hair pulling (du Toit et al., 2001). It was not clear, however, how shame was measured in this study. Finally, a measure of distress and impairment associated with hair pulling (Hairpulling Distress and Impairment Scale) was validated in a dissertation study of 1189 Internet-recruited hair pullers (Larson, 2007). The authors describe the emergence of a *shame* factor in this measure, suggesting that shame is one primary underlying factor in distress and impairment among hair pullers.

Only one descriptive study of general shame in SP was identified. A study of the Skin Picking Impact Scale (SPIS) included an assessment of self-reported feelings of shame after picking (Keuthen et al., 2001). These shame scores correlated strongly ($r = .51$) with SPIS scores in a clinical sample ($N = 31$), suggesting that picking is related to

subsequent shame. Together, these studies provide an initial, broad look at the potentially high rates of general shame experienced by those with TTM and SP.

In addition to descriptive studies of rates of general shame in TTM and SP, one dissertation and two published studies have compared the degree of general shame between individuals with TTM or SP and college students. In a dissertation study, Noble (2012) administered the self-report Experience of Shame Scale (ESS; Andrews, Qian, & Valentine, 2002) to 286 college students and 114 participants with TTM. Shame on all subscales of the ESS, which includes characterological, behavioral, and bodily, was higher in the TTM compared to the college sample, with large effects (Cohen's *ds* ranging from 1.10 – 1.56) (Noble, 2012). Similarly, in an online study of 733 participants with self-reported TTM, participants' levels of external shame on the Other-As-Shamer Scale (OAS; Goss, Gilbert, & Allan, 1994) were higher than prior reports of scores on this measure in non-clinical college samples (Norberg, Wetterneck et al., 2007). Finally, Keuthen et al. (2000) compared 82 college students who engaged in some degree of skin picking to a clinical sample of 31 self-injurious skin pickers. Although shame was assessed only via a single, retrospective item, those in the clinical sample reported higher shame after skin picking compared to the non-clinical college sample, with a large effect (Cohen's $d = 1.95$) (Keuthen et al., 2000). Taken together, the limited descriptive research on shame in these disorders suggests that general shame may be experienced more among clinical, compared to non-clinical, samples.

On the other hand, results may differ when shame is compared to other related clinical groups. In a study that compared the shame/defectiveness subscale of the Young

Schema Questionnaire across 278 OCD and 54 TTM participants (for further details, see *General Shame in OCD*), shame/defectiveness scores were higher for the OCD group (Lochner et al., 2005). This single result suggests that general shame experienced in TTM may not be as severe as that experienced in OCD, but replication of this type of investigation is needed. Overall, the literature regarding general shame in TTM and SP is highly preliminary.

Symptom-based shame in TTM and SP

Although the majority of references to shame in the TTM and SP literature do not explicitly discuss types or sources of shame, two primary sources of shame for these disorders are implied in the TTM literature: symptom-based shame and secondary body shame. Far less has been written about shame in SP, but it also seems likely that the same two types of shame are primary in SP. Examples of symptom-based shame in TTM and SP would include shame related to pulling or picking behaviors, in addition to post-pulling and post-picking behaviors (e.g., biting hair, chewing scabs, swallowing hair) (Larson, 2007; Swedo & Rapoport, 1991; Vythilingum & Stein, 2005). The conceptual literature also references symptom-based shame that is derived from the belief that hair pulling is a simple habit (as opposed to understanding that it is a complex behavior) and, therefore, that one should be able to control it easily (Keuthen et al., 2001; Larson, 2007).

In her dissertation study, Noble (2012) presented data that behavioral shame (a subscale of the ESS) was greater among 114 participants with TTM compared to 286 college students, with a large effect (Cohen's $d = 1.10$). It is plausible that the behavioral shame in TTM was reflective of symptom-based shame, but this measure did not assess

shame specifically associated with TTM behaviors. Another study compared shame across patients who primarily engaged in focused (i.e., conscious) hair pulling compared to automatic (i.e., outside of conscious awareness) hair pulling (du Toit et al., 2001). The authors found that individuals who primarily engage in focused hair pulling reported more shame than those who primarily engage in automatic hair pulling, with a large effect (estimated Cohen's $d = .78$). This finding suggests that there is shame felt in response to the awareness of the pulling behavior itself. However, it was unclear from this empirical report how shame was measured. Thus, it is difficult to know which specific type of shame is elevated in relation to focused, compared to automatic, hair pulling.

Body shame in TTM and SP

The other specific type of shame that may be prominent in TTM and SP is body shame (Casati et al., 2000; Keuthen et al., 2001). Body shame in TTM and SP may be experienced in relation to the damage done to one's body as a result of hair pulling or skin picking. For instance, a case description of TTM included a quote about "pain and humiliation [felt]... when I look in the mirror and see the consequences of my hair pulling" (Casati et al., 2000, p. 348). Thus, unlike BDD, in which body shame is an inherent part of the disorder's phenomenology itself, body shame in TTM and SP arises secondarily. It is, therefore, likely to be a less universal experience in these disorders (e.g., if one can easily conceal hair loss or skin damage) than it is in BDD, although that remains an empirical question.

In the dissertation study of college students and individuals with TTM described earlier (Noble, 2012), scores on the body shame subscale of the ESS were elevated in participants with TTM compared to controls, with a large effect (Cohen's $d = 1.36$). Additionally, a single published study was identified that also addresses this issue (Stemberger et al., 2000). Using chart reviews of 67 TTM patients, the researchers found a significant, strong correlation ($r = .51$) between reports of shame and reports of feeling unattractive (Stemberger et al., 2000). Taken together, these results offer preliminary evidence of the presence of body shame in TTM. Clearly, however, research testing the presence and role of both symptom-based shame and body shame in TTM and SP is greatly underrepresented. Obtaining such data would help clinicians and researchers better understand the degree of importance of focusing on these two types of shame in treatments of TTM and SP.

Shame as a treatment barrier

As with each of the OCRDs reviewed to this point, shame appears to be a strong contributor to the secrecy, withdrawal, and avoidance behaviors that stand out in TTM and SP. As was noted in these other OCRDs, the secrecy, avoidance, and withdrawal responses to shame may in turn generate feelings of isolation or depression. Such feelings can then maintain or compound the initial shame associated with one's disorder. This cycle can also occur through avoidance of treatment. Shame may act as a treatment barrier in TTM and SP, and subsequent lack of treatment prevents sufferers from obtaining appropriate psycho-education, resources, and the potential symptom reduction from treatment, each of which may maintain shame.

Much of the literature on TTM in particular describes secrecy as a central experience (Diefenbach et al., 2005; Drysdale et al., 2009; Herpsberger, 2012; Ko, 1999; O'Sullivan et al., 2000; Stemberger et al., 2000; Swedo & Rapoport, 1991; Walsh & McDougale, 2001). Many of these discussions directly relate this secrecy to feelings of shame, whereas the link is only implied in others. Primary manifestations of secrecy in TTM include going to great lengths to prevent others from knowing about the behavior (Bohne et al., 2005; Casati et al., 2000; Keuthen et al., 2001; Walsh & McDougale, 2001) or from seeing hair loss (Drysdale et al., 2009; Keuthen et al., 2001; Woods et al., 2006). These lengths include social withdrawal (Diefenbach et al., 2005; Keuthen et al., 2001), avoidance of activities (e.g., outdoor/windy activities, haircuts) (Stemberger et al., 2000), avoidance of intimacy (Keuthen et al., 2001; Stemberger et al., 2000), and avoidance of both psychological treatment and more general medical healthcare (e.g., to avoid having evidence of pulling be discovered in a physical exam) (Keuthen et al., 2001; O'Sullivan et al., 2000; Telegdy, 2009; Walsh & McDougale, 2001; Woods et al., 2006).

Although little empirical work has been conducted to study the relationship between shame and secrecy or avoidance in TTM, two studies provide relevant data. With regard to the assessment of pubic hair pulling, far higher rates of participants (over 50%) endorsed this symptom in an Internet study of 1697 people with self-reported TTM, compared to rates obtained in prior, face-to-face studies of TTM (Woods et al., 2006). Given that pubic hair pulling may be one especially shame-ridden TTM symptom, this different pattern of results found through Internet vs. face-to-face data collection methods suggests that shame-driven secrecy may prevent many individuals with TTM from

endorsing symptoms even in the context of a research study on TTM. A second study used a qualitative focus-group with seven women with TTM and found that all participants described secrecy, via camouflaging hair loss, avoiding activities that would show off damage, or avoiding social and intimate relationships (Casati et al., 2000).

Although shame-driven treatment avoidance has been noted in each of the disorders covered to this point, it may be especially salient in TTM, because hair pulling is a highly under-discussed topic in most settings (e.g., compared to OCD), and it is poorly understood even by medical doctors (Casati et al., 2000). Thus, one negative experience disclosing symptoms to a doctor who does not understand the problem may lead to years of subsequent healthcare avoidance. Although much less is written regarding shame, secrecy, and avoidance in SP, a few papers have anecdotally described highly similar patterns within SP to that described in TTM (Bohne et al., 2005; Keuthen et al., 2001; Yosipovitch & Samuel, 2008).

Taken together, much of the clinical and anecdotal literature demonstrates that secrecy and avoidance are central experiences for many people with TTM or SP. Despite consistent clinical observations supporting this notion, however, research in this area lags behind. Across both TTM and SP, far more additional research is clearly needed into this cyclical relationship of avoidance and shame (Stemberger et al., 2000).

Shame within a Cognitive Behavioral Model of TTM and SP

Although shame is likely to be highly present in both TTM and SP, there is little conceptual or research literature that discusses shame in these disorders. Therefore, perhaps the most critical next step to extending this literature is to conduct descriptive

research assessing the types of shame that are relevant to TTM and SP. Following this initial step, it would be useful to test the potential role of shame within cognitive behavioral models of TTM and SP.

To this end, cognitive behavioral conceptualizations of TTM and SP suggest that pulling and picking behaviors may be triggered by a wide array of factors (e.g., sensory, cognitive, environmental, emotional) (Mansueto, Golomb, Thomas, & Stemberger, 1999). For some individuals, it is plausible that shame may be an emotional trigger for pulling or picking. Moreover, pulling and picking, in addition to post-pulling and post-picking behaviors (e.g., chewing hair, biting roots, chewing scabs), are likely to generate symptom-based shame. Thus, a cycle may be created in which BFRBs generate shame, which in turn acts as a trigger for additional engagement in BFRBs. Moreover, damage done to the body as a result of these behaviors may generate secondary body shame, which may also exacerbate pulling or picking as a way of reducing negative affect. Research specifically assessing the presence and impact of both symptom-based and body shame within cognitive behavioral models of TTM and SP, as well as research investigating shame as an affective trigger of BFRBs, would further our ability to incorporate these potentially important constructs into conceptualizations and treatments of TTM and SP.

Shame in Hoarding Disorder

Very little literature on hoarding disorder describes the role of shame. Of the literature that does mention shame, there are conflicting opinions. For instance, some of the earliest descriptions of hoarding behavior, which was originally referred to as Diogenes' Syndrome (Clark, Mankikar, & Gray, 1975), describe a lack of shame as prominent to the disorder. More recent anecdotal reports, however, do mention shame as a component of hoarding (Frost & Hristova, 2011; Schmalisch, Bratiotis, & Muroff, 2010). These later anecdotal reports describe the experience of both symptom-based shame felt in response to saving behaviors (Frost & Hristova, 2011; Schmalisch et al., 2010) as well as shame of having a mental illness (Schmalisch et al., 2010). In particular, individuals who hoard often hide their home from outsiders (Frost & Hristova, 2011), which may in part reflect symptom-based shame about saving behaviors. Hiding one's home, however, may also reflect fear of eviction or legal trouble.

The clinical literature on hoarding disorder does contain some recommendations relevant to shame. First, group treatments for hoarding disorder have been described as essential to alleviating shame, in addition to alleviating the social isolation that may accompany this disorder (Schmalisch et al., 2010). Second, although it can be difficult for clinicians new to hoarding to respond with neutrality to hoarding environments, neutral, non-disgusted responses are seen as central to reducing shame in hoarding treatment

(Frost & Hristova, 2011). Finally, clinicians who work with family members of those who hoard should be aware of the potential presence of shame among family members (Tolin, Frost, Steketee, & Fitch, 2008; Wilbram, Kellett, & Beail, 2008). Clinicians in this circumstance should attend to both family members' shame as well as how family members' shame and rejection may affect the individual who hoards. In order to empirically validate these clinical recommendations, it is important going forward for researchers to test the relationship between these clinical variables and the experience of shame among patients who hoard.

To the best of our knowledge, only one empirical study has published data on shame in hoarding disorder. In this study, researchers conducted structured interviews with 15 people with hoarding disorder (Seedat & Stein, 2002). Of these 15 participants, one person mentioned "shame/embarrassment" as a central emotion experienced (Seedat & Stein, 2002). The report of this study does not specify how shame was measured, whether shame and embarrassment were distinguished (as they were mentioned together in the paper), or what the source of the person's shame was. Taken together, there is a great need for additional empirical data on the roles of general shame, symptom-based shame, and shame of having a mental illness in hoarding disorder.

Shame within a Cognitive Behavioral Model of Hoarding Disorder

Of all the OCRDs, the literature on shame in hoarding disorder is most notably scarce. Thus, the next critical step in extending this literature is to conduct descriptive research assessing whether or not shame is central to the experience of hoarding disorder. If evidence suggests shame is important, research identifying the types of shame involved

in hoarding disorder will also be an additional next step. Without this fundamental empirical information, it is difficult to contextualize the role of shame within cognitive behavioral theory of hoarding disorder.

The conceptual literature does underscore one cognitive variable that may be related to shame in hoarding disorder: the degree of insight into hoarding behavior as problematic or excessive. Insight can vary tremendously across people who hoard (Tolin et al., 2008; Wilbram et al., 2008). In contrast to OCD, many individuals with hoarding disorder experience their symptoms as ego-syntonic (Wilbram et al., 2008). For example, people who hoard may identify as environmentalists and perceive that their saving is in line with environmental efforts. Others may identify as creative and believe that saving items for non-specific future projects is a mark of their creativity. It is plausible that individuals with poorer insight, for whom hoarding is more ego-syntonic, experience little symptom-based shame. Research directly studying how insight and attitudes about saving correlate with shame in hoarding disorder is needed to evaluate this possibility.

Conclusions

As highlighted in this review, the role of shame across the OCRDs is an area that deserves additional attention. The anecdotal and clinical literature demonstrates that a number of different types of shame are relevant in the OCRDs. Most broadly, individuals with each of these disorders may experience general shame (i.e., about oneself as broadly bad, unworthy, or defective) and shame about having a mental illness. These types of shame are not unique to the OCRDs and may be commonly seen in broader clinical contexts. Symptom-based shame appears potentially more specific to the OCRDs. In OCD, symptom-based shame may be especially triggered by the experience of violent, sexual, or blasphemous obsessions and one's interpretation of what having such obsessions means about him- or herself. In TTM and SP, symptom-based shame may be related to pulling, picking, and post-pulling/picking behaviors performed in the context of the disorder (e.g., biting, chewing). In hoarding disorder, symptom-based shame may arise in response to beliefs about being defective due to living with extreme clutter. Lastly, body shame may be experienced by individuals with BDD, TTM, and SP. Within BDD, body shame appears to be central and inherent to the disorder. On the other hand, in TTM and SP body shame may arise as a secondary response to the damage done to oneself as a result of BFRBs. Thus, body shame is likely to be a less pervasive experience in TTM and SP compared to BDD.

To date, most of the knowledge we have on shame in the OCRDs comes from clinical, conceptual, and anecdotal work. The small amount of existing empirical work does not typically assess specific types of shame arising from different sources, instead assessing shame as a general construct. Indeed, much of the empirical work on shame to date uses broad-brush methods of asking about shame in a single item. Moreover, although our conceptual understanding of the role of shame within OCD and BDD is somewhat more developed than in TTM, SP, and hoarding disorder, even within OCD and BDD, we largely lack research that empirically tests conceptual hypotheses about the role of shame. Research that investigates the specific roles of shame within the conceptual models for these OCRDs would advance our understanding of, and consequently our ability to treat, OCD and BDD.

Recommendations for Future Research

Based on these and other limitations of the existing research, we make the following recommendations to address these gaps:

When testing hypotheses related to shame in OCRDs empirically, it is important for researchers to consider the types of shame (e.g., general shame, symptom-based shame, etc.) relevant to their research question, and to choose measures in a targeted manner.

When available, researchers should choose validated measures of shame to include in research, rather than using single-item measures that directly ask participants to rate shame (or shame and embarrassment/guilt).

With regard to TTM, SP, and hoarding disorder in particular, the literature on shame is in its infancy. Thus, across these disorders, descriptive research assessing the types of shame that are relevant to the disorders would be a useful next step.

Within OCD, research is needed testing the cycle of cognitive distortions about obsessions leading to symptom-based shame, which in turn leads to compulsions aimed at reducing shame.

If shame related to obsessions does indeed play a prominent role in withdrawal and compulsions, it may be important to investigate whether current treatments for OCD (e.g., ERP) sufficiently reduce shame, in addition to anxiety. If not, research investigating ways to improve treatment of shame in OCD, for example, by incorporating shame modules from third-wave behavioral therapies (e.g., Acceptance and Commitment Therapy [ACT], Dialectical Behavior Therapy [DBT], Compassion-Focused Therapy [CFT]), may be needed.

Within BDD, research is needed testing the relationship between information processing biases, cognitive distortions, and shame, as well as the relationship between shame, withdrawal, and compulsions.

Given shame's relationship to social and occupational withdrawal, depression, and suicidality within the broader emotions literature, research that investigates shame as a potential risk factor for these negative outcomes within the OCRDs is merited.

Research that elucidates the relationship between insight and shame across the OCRDs would provide useful clinical knowledge about the relative importance of addressing insight in treatment, in conjunction with addressing shame. In most of the

OCRDs, symptoms are ego-dystonic. It would be expected that more ego-dystonic symptoms would generate greater shame, as the sufferer would experience the symptom as clashing with their self-concept. Relatedly, it is possible that more conscious engagement in BFRBs within TTM and SP would be associated with greater shame than automatic engagement in BFRBs. On the other hand, individuals with BDD who have poorer insight are less likely to recognize that their appearance preoccupations are psychological, and thus may experience *more* intense body shame. Although plausible, these hypotheses remain untested; thus, research evaluating the role of insight/conscious awareness of symptoms in relation to shame is needed.

Research that tests the hypothesized role of shame as a barrier to treatment and support within each of the OCRDs is greatly needed. Empirical support for shame as a treatment barrier would emphasize the importance of targeting shame among those with OCRDs, in order to promote support-seeking. This could be done in treatment, with those for whom initial shame did not prevent treatment-seeking, and it could also be done on a community level, through spreading public and professional awareness and accurate information about these mental illnesses.

Clinical Implications

Given the potential role of shame in the OCRDs, attention to shame may enhance the effectiveness of treatments for this disorder. Clinical implications of the literature reviewed above, as well as the broader literature regarding treatment of shame, are presented below.

Clinicians who work with OCRDs should be prepared to provide psychoeducation to clients early in treatment, as obtaining accurate, objective information can serve as a powerful normalizing agent for many sufferers.

Clients may also experience substantial relief from shame by joining therapy groups where they can meet others suffering from the same disorder. Likewise, attendance at conferences and retreats (e.g., Trichotillomania Learning Center [TLC] Annual Conference/Retreat, International OCD Foundation Annual Conference) provides an opportunity to meet others with the same disorder in addition to a range of knowledgeable professionals. One study of participant responses to the TLC annual retreat suggested that attendance may aid in shame reduction (Lochner, Stein, Raikes, & Pearson, 2013).

Increasing education for mental health and medical professionals about the OCRDs and how shame accompanies these disorders may increase attention to these issues in clinical settings, and may reduce the shame-based treatment barriers that individuals with OCRDs currently face.

As the OCRDs may be poorly understood even within the mental health and medical community, it is quite possible that clients have had negative or shaming experiences with mental health or medical professionals in the past, making it especially important that clinicians respond with compassion and knowledge. To this end, clinicians should be attentive to providing and receiving information in a neutral, non-judgmental manner, especially when clients disclose potentially shame-ridden symptoms. Non-judgmental, knowledgeable, and compassionate responses can be achieved through

normalizing the information disclosed by the client, and through maintaining neutral facial expressions and non-verbal cues during disclosure and home visits (e.g., with hoarding disorder clients). A positive and informative assessment with a knowledgeable clinician likely has the potential to be a key opportunity to reduce shame.

Clinicians should consider whether addressing shame is a relevant goal to incorporate into treatment for OCRD clients. Third wave behavior therapies (e.g., ACT, DBT, CFT) may provide useful shame modules that could be incorporated into current OCRD treatments.

References

- Abbey, R. D., Clopton, J. R., & Humphreys, J. D. (2007). Obsessive-compulsive disorder and romantic functioning. *Journal of Clinical Psychology, 63*, 1181-1192. doi: 10.1002/jclp.20423
- Abramowitz, J. S. (2004). Treatment of obsessive-compulsive disorder in patients who have comorbid major depression. *Journal of Clinical Psychology, 60*, 1133-1141. doi: 10.1002/jclp.20078
- Albert, U., Maina, G., Bogetto, F., Chiarle, A., & Mataix-Cols, D. (2010). Clinical predictors of health-related quality of life in obsessive-compulsive disorder. *Comprehensive Psychiatry, 51*, 193-200. doi: 10.1016/j.comppsy.2009.03.004
- Albertini, R. S., & Phillips, K. A. (1999). Thirty-three cases of body dysmorphic disorder in children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 38*, 453-459. doi: 10.1097/00004583-199904000-00019
- American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders (4th ed.)*. Washington, DC: American Psychiatric Association.
- American Psychiatric Association. (2013). *Diagnostic and statistical Manual of Mental Disorders (5th ed.)*. Washington, DC: American Psychiatric Association.
- Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame Scale. *British Journal of Clinical Psychology, 41*, 29-42. doi: 10.1348/014466502163778
- Andrews, G., Slade, T., & Issakidis, C. (2002). Deconstructing current comorbidity: Data from the Australian National Survey of Mental Health and Well-Being. *British Journal of Psychiatry, 181*, 306-314. doi: 10.1192/bjp.181.4.306
- Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment, 10*, 176-181. doi: 10.1037/1040-3590.10.2.176
- Arbuckle, J. L. (2011). Amos (Version 20.0). Chicago, IL: IBM SPSS.

- Arnold, L. M., McElroy, S. L., Mutasim, D. F., Dwight, M. M., Lamerson, C. L., & Morris, E. M. (1998). Characteristics of 34 adults with psychogenic excoriation. *Journal of Clinical Psychiatry, 59*, 509-514. doi: <http://dx.doi.org/10.4088/JCP.v59n1003>
- Batterham, P. J., Christensen, H., & Cleave, A. L. (2013). Anxiety symptoms as precursors of major depression and suicidal ideation. *Depression and Anxiety, 30*, 908-916.
- Becker, M. P., Nitsch, A. M., Schlosser, R., Koch, K., Schachtzabel, C., Wagner, G., . . . Straube, T. (2013). Altered emotional and BOLD responses to negative, positive and ambiguous performance feedback in OCD. *Social Cognitive and Affective Neuroscience, 1-7*. doi: 10.1093/scan/nst095
- Berle, D., & Phillips, E. S. (2006). Disgust and obsessive-compulsive disorder: An update. *Psychiatry: Interpersonal and Biological Processes, 69*, 228-238. doi: 10.1521/psyc.2006.69.3.228
- Beşiroğlu, L., Akman, N., Selvi, Y., Aydin, A., Boysan, M., & Özbebit, Ö. (2010). Obsesif-kompulsif belirti kategorileri hakkında ruh sağlığı bilgisi. / Mental health literacy concerning categories of obsessive-compulsive symptoms. *Nöropsikiyatri Arşivi / Archives of Neuropsychiatry, 47*, 133-138. doi: 10.4274/npa.5397
- Bienvenu, O. J., Samuels, J. F., Riddle, M. A., Hoehn-Saric, R., Liang, K.-Y., Cullen, B. A. M., . . . Nestadt, G. (2000). The relationship of obsessive-compulsive disorder to possible spectrum disorders: Results from a family study. *Biological Psychiatry, 48*, 287-293. doi: 10.1016/s0006-3223(00)00831-3
- Birnbaum, H. G., Kessler, R. C., Kelley, D., Ben-Hamadi, R., Joish, V. N., & Greenberg, P. E. (2010). Employer burden of mild, moderate, and severe major depressive disorder: Mental health services utilization and costs, and work performance. *Depression and Anxiety, 27*, 78-89. doi: 10.1002/da.20580
- Bjornsson, A. S., Dyck, I., Moitra, E., Stout, R. L., Weisberg, R. B., Keller, M. B., & Phillips, K. A. (2011). The clinical course of body dysmorphic disorder in the Harvard/Brown Anxiety Research Project (HARP). *Journal of Nervous and Mental Disease, 199*, 55-57. doi: 10.1097/NMD.0b013e31820448f7
- Bohne, A., Keuthen, N., & Wilhelm, S. (2005). Pathologic hairpulling, skin picking, and nail biting. *Annals of Clinical Psychiatry, 17*, 227-232. doi: 10.1080/10401230500295354
- Bram, A., & Bjorgvinsson, T. (2004). A psychodynamic clinician's foray into cognitive-behavioral therapy utilizing exposure-response prevention for obsessive-compulsive disorder. *American Journal of Psychotherapy, 58*, 304-320.

- Brown, T. A., Chorpita, B. F., Korotitsch, W., & Barlow, D. H. (1997). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. *Behaviour Research and Therapy*, *35*, 79-89. doi: [http://dx.doi.org/10.1016/S0005-7967\(96\)00068-X](http://dx.doi.org/10.1016/S0005-7967(96)00068-X)
- Buhlmann, U. (2011). Treatment barriers for individuals with body dysmorphic disorder: An Internet survey. *Journal of Nervous and Mental Disease*, *199*, 268-271. doi: [10.1097/NMD.0b013e31821245ce](https://doi.org/10.1097/NMD.0b013e31821245ce)
- Buhlmann, U., Cook, L. M., Fama, J. M., & Wilhelm, S. (2007). Perceived teasing experiences in body dysmorphic disorder. *Body Image*, *4*, 381-385. doi: [10.1016/j.bodyim.2007.06.004](https://doi.org/10.1016/j.bodyim.2007.06.004)
- Buhlmann, U., Glaesmer, H., Mewes, R., Fama, J. M., Wilhelm, S., Brähler, E., & Rief, W. (2010). Updates on the prevalence of body dysmorphic disorder: A population-based survey. *Psychiatry Research*, *178*, 171-175. doi: [10.1016/j.psychres.2009.05.002](https://doi.org/10.1016/j.psychres.2009.05.002)
- Buhlmann, U., Gleiss, M. J. L., Rupf, L., Zschenderlein, K., & Kathmann, N. (2011). Modifying emotion recognition deficits in body dysmorphic disorder: An experimental investigation. *Depression and Anxiety*, *28*, 924-931. doi: [10.1002/da.20887](https://doi.org/10.1002/da.20887)
- Buhlmann, U., & Wilhelm, S. (2004). Cognitive factors in body dysmorphic disorder. *Psychiatric Annals*, *34*, 922-926. doi: <http://dx.doi.org/10.3928/0048-5713-20041201-14>
- Buhlmann, U., Wilhelm, S., Glaesmer, H., Mewes, R., Brähler, E., & Rief, W. (2011). Perceived appearance-related teasing in body dysmorphic disorder: A population-based survey. *International Journal of Cognitive Therapy*, *4*, 342-348. doi: [10.1521/ijct.2011.4.4.342](https://doi.org/10.1521/ijct.2011.4.4.342)
- Canavera, K. E., Wilkins, K. C., Pincus, D. B., & Ehrenreich-May, J. T. (2009). Parent-child agreement in the assessment of obsessive-compulsive disorder. *Journal of Clinical Child and Adolescent Psychology*, *38*, 909-915. doi: [10.1080/15374410903258975](https://doi.org/10.1080/15374410903258975)
- Casati, J., Toner, B. B., & Yu, B. (2000). Psychosocial issues for women with trichotillomania. *Comprehensive Psychiatry*, *41*, 344-351. doi: [10.1053/comp.2000.9012](https://doi.org/10.1053/comp.2000.9012)
- Castle, D. J., & Phillips, K. A. (2006). Obsessive-compulsive spectrum of disorders: A defensible construct? *Australian and New Zealand Journal of Psychiatry*, *40*, 114-120. doi: [10.1111/j.1440-1614.2006.01757.x](https://doi.org/10.1111/j.1440-1614.2006.01757.x)

- Chavira, D. A., Garrido, H., Bagnarello, M., Azzam, A., Reus, V. I., & Mathews, C. A. (2008). A comparative study of obsessive-compulsive disorder in Costa Rica and the United States. *Depression and Anxiety, 25*, 609-619. doi: 10.1002/da.20357
- Christenson, G. A., Mackenzie, T. B., & Mitchell, J. E. (1991). Characteristics of 60 adult hair pullers. *The American Journal of Psychiatry, 148*, 365-370.
- Cisler, J. M., Brady, R. E., Olatunji, B. O., & Lohr, J. M. (2010). Disgust and obsessive beliefs in contamination-related OCD. *Cognitive Therapy and Research, 34*, 439-448. doi: 10.1007/s10608-009-9253-y
- Cisler, J. M., Olatunji, B. O., & Lohr, J. M. (2009). Disgust, fear, and the anxiety disorders: A critical review. *Clinical Psychology Review, 29*, 34-46. doi: 10.1016/j.cpr.2008.09.007
- Clark, A. N., Mankikar, G. D., & Gray, I. (1975). Diogenes syndrome. A clinical study of gross neglect in old age. *Lancet, 1*, 366-368. doi: [http://dx.doi.org/10.1016/S0140-6736\(75\)91280-5](http://dx.doi.org/10.1016/S0140-6736(75)91280-5)
- Clerkin, E. M., Teachman, B. A., Smith, A. R., & Buhlmann, U. (2014). Specificity of implicit-shame associations: Comparison across body dysmorphic, obsessive-compulsive, and social anxiety disorders. *Clinical Psychological Science, 2*, 1-16. doi: 10.1177/2167702614524944
- Coles, M. E., Cook, L. M., & Blake, T. R. (2007). Assessing obsessive compulsive symptoms and cognitions on the internet: Evidence for the comparability of paper and Internet administration. *Behaviour Research and Therapy, 45*, 2232-2240. doi: 10.1016/j.brat.2006.12.009
- Cororve, M. B., & Gleaves, D. H. (2001). Body dysmorphic disorder: A review of conceptualizations, assessment, and treatment strategies. *Clinical Psychology Review, 21*, 949-970. doi: 10.1016/s0272-7358(00)00075-1
- Corrigan, P. W., Larson, J. E., & Kuwabara, S. A. (2010). Social psychology of the stigma of mental illness: Public and self-stigma models. In J. E. M. J. P. Tangney (Ed.), *Social psychological foundations of clinical psychology* (pp. 51-68). New York, NY, US: Guilford Press.
- Cogle, J. R., Lee, H.-J., Horowitz, J. D., Wolitzky-Taylor, K. B., & Telch, M. J. (2008). An exploration of the relationship between mental pollution and OCD symptoms. *Journal of Behavior Therapy and Experimental Psychiatry, 39*, 340-353. doi: 10.1016/j.jbtep.2007.08.007
- Davey, G. C. L. (2011). Disgust: The disease-avoidance emotion and its dysfunctions. *Phil. Trans. R. Soc. B., 366*, 3453-3465. doi: 10.1098/rstb.2011.0039

- de Ridder, A. J. (1997). I see, I see what you don't see (body dysmorphic syndrome). *Nederlands Tijdschrift Voor Geneeskunde*, *141*, 225-227.
- Dearing, R. L., & Tangney, J. P. (Eds.). (2011). *Shame in the therapy hour*. Washington, DC: American Psychological Association.
- Derogatis, L. R., Lipman, R. S., & Covi, L. (1973). SCL-90: An outpatient psychiatric rating scale - Preliminary report. *Psychopharmacology Bulletin*, *9*, 13-28.
- Didie, E. R., Kuniega-Pietrzak, T., & Phillips, K. A. (2010). Body image in patients with body dysmorphic disorder: Evaluations of and investment in appearance, health/illness, and fitness. *Body Image*, *7*, 66-69. doi: 10.1016/j.bodyim.2009.09.007
- Didie, E. R., Menard, W., Stern, A. P., & Phillips, K. A. (2008). Occupational functioning and impairment in adults with body dysmorphic disorder. *Comprehensive Psychiatry*, *49*, 561-569. doi: 10.1016/j.comppsy.2008.04.003
- Didie, E. R., Pinto, A., Mancebo, M., Rasmussen, S. A., Phillips, K. A., Walters, M. M., . . . Eisen, J. L. (2007). A comparison of quality of life and psychosocial functioning in obsessive-compulsive disorder and body dysmorphic disorder. *Annals of Clinical Psychiatry*, *19*, 181-186. doi: 10.1080/10401230701468685
- Didie, E. R., Tortolani, C. C., Pope, C. G., Menard, W., Fay, C., & Phillips, K. A. (2006). Childhood abuse and neglect in body dysmorphic disorder. *Child Abuse & Neglect*, *30*, 1105-1115. doi: 10.1016/j.chiabu.2006.03.007
- Diefenbach, G. J., Tolin, D. F., Hannan, S., Crocetto, J., & Worhunsky, P. (2005). Trichotillomania: Impact on psychosocial functioning and quality of life. *Behaviour Research and Therapy*, *43*, 869-884. doi: 10.1016/j.brat.2004.06.010
- Dingemans, A. E., van Rood, Y. R., de Groot, I., & van Furth, E. F. (2012). Body dysmorphic disorder in patients with an eating disorder: Prevalence and characteristics. *International Journal of Eating Disorders*, *45*, 562-569. doi: 10.1002/eat.20972
- Drysdale, E., Jahoda, A., & Campbell, E. (2009). The manipulation of arousal on the intensity of urges to pull hair in a 16 year old female with trichotillomania: A single case study. *Behavioural and Cognitive Psychotherapy*, *37*, 115-120. doi: 10.1017/s1352465808004712
- du Toit, P. L., van Kradenburg, J., Niehaus, D. J. H., & Stein, D. J. (2001). Characteristics and phenomenology of hair-pulling: An exploration of subtypes. *Comprehensive Psychiatry*, *42*, 247-256. doi: 10.1053/comp.2001.23134

- Eisen, J. L., Mancebo, M. A., Pinto, A., Coles, M. E., Pagano, M. E., Stout, R., & Rasmussen, S. A. (2006). Impact of obsessive-compulsive disorder on quality of life. *Comprehensive Psychiatry*, *47*, 270-275. doi: 10.1016/j.comppsy.2005.11.006
- Fawcett, J. (2013). Suicide and anxiety in DSM-5. *30*, 898-901.
- Fergus, T. A., Valentiner, D. P., McGrath, P. B., & Jencius, S. (2010). Shame- and guilt-proneness: Relationships with anxiety disorder symptoms in a clinical sample. *Journal of Anxiety Disorders*, *24*, 811-815. doi: 10.1016/j.janxdis.2010.06.002
- Feusner, J. D., Neziroglu, F., Wilhelm, S., Mancusi, L., & Bohon, C. (2010). What causes BDD: Research findings and a proposed model. *Psychiatric Annals*, *40*, 349-355. doi: 10.3928/00485713-20100701-08
- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1995). *The structured clinical interview for the DSM-IV axis I disorders*. Biometrics Research Department. New York Psychiatric Institute. New York.
- Flessner, C. A., & Woods, D. W. (2006). Phenomenological Characteristics, Social Problems, and the Economic Impact Associated With Chronic Skin Picking. *Behavior Modification*, *30*, 944-963. doi: 10.1177/0145445506294083
- Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P. M. (2002). The Obsessive-Compulsive Inventory: Development and validation of a short version. *Psychological Assessment*, *14*, 485-495. doi: 10.1037/1040-3590.14.4.485
- Fontenelle, L. F., Telles, L. L., Nazar, B. P., De Menezes, G. B., Do Nascimento, A. L., Mendlowicz, M. V., & Versiani, M. (2006). A sociodemographic, phenomenological, and long-term follow-up study of patients with body dysmorphic disorder in Brazil. *International Journal of Psychiatry in Medicine*, *36*, 243-259.
- Frare, F., Perugi, G., Ruffolo, G., & Toni, C. (2004). Obsessive-compulsive disorder and body dysmorphic disorder: A comparison of clinical features. *European Psychiatry*, *19*, 292-298. doi: 10.1016/j.eurpsy.2004.04.014
- Frost, R. O., & Hristova, V. (2011). Assessment of hoarding. *Journal of Clinical Psychology*, *67*, 456-466. doi: 10.1002/jclp.20790
- Gilbert, P. (1997). The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy. *British Journal of Medical Psychology*, *70*, 113-147. doi: 10.1111/j.2044-8341.1997.tb01893.x

- Gilbert, P. (2002). Body Shame: A biopsychosocial conceptualisation and overview, with treatment implications. In P. Gilbert & J. Miles (Eds.), *Body Shame: Conceptualisation, Research and Treatment* (pp. 3-54). New York: Brunner-Routledge.
- Goodman, W. K., Price, L. H., Rasmussen, S. A., & Mazure, C. (1989a). The Yale-Brown Obsessive Compulsive Scale: I. Development, use, and reliability. *Archives of General Psychiatry*, *46*, 1006-1011.
- Goodman, W. K., Price, L. H., Rasmussen, S. A., & Mazure, C. (1989b). The Yale-Brown Obsessive Compulsive Scale: II. Validity. *Archives of General Psychiatry*, *46*, 1012-1016.
- Goss, K., Gilbert, P., & Allan, S. (1994). An exploration of shame measures: I. The Other As Shamer Scale. *Personality and Individual Differences*, *17*, 713-717. doi: 10.1016/0191-8869(94)90149-x
- Grant, J. E., Kim, S. W., & Crow, S. J. (2001). Prevalence and clinical features of body dysmorphic disorder in adolescent and adult psychiatric inpatients. *Journal of Clinical Psychiatry*, *62*, 517-522. doi: 10.4088/JCP.v62n07a03
- Harth, W. (2008). Psychosomatic dermatology (psychodermatology). *Journal der Deutschen Dermatologischen Gesellschaft*, *6*, 67-76. doi: 10.1111/j.1610-0387.2007.006313.x
- Hastings, M. E., Northman, L. M., & Tangney, J. P. (2000). Shame, guilt, and suicide. In T. Joiner & D. M. Rudd (Eds.), *Suicide science: Expanding the boundaries*. (pp. 67-79). New York, NY: Kluwer Academic/Plenum Publishers.
- Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *44*, 227-239. doi: <http://dx.doi.org/10.1348/014466505X29657>
- Herbst, N., Voderholzer, U., Stelzer, N., Knaevelsrud, C., Hertenstein, E., Schlegl, S., . . . Kulz, A. K. (2012). The potential of telemental health applications for obsessive compulsive disorder. *Clinical Psychology Review*, *32*, 454-466. doi: 10.1016/j.cpr.2012.04.005
- Hersberger, C. H. (2012). *An examination of quality of life in women with compulsive hair pulling*. (Psy.D. Dissertation), Rutgers the State University of New Jersey. (3546909)
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, *94*, 319-340. doi: 10.1037/0033-295x.94.3.319

- Hollander, E., & Benzaquen, S. (1997). The obsessive-compulsive spectrum disorders. *International Review of Psychiatry, 9*, 99-110. doi: 10.1080/09540269775628
- Hollander, E., Greenwald, S., Neville, D., Johnson, J., Hornig, C. D., & Weissman, M. M. (1996). Uncomplicated and comorbid obsessive-compulsive disorder in an epidemiologic sample. *Depression and Anxiety, 4*, 111-119.
- Holt, D. J., Phillips, K. A., Shapiro, E. R., & Becker, A. E. (2003). "My face is my fate": Biological and psychosocial approaches to the treatment of a woman with obsessions and delusions. *Harvard Review of Psychiatry, 11*, 142-154. doi: 10.1080/10673220303951
- Hyman, B. M., & Pedrick, C. (2010). *The OCD workbook: Your guide to breaking free from obsessive-compulsive disorder* (3rd ed.). Oakland, CA, US: New Harbinger Publications.
- Izard, C. E. (1977). *Human emotions*. New York: Plenum Press.
- Janet, P. (1903). *Les Obsessions et la Psychasthenie*. Paris: Felix Alcan
- Kamath, P., Reddy, Y. C. J., & Kandavel, T. (2007). Suicidal behavior in obsessive-compulsive disorder. *Journal of Clinical Psychiatry, 68*, 1741-1750. doi: 10.4088/JCP.v68n1114
- Keuthen, N. J., Deckersbach, T., Wilhelm, S., Engelhard, I., Forker, A., O'Sullivan, R. L., . . . Baer, L. (2001). The Skin Picking Impact Scale (SPIS): Scale development and psychometric analyses. *Psychosomatics: Journal of Consultation and Liaison Psychiatry, 42*, 397-403. doi: 10.1176/appi.psy.42.5.397
- Keuthen, N. J., Deckersbach, T., Wilhelm, S., Hale, E., Fraim, C., Baer, L., . . . Jenike, M. A. (2000). Repetitive skin-picking in a student population and comparison with a sample of self-injurious skin pickers. *Psychosomatics: Journal of Consultation and Liaison Psychiatry, 41*, 210-215. doi: 10.1176/appi.psy.41.3.210
- Kim, H.-Y. (2013). Statistical notes for clinical researchers: assessing normal distribution using skewness and kurtosis. *Restorative Dentistry & Endodontics, 38*, 52-54. doi: 10.5395/rde.2013.38.1.52
- Kim, J. E., Lee, S. W., & Lee, S. J. (2014). Relationship between early maladaptive schemas and symptom dimensions in patients with obsessive-compulsive disorder. *Psychiatry Research, 215*, 134-140. doi: 10.1016/j.psychres.2013.07.036
- Klipstein, K. G., & Berman, L. (2012). Bupropion XL for the sustained treatment of trichotillomania. *Journal of Clinical Psychopharmacology, 32*, 298-299. doi: 10.1097/JCP.0b013e31824858f7

- Ko, S. M. (1999). Under-diagnosed psychiatric syndrom. I: Trichotillomania. *Ann Acad Med Singapore*, 28, 279-281.
- Koblenzer, C. S. (1993). Psychiatric syndromes of interest to dermatologists. *International Journal of Dermatology*, 32, 82-88. doi: <http://dx.doi.org/10.1111/j.1365-4362.1993.tb01440.x>
- Kollei, I., Brunhoeber, S., Rauh, E., de Zwaan, M., & Martin, A. (2012). Body image, emotions and thought control strategies in body dysmorphic disorder compared to eating disorders and healthy controls. *Journal of Psychosomatic Research*, 72, 321-327. doi: 10.1016/j.jpsychores.2011.12.002
- Kollei, I., Schieber, K., de Zwaan, M., Svitak, M., & Martin, A. (2013). Body dysmorphic disorder and nonweight-related body image concerns in individuals with eating disorders. *International Journal of Eating Disorders*, 46, 52-59. doi: 10.1002/eat.22067
- Kongsved, S. M., Basnov, M., Holm-Christensen, K., & Hjollund, N. H. (2007). Response rate and completeness of questionnaires: A randomized study of Internet versus paper-and-pencil versions. *Journal of Medical Internet Research*, 9, 39-48.
- Koran, L. M., Abujaoude, E., Large, M. D., & Serpe, R. T. (2008). The prevalence of body dysmorphic disorder in the United States adult population. *CNS Spectrums*, 13, 316-322.
- Lambrou, C., Veale, D., & Wilson, G. (2011). The role of aesthetic sensitivity in body dysmorphic disorder. *Journal of Abnormal Psychology*, 120, 443-453. doi: 10.1037/a0022300
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33, 159-174.
- Larson, C. M. (2007). *Construction and validation of a self-report measure of trichotillomania distress: The Hairpulling Distress and Impairment Scale (HDIS)*. (PhD dissertation), University of Toledo, Toledo. (toledo1184697559)
- Lee, S. W., Won, S. H., & Lee, S. J. (2010). Characteristic maladaptive schemas in patients with obsessive compulsive disorder. *Cognitive Behavior Therapy in Korea* 10, 75-91.
- Leenaars, P. E., Rombouts, R., & Kok, G. (1993). Seeking medical care for a sexually transmitted disease: Determinants of delay-behavior. *Psychology & Health*, 8, 17-32. doi: 10.1080/08870449308403164

- Lenane, M. C., Swedo, S. E., Rapoport, J. L., Leonard, H., Sceery, W., & Guroff, J. J. (1992). Rates of obsessive compulsive disorder in first degree relatives of patients with trichotillomania: A research note. *Child Psychology & Psychiatry & Allied Disciplines*, *33*, 925-933. doi: 10.1111/j.1469-7610.1992.tb01966.x
- Lewis, H. B. (1971). Shame and guilt in neurosis. *Psychoanalytic Review*, *58*, 419-438.
- Lochner, C., Seedat, S., du Toit, P. L., Nel, D. G., Niehaus, D. J. H., Sandler, R., & Stein, D. J. (2005). Obsessive-compulsive disorder and trichotillomania: A phenomenological comparison. *BMC Psychiatry*, *5*. doi: 10.1186/1471-244x-5-2
- Lochner, C., Stein, D. J., Raikes, J., & Pearson, C. (2013). Consumer advocacy meetings: An innovative therapeutic tool. *Annals of Clinical Psychiatry*, *25*, 91-96.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33*, 335-343. doi: 10.1016/0005-7967(94)00075-u
- Löwe, B., Spitzer, R. L., Williams, J. B. W., Mussell, M., Schellberg, D., & Kroenke, K. (2008). Depression, anxiety and somatization in primary care: Syndrome overlap and functional impairment. *General Hospital Psychiatry*, *30*, 191-199. doi: 10.1016/j.genhosppsy.2008.01.001
- Mancuso, S. G., Knoesen, N. P., & Castle, D. J. (2010). The Dysmorphic Concern Questionnaire: A screening measure for body dysmorphic disorder. *Australian and New Zealand Journal of Psychiatry*, *44*, 535-542.
- Mansueto, C. S., Golomb, R. G., Thomas, A. M., & Stemberger, R. M. T. (1999). A comprehensive model for behavioral treatment of trichotillomania. *Cognitive and Behavioral Practice*, *6*, 23-43. doi: 10.1016/S1077-7229(99)80038-8
- Marques, L., LeBlanc, N., Robinaugh, D., Weingarden, H., Keshaviah, A., & Wilhelm, S. (2011). Correlates of quality of life and functional disability in individuals with body dysmorphic disorder. *Psychosomatics: Journal of Consultation Liaison Psychiatry*, *52*, 245-254.
- Marques, L., LeBlanc, N. J., Weingarden, H. M., Timpano, K. R., Jenike, M., & Wilhelm, S. (2010). Barriers to treatment and service utilization in an Internet sample of individuals with obsessive-compulsive symptoms. *Depression and Anxiety*, *27*, 470-475.
- Marques, L., Weingarden, H. M., LeBlanc, N. J., & Wilhelm, S. (2011). Treatment utilization and barriers to treatment engagement among people with body

- dysmorphic symptoms. *Journal of Psychosomatic Research*, 70, 286-293. doi: 10.1016/j.jpsychores.2010.10.002
- Marsanic, V. B., Aukst-Margetic, B., Grgic, N., & Kusmic, E. (2011). Misdiagnosis and exacerbation of unusual obsessive-compulsive disorder presentation with risperidone and clozapine in an adolescent girl - a case report. *Coll Antropol*, 35 Suppl 1, 293-296.
- Marsh, H. W., Hau, K.-T., & Wen, Z. (2004). In search of golden rules: comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling: A Multidisciplinary Journal*, 11, 320-341. doi: 10.1207/s15328007sem1103_2
- McDermott, S. P. (2006). A 38-year-old man with anxiety, intrusive violent thoughts. *Psychiatric Annals*, 36, 10-28.
- McKay, D., Neziroglu, F., & Yaryura-Tobias, J. A. (1997). Comparison of clinical characteristics in obsessive-compulsive disorder and body dysmorphic disorder. *Journal of Anxiety Disorders*, 11, 447-454. doi: 10.1016/S0887-6185(97)00020-0
- McWilliams, S., Whitty, M., Lydon, D., & Clarke, M. (2005). Body dysmorphic disorder treated with venlafaxine, olanzapine and cognitive behavioural therapy. *Irish Journal of Psychological Medicine*, 22, 143-146.
- Monti, M., Sambvani, N., & Sacrini, F. (1998). Obsessive-compulsive disorders in dermatology. *Journal of the European Academy of Dermatology and Venereology*, 11, 103-108. doi: <http://dx.doi.org/10.1111/j.1468-3083.1998.tb00761.x>
- Moritz, S. (2008). A review on quality of life and depression in obsessive-compulsive disorder. *CNS Spectrums*, 13 (Suppl 14), 16-22.
- Moritz, S., & Jelinek, L. (2008). Further evidence for the efficacy of association splitting as a self-help technique for reducing obsessive thoughts. *Depression and Anxiety*, 28, 574-581. doi: 10.1002/da.20843
- Moritz, S., Wittekind, C. E., Hauschildt, M., & Timpano, K. R. (2011). Do it yourself? Self-help and online therapy for people with obsessive-compulsive disorder. *Current Opinion in Psychiatry*, 24, 541-543.
- Murray, C., & Lopez, A. (1996). The global burden of disease: A comprehensive assessment of mortality and disability from diseases, injury, and risk factors in 1990 and projected to 2020 *Global Burden of Disease and Injury* (Vol. 1). Cambridge, MA: Harvard School of Public Health.

- Nachshoni, T., & Kotler, M. (2007). Legal and medical aspects of body dysmorphic disorder. *Medicine and Law, 26*, 721-735.
- Neal-Barnett, A., Statom, D., & Stadulis, R. (2011). Trichotillomania symptoms in African American women: Are they related to anxiety and culture? *CNS Neuroscience & Therapeutics, 17*, 207-213. doi: 10.1111/j.1755-5949.2010.00138.x
- Newth, S., & Rachman, S. (2001). The concealment of obsessions. *Behaviour Research and Therapy, 39*, 457-464. doi: 10.1016/s0005-7967(00)00006-1
- Neziroglu, F., Clavadetscher, C., Gokberk, A., Demas, N., & Cuskley, T. (2014). *Shame, self-consciousness, and self-disgust in BDD*. Paper presented at the Association for Behavioral and Cognitive Therapies Annual Convention, Philadelphia, PA.
- Noble, C. L. (2012). *The relationship among multidimensional perfectionism, shame, and trichotillomania symptom severity*. (PhD dissertation), Georgia State. (CPS 78)
- Norberg, M. M., Wetterneck, C. T., Woods, D. W., & Conelea, C. A. (2007). Experiential avoidance as a mediator of relationships between cognitions and hair-pulling severity. *Behavior Modification, 31*, 367-381. doi: 10.1177/0145445506297343
- Nymberg, J. H., & Van Noppen, B. (1994). Obsessive-compulsive disorder: A concealed diagnosis. *American Family Physician, 49*, 1129-1137, 1142-1144.
- O'Connor, K. P. (2001). Clinical and psychological features distinguishing obsessive compulsive and chronic tic disorders. *Clinical Psychology Review, 21*, 631-660. doi: 10.1016/s0272-7358(00)00055-6
- O'Sullivan, R. L., Mansueto, C. S., Lerner, E. A., & Miguel, E. C. (2000). Characterization of trichotillomania: A phenomenological model with clinical relevance to obsessive-compulsive spectrum disorders. *Psychiatric Clinics of North America, 23*, 587-604. doi: 10.1016/s0193-953x(05)70182-9
- Odlaug, B. L., & Grant, J. E. (2010). Pathologic skin picking. *The American Journal of Drug and Alcohol Abuse, 36*, 296-303. doi: 10.3109/00952991003747543
- Oglesby, M. E., Capron, D. W., Raines, A. M., & Schmidt, N. B. (2015). Anxiety sensitivity cognitive concerns predict suicide risk. *Psychiatry Research*, No Pagination Specified. doi: 10.1016/j.psychres.2014.12.057
- Olatunji, B. O., & McKay, D. (2007). Disgust and psychiatric illness: Have we remembered? *The British Journal of Psychiatry, 190*, 457-459. doi: 10.1192/bjp.bp.106.032631

- Olivardia, R., Pope Jr, H. G., & Hudson, J. I. (2000). Muscle dysmorphia in male weightlifters: A case-control study. *The American Journal of Psychiatry*, *157*, 1291-1296. doi: 10.1176/appi.ajp.157.8.1291
- Osman, A., Bagge, C. L., Gutierrez, P. M., Konick, L. C., Kopper, B. A., & Barrios, F. X. (2001). The Suicidal Behaviors Questionnaire--Revised (SBQ-R): Validation with clinical and nonclinical samples. *Assessment*, *8*, 443-454. doi: 10.1177/107319110100800409
- Overbeek, T., Schruers, K., Vermetten, E., & Griez, E. (2002). Comorbidity of obsessive-compulsive disorder and depression: Prevalence, symptom severity, and treatment effect. *Journal of Clinical Psychiatry*, *63*, 1106-1112. doi: 10.4088/JCP.v63n1204
- Pallanti, S. (2008). Transcultural observations of obsessive-compulsive disorder. *The American Journal of Psychiatry*, *165*, 169-170. doi: 10.1176/appi.ajp.2007.07111815
- Parker, R. (2003). Body hatred. *British Journal of Psychotherapy*, *19*, 447-464. doi: 10.1111/j.1752-0118.2003.tb00098.x
- Phillips, Hollander, E., Rasmussen, S. A., & Aronowitz, B. R. (1997). A severity rating scale for body dysmorphic disorder: Development, reliability, and validity of a modified version of the Yale-Brown Obsessive Compulsive Scale. *Psychopharmacology Bulletin*, *33*, 17-22.
- Phillips, K. A. (1996). *The broken mirror: Understanding and treating body dysmorphic disorder*. New York, NY US: Oxford University Press.
- Phillips, K. A. (1998). Body dysmorphic disorder: Clinical aspects and treatment strategies. *Bulletin of the Menninger Clinic*, *62*, A33-A48.
- Phillips, K. A. (1999). Body dysmorphic disorder and depression: Theoretical considerations and treatment strategies. *Psychiatric Quarterly*, *70*, 313-331. doi: 10.1023/a:1022090200057
- Phillips, K. A. (2000). Body dysmorphic disorder: Diagnostic controversies and treatment challenges. *Bulletin of the Menninger Clinic*, *64*, 18-35.
- Phillips, K. A. (2007). Suicidality in body dysmorphic disorder. *Primary Psychiatry*, *14*, 58-66.
- Phillips, K. A., Coles, M. E., Menard, W., Yen, S., Fay, C., & Weisberg, R. B. (2005). Suicidal ideation and suicide attempts in body dysmorphic disorder. *Journal of Clinical Psychiatry*, *66*, 717-725. doi: <http://dx.doi.org/10.4088/JCP.v66n0607>

- Phillips, K. A., & Crino, R. (2004). Elephant Man. In R. L. Spitzer, M. B. First, M. Gibbon & J. B. W. Williams (Eds.), *Treatment companion to the DSM-IV-TR casebook* (pp. 66-75). Arlington, VA, US: American Psychiatric Publishing, Inc.
- Phillips, K. A., & Diaz, S. F. (1997). Gender differences in body dysmorphic disorder. *The Journal of Nervous and Mental Disease*, *185*, 570-577. doi: <http://dx.doi.org/10.1097/00005053-199709000-00006>
- Phillips, K. A., Didie, E. R., & Menard, W. (2007). Clinical features and correlates of major depressive disorder in individuals with body dysmorphic disorder. *Journal of Affective Disorders*, *97*, 129-135. doi: 10.1016/j.jad.2006.06.006
- Phillips, K. A., Didie, E. R., Menard, W., Pagano, M. E., Fay, C., & Weisberg, R. B. (2006). Clinical features of body dysmorphic disorder in adolescents and adults. *Psychiatry Research*, *141*, 305-314. doi: 10.1016/j.psychres.2005.09.014
- Phillips, K. A., Gunderson, C. G., Mallya, G., McElroy, S. L., & Carter, W. (1998). A comparison study of body dysmorphic disorder and obsessive-compulsive disorder. *Journal of Clinical Psychiatry*, *59*, 568-575. doi: <http://dx.doi.org/10.4088/JCP.v59n1102>
- Phillips, K. A., Hollander, E., Rasmussen, S. A., & Aronowitz, B. R. (1997). A severity rating scale for body dysmorphic disorder: Development, reliability, and validity of a modified version of the Yale-Brown Obsessive Compulsive Scale. *Psychopharmacology Bulletin*, *33*, 17-22.
- Phillips, K. A., McElroy, S. L., Keck, P. E., Pope, H. G., & Hudson, J. I. (1993). Body dysmorphic disorder: 30 cases of imagined ugliness. *The American Journal of Psychiatry*, *150*, 302-308.
- Phillips, K. A., & Menard, W. (2006). Suicidality in body dysmorphic disorder: A prospective study. *The American Journal of Psychiatry*, *163*, 1280-1282. doi: 10.1176/appi.ajp.163.7.1280
- Phillips, K. A., Menard, W., Fay, C., & Weisberg, R. (2005). Demographic characteristics, phenomenology, comorbidity, and family history in 200 individuals with body dysmorphic disorder. *Psychosomatics: Journal of Consultation Liaison Psychiatry*, *46*, 317-325. doi: <http://dx.doi.org/10.1176/appi.psy.46.4.317>
- Pinto, A., Mancebo, M. C., Eisen, J. L., Pagano, M. E., & Rasmussen, S. A. (2006). The Brown Longitudinal Obsessive Compulsive Study: Clinical Features and Symptoms of the Sample at Intake. *Journal of Clinical Psychiatry*, *67*, 703-711. doi: 10.4088/JCP.v67n0503

- Rachman, S. (1994). Pollution of the mind. *Behavior Research and therapy*, 32, 311-314.
- Rachman, S. (1998). A cognitive theory of obsessions. *Behavior and cognitive therapy today: Essays in honor of Hans J. Eysenck*. (pp. 209-222): Oxford, England: Elsevier Science Ltd.
- Raines, A. M., Capron, D. W., Bontempo, A. C., Dane, B. F., & Schmidt, N. B. (2014). Obsessive compulsive symptom dimensions and suicide: The moderating role of anxiety sensitivity cognitive concerns. *Cognitive Therapy and Research*, 38, 660-669. doi: 10.1007/s10608-014-9622-z
- Rapaport, M. H., Clary, C., Fayyad, R., & Endicott, J. (2005). Quality-of-life impairment in depressive and anxiety disorders. *The American Journal of Psychiatry*, 162, 1171-1178. doi: 10.1176/appi.ajp.162.6.1171
- Regier, D. A., Farmer, M. E., Rae, D. S., Myers, J. K., Kramer, M., Robins, L. N., . . . Locke, B. Z. (1993). One-month prevalence of mental disorders in the United States and sociodemographic characteristics: the Epidemiologic Catchment Area study. *Acta Psychiatrica Scandinavica*, 88, 35-47.
- Rief, W., Buhlmann, U., Wilhelm, S., Borkenhagen, A., & Brahler, E. (2006). The prevalence of body dysmorphic disorder: A population-based survey. *Psychological Medicine*, 36, 877-885. doi: <http://dx.doi.org/10.1017/S0033291706007264>
- Rosen, J. C. (1995). The nature of body dysmorphic disorder and treatment with cognitive behavior therapy. *Cognitive and Behavioral Practice*, 2, 143-166. doi: 10.1016/s1077-7229(05)80008-2
- Rosen, J. C., & Ramirez, E. (1998). A comparison of eating disorders and body dysmorphic disorder on body image and psychological adjustment. *Journal of Psychosomatic Research*, 44, 441-449. doi: 10.1016/s0022-3999(97)00269-9
- Rothenberg, A. (1998). Diagnosis of obsessive-compulsive illness. *Psychiatric Clinics of North America*, 21, 791-801. doi: 10.1016/s0193-953x(05)70041-1
- Rusch, N., Corrigan, P. W., Bohus, M., Jacob, G. A., Brueck, R., & Lieb, K. (2007). Measuring shame and guilt by self-report questionnaires: A validation study. *Psychiatry Research*, 150, 313-325. doi: 10.1016/j.psychres.2006.04.018
- Salkovskis, P. M. (1985). Obsessional-compulsive problems: A cognitive-behavioural analysis. *Behaviour Research and Therapy*, 23, 571-583. doi: 10.1016/0005-7967(85)90105-6

- Salkovskis, P. M. (1990). Obsessions, compulsions and intrusive cognitions. Oxford, England: John Wiley & Sons.
- Saxena, S., Winograd, A., Dunkin, J. J., Maidment, K., Rosen, R., Vapnik, T., . . . Bystritsky, A. (2001). A retrospective review of clinical characteristics and treatment response in body dysmorphic disorder versus obsessive-compulsive disorder. *Journal of Clinical Psychiatry*, *62*, 67-72. doi: 10.4088/JCP.v62n0114b
- Schmalisch, C. S., Bratitotis, C., & Muroff, J. (2010). Processes in group cognitive and behavioral treatment for hoarding. *Cognitive and Behavioral Practice*, *17*, 414-425. doi: 10.1016/j.cbpra.2009.08.005
- Schmoll, D. (2011). Body dysmorphic disorder and depression: Phenomenological and psychotherapeutic aspects: A report of five cases. *Psychopathology*, *44*, 137-146. doi: 10.1159/000321551
- School, H. M. (2005). Obsessive-compulsive disorder: Part II. Treating the symptoms and studying the brain. *The Harvard Mental Health Letter*, *22*, 1-4.
- Seedat, S., & Stein, D. J. (2002). Hoarding in obsessive-compulsive disorder and related disorders: A preliminary report of 15 cases. *Psychiatry and Clinical Neurosciences*, *56*, 17-23. doi: 10.1046/j.1440-1819.2002.00926.x
- Shapiro, S. L., & Gavin, A. (2006). Body Dysmorphic Disorder: When does concern about appearance become pathological? *Mental disorders of the new millennium: Biology and function (Vol 3.)* (pp. 157-172). Westport, CT: Praeger Publishers/Greenwood Publishing Group.
- Sheehan, D. V., Harnett-Sheehan, K., & Raj, B. A. (1996). The measurement of disability. *International Clinical Psychopharmacology*, *11*, 89-95. doi: 10.1097/00004850-199606003-00015
- Simonds, L. M., & Thorpe, S. J. (2003). Attitudes toward obsessive-compulsive disorders: An experimental investigation. *Social Psychiatry and Psychiatric Epidemiology*, *38*, 331-336.
- Sorensen, C. B., Kirkeby, L., & Thomsen, P. H. (2004). Quality of life with OCD. A self-reported survey among members of the Danish OCD Association. *Nordic Journal of Psychiatry*, *58*, 231-236. doi: 10.1080/08039480410006287
- Stemberger, R. M. T., Thomas, A. M., Mansueto, C. S., & Carter, J. G. (2000). Personal toll of trichotillomania: Behavioral and interpersonal sequelae. *Journal of Anxiety Disorders*, *14*, 97-104. doi: 10.1016/s0887-6185(99)00028-6

- Stewart, S. E., Hezel, D., & Stachon, A. C. (2012). Assessment and medication management of paediatric obsessive-compulsive disorder. *Drugs*, *72*, 881-893. doi: 10.2165/11632860-000000000-00000
- Storch, E. A., Bussing, R., Jacob, M. L., Nadeau, J. M., Crawford, E., Mutch, P. J., . . . Murphy, T. K. (2015). Frequency and correlates of suicidal ideation in pediatric obsessive-compulsive disorder. *Child Psychiatry and Human Development*, *46*, 75-83. doi: 10.1007/s10578-014-0453-7
- Sulkowski, M. L., Mariaskin, A., & Storch, E. A. (2011). Obsessive-compulsive spectrum disorder symptoms in college students. *J Am Coll Health*, *59*, 342-348. doi: 10.1080/07448481.2010.511365
- Swedo, S. E., & Rapoport, J. L. (1991). Trichotillomania. *Child Psychology & Psychiatry & Allied Disciplines*, *32*, 401-409. doi: 10.1111/j.1469-7610.1991.tb00319.x
- Tangney, J. P. (1993). Shame and guilt. In C. G. Costello (Ed.), *Symptoms of depression* (pp. 161-180). Oxford, England: John Wiley & Sons.
- Tangney, J. P. (2000). *Couples in conflict: Constructive vs. destructive responses to everyday anger*. Paper presented at the International Society for Research on Aggression, Valencia, Spain.
- Tangney, J. P., Dearing, R., Wagner, P. E., & Gramzow, R. (2000). *The Test of Self-Conscious Affect – 3 (TOSCA-3)*. George Mason University. Fairfax, VA.
- Tangney, J. P., & Dearing, R. L. (2002). *Shame and guilt*. New York, NY, US: Guilford Press.
- Tangney, J. P., Miller, R. S., Flicker, L., & Barlow, D. H. (1996). Are shame, guilt, and embarrassment distinct emotions? *Journal of Personality and Social Psychology*, *70*, 1256-1269. doi: 10.1037/0022-3514.70.6.1256
- Tangney, J. P., Wagner, P., & Gramzow, R. (1989). *The Test of Self-Conscious Affect*. George Mason University. Fairfax, VA.
- Tangney, J. P., Wagner, P., & Gramzow, R. (1992). Proneness to shame, proneness to guilt, and psychopathology. *Journal of Abnormal Psychology*, *101*, 469-478. doi: 10.1037/0021-843x.101.3.469
- Telegdy, E. (2009). [Trichotillomania]. *Orvosi hetilap*, *150*, 1995-1998. doi: <http://dx.doi.org/10.1556/OH.2009.28700>

- Tolin, D. F., Frost, R. O., Steketee, G., & Fitch, K. E. (2008). Family burden of compulsive hoarding: Results of an internet survey. *Behaviour Research and Therapy, 46*, 334-344. doi: 10.1016/j.brat.2007.12.008
- Torres, A. R., Lima, M. C. P., & de Abreu Ramos-Cerqueira, A. T. (2001). Psicoterapia grupal no transtorno obsessivo-compulsivo. [Group psychotherapy for obsessive-compulsive disorder.]. *Jornal Brasileiro de Psiquiatria, 50*, 297-304.
- Torres, A. R., Ramos-Cerqueira, A. T. A., Ferrão, Y. A., Fontenelle, L. F., do Rosário, M. C., & Miguel, E. C. (2011). Suicidality in obsessive-compulsive disorder: Prevalence and relation to symptom dimensions and comorbid conditions. *Journal of Clinical Psychiatry, 72*, 17-26. doi: 10.4088/JCP.09m05651blu
- Tükel, R., Polat, A., Ozdemir, O., Aksüt, D., & Türksöy, N. (2002). Comorbid conditions in obsessive-compulsive disorder. *Comprehensive Psychiatry, 43*, 204-209.
- Valentiner, D. P., & Smith, S. A. (2008). Believing that intrusive thoughts can be immoral moderates the relationship between obsessions and compulsions for shame-prone individuals. *Cognitive Therapy and Research, 32*, 714-720. doi: 10.1007/s10608-007-9179-1
- Veale, D. (2002). Shame in body dysmorphic disorder. In P. Gilbert & J. Miles (Eds.), *Body Shame: Conceptualisation, Research and Treatment* (pp. 267-282). New York: Brunner-Routledge.
- Veale, D., Boocock, A., Gournay, K., & Dryden, W. (1996). Body dysmorphic disorder: A survey of fifty cases. *British Journal of Psychiatry, 169*, 196-201. doi: 10.1192/bjp.169.2.196
- Veale, D., Gournay, K., Dryden, W., Boocock, A., Shah, F., Willson, R., & Walburn, J. (1996). Body dysmorphic disorder: A cognitive behavioural model and pilot randomised controlled trial. *Behaviour Research and Therapy, 34*, 717-279. doi: 10.1016/0005-7967(96)00025-3
- Veale, D., Kinderman, P., Riley, S., & Lambrou, C. (2003). Self-discrepancy in body dysmorphic disorder. *British Journal of Clinical Psychology, 42*, 157-169. doi: 10.1348/014466503321903571
- Velasco, R. (2011). Dismorfofòbia o vergonya del cos [Dysmorphophobia or body shame.]. *Revista Catalana de Psicoanalisi, 28*, 87-102.
- Vythilingum, B., & Stein, D. J. (2005). Obsessive-compulsive disorders and dermatologic disease. *Dermatol Clin, 23*, 675-680. doi: <http://dx.doi.org/10.1016/j.det.2005.05.006>

- Walsh, K. H., & McDougle, C. J. (2001). Trichotillomania. Presentation, etiology, diagnosis and therapy. *Am J Clin Dermatol*, 2, 327-333. doi: <http://dx.doi.org/10.2165/00128071-200102050-00007>
- Weingarden, H., & Renshaw, K. D. (2014). Associations of obsessive compulsive symptoms and beliefs with depression: Testing mediation by shame and guilt. *International Journal of Cognitive Therapy*, 7, 1-15.
- Weingarden, H., & Renshaw, K. D. (2015). Shame in the obsessive compulsive-related disorders: A conceptual review. *Journal of Affective Disorders*, 171, 74-84. doi: 10.1016/j.jad.2014.09.010
- Wetterneck, C. T., Teng, E. J., & Stanley, M. A. (2010). Current issues in the treatment of OC-spectrum conditions. *Bulletin of the Menninger Clinic*, 74, 141-166. doi: 10.1521/bumc.2010.74.2.141
- Wilbram, M., Kellett, S., & Beail, N. (2008). Compulsive hoarding: A qualitative investigation of partner and carer perspectives. *British Journal of Clinical Psychology*, 47, 59-73. doi: 10.1348/014466507x240740
- Wilhelm, S., Keuthen, N. J., Deckersbach, T., Engelhard, I. M., Forker, A. E., Baer, L., . . . Jenike, M. A. (1999). Self-injurious skin picking: Clinical characteristics and comorbidity. *Journal of Clinical Psychiatry*, 60, 454-459. doi: <http://dx.doi.org/10.4088/JCP.v60n0707>
- Williams, K. E., Chambless, D. L., & Steketee, G. (1998). Behavioral treatment of obsessive compulsive disorder in African Americans: Clinical issues. *Journal of Behavior Therapy and Experimental Psychiatry*, 29, 163-170. doi: 10.1016/s0005-7916(98)00004-4
- Woen, S. L., Ernst, H. A. H., Patock-Peckham, J. A., & Nagoshi, C. T. (2003). Validation of the TOSCA to measure shame and guilt. *Personality and Individual Differences*, 35, 313-326. doi: 10.1016/s0191-8869(02)00191-5
- Woods, D. W., Flessner, C. A., Franklin, M. E., Keuthen, N. J., Goodwin, R. D., Stein, D. J., & Walther, M. R. (2006). The trichotillomania impact project (TIP): Exploring phenomenology, functional impairment, and treatment utilization. *Journal of Clinical Psychiatry*, 67, 1877-1888. doi: 10.4088/JCP.v67n1207
- Woody, S. R., Steketee, G., & Chambless, D. L. (1995). The usefulness of the obsessive compulsive scale of the Symptom Checklist-90, Revised. *Behaviour Research and Therapy*, 33, 607-611. doi: 10.1016/0005-7967(94)00090-7
- Yosipovitch, G., & Samuel, L. S. (2008). Neuropathic and psychogenic itch. *Dermatol Ther*, 21, 32-41. doi: 10.1111/j.1529-8019.2008.00167.x.

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema therapy: A practitioner's guide*. New York, NY, US: Guilford Press.

Zohar, J., Fostick, L., Black, D. W., & Lopez-Ibor, J. J. (2007). Special Populations. *CNS Spectrums*, 12 (Suppl 3), 36-42.

Biography

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