

## Obsessive-Compulsive Disorder in the *DSM-5*

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**Whereas the specific diagnostic criteria for obsessive-compulsive disorder (OCD) have changed in only minor ways in the transition from *DSM-IV* to *DSM-5*, a more substantial change is that OCD is no longer classified as an anxiety disorder. Rather, it is now the flagship diagnosis of a new diagnostic category: the obsessive-compulsive and related disorders (OCRDs). In this article, we describe the nature of obsessional problems as determined through empirical research before turning to a consideration of how OCD is defined in previous editions of the *DSM* and in *DSM-5*. We then critically consider the *DSM* criteria, as well as the basis for removing OCD from the anxiety disorders and creating the new OCRD category. Finally, we consider the implications of these changes for clinical practice and research on OCD.**

**Key words:** behavioral therapy, cognitive therapy, *DSM-5*, hair pulling, hoarding, nosology, obsessive compulsive, obsessive-compulsive disorder. [*Clin Psychol Sci Prac* 21:221–235, 2014]

Obsessional problems, and indeed obsessive-compulsive disorder (OCD) as defined in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*, involve a complex and heterogeneous collection of thoughts, behaviors, and their interplay. While the precise etiology remains uncertain, the nature and phenomenology of obsessional problems are well researched and well understood, and effective psychological and

pharmacological treatments exist. The recent transition from *DSM-IV* to *DSM-5* has a number of clinical and research implications, as several key changes have been made concerning OCD. The present article begins with a description of the nature of obsessional problems—not simply the *DSM* definition of OCD, but rather an evidence-based picture of the fundamental features of this problem and the mechanisms that serve to maintain them. We then transition to a discussion of OCD as it is defined in previous editions of the *DSM* and now in *DSM-5*, before turning a critical eye toward changes that were made as well as noteworthy diagnostic issues that were not changed in the transition. The article closes with a consideration of the implications of *DSM-5* for clinical practice and research where OCD is concerned.

### THE NATURE OF OBSESSIONAL PROBLEMS

#### Obsessions

Unwanted and distressing intrusive thoughts—often called *obsessions*—are senseless ideas, images, urges, doubts, and ideas that the person experiences as repugnant, invasive, uncontrollable, guilt-provoking, and decidedly persistent (Rachman & Hodgson, 1980). Although highly individualized, the general themes of obsessions usually pertain to contamination, responsibility for causing (or failing to prevent) harm (to oneself or others), uncertainty, “taboo” topics such as sex, violence, and blasphemy, and the need for order and symmetry. The content of obsessions is typically incongruent with the person’s belief system and is not the type of thought one would expect of him- or herself. In fact, it is typical for obsessions to cast a menacing shadow on matters the person happens to hold most dear (e.g., a devoutly religious person with recurrent blasphemous images, or a

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highly conscientious person with persistent doubts that he is responsible for injuring an innocent person). Obsessions might be triggered by stimuli in the environment (e.g., a religious icon or driving a car) or occur without an apparent trigger (e.g., the impulse to yell a curse word in a place of worship). Finally, obsessions are *subjectively resisted*, meaning that they are accompanied by the sense that they need to be “dealt with,” neutralized, or altogether avoided. The motivation to resist is activated by the fear that if action is not taken, disastrous consequences will likely occur.

### Subjective Resistance to Obsessions

The most conspicuous type of resistance to obsessional thoughts is *compulsive ritualizing*. Compulsive rituals are performed deliberately in response to an obsession, usually with the aim of preventing the feared disaster and/or reducing the associated anxiety or distress (e.g., hand washing for 30 min after touching a possibly contaminated doorknob; Rachman & Hodgson, 1980). Common compulsive rituals include washing or cleaning, checking, or seeking reassurance from others, repeating a routine activity until it “feels right,” ordering and arranging items, and performing mental rituals (e.g., saying a phrase or prayer to oneself). Such rituals are usually senseless and excessive in relation to the obsessional fear, and often need to be performed repeatedly and according to rules that the person derives on his or her own.

Noncompulsive (i.e., neither rule-bound nor repeated) forms of resistance to obsessions are also common (e.g., Freeston & Ladouceur, 1997; Ladouceur et al., 2000). Examples of this sort of resistance include purposely distracting oneself from obsessional thoughts and triggers, trying to suppress (i.e., not think about) the unwanted thoughts, and brief (covert) “neutralization” strategies such as gripping the steering wheel more tightly in response to an obsessional thought of driving into opposing traffic. The passive avoidance of obsessional stimuli (e.g., toilets) is also a form of resistance to obsessions. Avoidance, however, is intended to *prevent* obsessional thoughts and feared consequences from occurring in the first place, whereas neutralizing and other forms of resistance represent *reactions* to obsessions that have already occurred (Rachman & Hodgson, 1980).

Clinical observations of individuals with obsessional problems reveal an internal consistency in the themes of obsessions and the strategies used to resist such mental intrusions. Research findings support these observations, consistently showing that obsessions and resistance strategies are thematically related (e.g., Abramowitz et al., 2010; McKay et al., 2004): contamination obsessions often co-occur with washing/cleaning rituals; responsibility obsessions with checking and reassurance-seeking rituals; obsessions about order or exactness with arranging rituals; and unacceptable “taboo” violent, sexual, or blasphemous thoughts with mental rituals and more covert forms of resistance. Avoidance behavior can also generally be predicted by the types of obsessional fears the individual has. For example, someone with obsessional thoughts of harming her children is likely to avoid knives and other potential weapons. These observations underscore the relationship between obsessions and the various forms of subjective resistance.

### Maintenance of Obsessional Problems

Although intrusive thoughts are a universal experience, people with clinically severe obsessional problems (i.e., OCD) encounter more persistent intrusions that provoke more intense anxiety and distress relative to non-sufferers. They also experience more persistent urges to resist their intrusions and expend greater time and energy engaged in such activities. One explanation for this is that people with clinically significant obsessions catastrophically appraise the meaning and significance of the otherwise harmless intrusions (e.g., “thinking an immoral thought is the same as performing an immoral deed”), leading to distress, greater preoccupation with the intrusion, and more intense urges to resist (e.g., Salkovskis, 1999). Moreover, the very resistance strategies that are deployed in response to intrusions may paradoxically intensify the intrusion: for example, attempted thought suppression, which leads to an increase in the thought to be suppressed (e.g., Abramowitz, Tolin, & Street, 2001).

Other resistance strategies, such as avoidance and rituals, maintain obsessional distress by preventing the correction of the unrealistic catastrophic appraisals when feared outcomes do not occur. That is, potentially corrective experiences are understood as “near

misses” in which the resistance strategy is perceived as removing a threat (even if there was little danger to begin with). For example, a person who always avoids knives due to harm-related intrusions fails to learn that these unwanted thoughts will in all likelihood not lead to committing acts of harm. Similarly, one who compulsively washes his hands following contact with feared contaminants (e.g., money) will never learn that he is unlikely to become ill. Moreover, because resistance strategies often result in immediate short-term distress reduction (or the temporary removal of the unwanted thought), they are negatively reinforced and become habitual. This completes a self-sustaining vicious cycle that leads to the escalation of intrusions, subjective distress, and maladaptive resistance strategies.

### Insight

Research and clinical observations also indicate that whereas most people at some point recognize that their obsessions are senseless and unrealistic, and that their subjective resistance is excessive and unnecessary, this type of insight wavers across time (Abramowitz, 2006). Moreover, people vary in how convinced they are that their obsessions are senseless, with about 4% of people with an OCD diagnosis being extremely strongly convinced that their obsessional fears are realistic (Foa & Kozak, 1995).

### OCD ACCORDING TO THE DSM

#### *DSM-III Through DSM-IV-TR*

The main diagnostic criteria for OCD—the presence of obsessions or compulsions—have been relatively unchanged since *DSM-III* (American Psychiatric Association [APA], 1980). Through *DSM-IV-TR* (APA, 2000), OCD was grouped among the anxiety disorders and defined by the presence of either obsessions or compulsions (or both) that produce significant distress and cause noticeable interference with various aspects of functioning, such as academic, occupational, social, leisure, or family settings. “Obsessions” are defined in the *DSM* as intrusive thoughts, ideas, images, impulses, or doubts that the person experiences in some way as senseless and that evoke affective distress (i.e., anxiety, doubt). “Compulsions” are defined as urges to perform behavioral (e.g., checking, washing) or mental rituals (e.g., praying) in response to obsessions. The diagnostic

criteria also specify that compulsive rituals are performed deliberately and in response to a sense of pressure to act, yet usually are perceived as senseless or excessive. Beginning with *DSM-IV* (APA, 1994), the diagnostic criteria for OCD included the specifier “with poor insight” to denote when a person did not (for most of the time while having the problem) recognize the senselessness of the obsessions or compulsions.

#### Changes in *DSM-5*

The OCD diagnostic criteria per se have undergone only minor changes from *DSM-IV-TR* to *DSM-5*. In general, the definitions of obsessions and compulsions remain the same, save a few updates. The word “impulse,” which was used in the description of obsessions in *DSM-IV*, has been replaced with the word “urge.” The word “inappropriate,” which was used to describe the content of obsessional thoughts, has been replaced with the word “unwanted.” Indeed, what is “inappropriate” varies with factors such as culture, age, and gender, whereas “unwanted” is a more subjective and culturally neutral term. As in *DSM-IV-TR*, the presence of either obsessions or compulsions (or both) is required for a diagnosis of OCD, yet the requirement in *DSM-IV* that individuals recognize that their obsessions and compulsions are senseless and excessive has been removed in *DSM-5*.

Another change related to recognition of the senselessness of OCD symptoms is that the insight specifier has been further distilled in *DSM-5* to allow for a distinction between people with (a) “good or fair insight” (who recognize that their OCD-related fears are probably or definitely not true, or may or may not be true), (b) “poor insight” (who think their fears are probably true), and (c) “absent insight/delusional beliefs” (who appear completely convinced that their fears are true). This change was made with the hope of improving differential diagnosis by highlighting that people with OCD have a range of insight into the senselessness of their symptoms. It also emphasizes that the absence of insight (or the presence of delusion-like beliefs) can warrant a diagnosis of OCD, and not necessarily schizophrenia or a psychotic disorder.

Additionally, a tic-related specifier has been included to distinguish individuals presenting with a blend of OCD and tic-like symptoms (or a history of a tic

disorder). Whereas in “typical” OCD, obsessions lead to a negative *emotional* (affective) state such as anxiety or fear, tic-related OCD is characterized by a distressing *sensory* (somatic) state such as physical discomfort in specific body parts (e.g., face) or a diffuse psychological distress or tension (e.g., “in my head”). Moreover, this sensory discomfort tends to be relieved by certain motor responses (e.g., head twitching, eye blinking). Such “tic-like” compulsions can be difficult to distinguish from tics as observed in Tourette’s syndrome.

The most significant change for OCD in *DSM-5*, however, is the *classification* of this disorder within the *DSM*; specifically, OCD is no longer considered an anxiety disorder. Along with several putatively related disorders, OCD is now included in a new category of disorders: the obsessive-compulsive and related disorders (OCRDs). This change was made primarily to group together disorders characterized by the presence of obsessive thoughts and/or repetitive behaviors (APA, 2013). That is, increasing research evidence ostensibly demonstrates common threads running through OCD and these putatively related conditions. The other disorders in the OCRD chapter are briefly described next. We then critically consider the conceptual and empirical basis for this major classification shift.

**Body Dysmorphic Disorder.** Body dysmorphic disorder (BDD) is characterized by preoccupation with an imagined or minor flaw in one’s own appearance that causes significant distress or interference. Although it has been moved from the somatoform disorders to the OCRD chapter in *DSM-5*, the diagnostic criteria for BDD are essentially unchanged from *DSM-IV-TR*. One exception is that it is now a criterion that repetitive behaviors or mental acts are performed in response to the obsession-like preoccupations. A second change is the addition of the same insight specifiers as were added for OCD. A third change is the addition of the specifier *with muscle dysmorphia*, which reflects a presentation of BDD in which the person is excessively concerned with not being muscular enough.

**Trichotillomania (Hair-Pulling Disorder).** Characterized by the compulsive urge to pull out one’s hair leading to noticeable hair loss, this problem was previously classified as an impulse control disorder. Aside

from movement into the OCRD chapter, it remains unchanged from the *DSM-IV-TR*, although the name has been updated to “hair-pulling disorder.”

**Hoarding Disorder.** Hoarding disorder is a new diagnostic entity in *DSM-5* and is characterized by difficulty discarding or parting with possessions, regardless of the value others attribute to these possessions. Hoarding was previously listed as a symptom of obsessive-compulsive personality disorder (OCPD) and often construed as a symptom of OCD, although research strongly suggests it is distinct from OCD (e.g., Abramowitz, Wheaton, & Storch, 2008; Frost & Steketee, 2008; Mataix-Cols et al., 2010; Pertusa et al., 2010; Wheaton, Abramowitz, Fabricant, Berman, & Franklin, 2011).

**Excoriation (Skin-Picking) Disorder.** Characterized by constant and recurrent skin picking resulting in skin lesions, excoriation disorder is also a new diagnosis in *DSM-5*. The person must have made repeated attempts to stop the picking, which causes significant distress or impairment in functioning.

**Other Specified and Unspecified OCRDs.** According to *DSM-5*, other excessive body-focused repetitive behaviors (e.g., nail biting, lip biting, cheek chewing), accompanied by unsuccessful attempts to decrease or stop them, can be diagnosed using this label. Someone with obsessional jealousy, which is characterized by nondelusional preoccupation with a partner’s perceived infidelity, would also be given this diagnosis.

#### OCRD IN THE *DSM-5*: A CRITICAL EVALUATION

Since before the publication of *DSM-IV*, some authors (e.g., Hollander, 1993) have proposed that OCD be removed from the anxiety disorders and grouped with other OCRDs (sometimes referred to as “OCD spectrum disorders”). Thus, the reclassification that took place in *DSM-5* was not unexpected. In this section, however, we present a critical review of some important aspects of the *DSM* criteria, as well as the conceptual and empirical basis for the reclassification of OCD.

#### Diagnostic Criteria for OCD

**Emphasis on “Compulsivity” and Repetition.** As reviewed previously, research indicates that the essence

of obsessional problems is (a) the experience of anxiety or distress associated with certain unwanted thoughts (obsessions), and then (b) the use of various types of behaviors to resist or neutralize the thoughts and associated distress (e.g., Rachman & Hodgson, 1980). Neutralization, in this context, refers to a broad range of overt and covert actions, as well as passive avoidance, that function to control, dismiss, or otherwise “deal with” the obsessions and prevent feared consequences associated with such thoughts (e.g., Abramowitz, 2006; Clark, 2004). Thus, one conceptual problem with the *DSM-5* definition of OCD is that it mentions only repetitive and rule-bound compulsions as responses to obsessions. There is no reference to avoidance (which is often a highly impairing feature of obsessional problems), nor of brief or covert noncompulsive rituals, both of which are (a) functionally equivalent to compulsions in terms of their ability to reduce obsessional anxiety, (b) central to the maintenance of obsessional problems, and (c) important to address in effective treatment.

By emphasizing the “compulsive” or “repetitive” nature of responses to obsessions, to the exclusion of less overt forms of subjective resistance, *DSM-5* (and its predecessors) mischaracterizes one of the cardinal features of obsessional problems in the definition of OCD. That is, the crucial aspect of compulsive rituals is not so much their repetition or “compulsiveness” (i.e., that they are rule-bound), but that they are performed in response to obsessions, have the effect of (temporarily) relieving obsessional anxiety, and paradoxically maintain the problem. That is, compulsions and other types of subjective resistance often lead immediately to relief, yet in the longer term strengthen obsessional fear (e.g., Rachman, 1997; Salkovskis, 1999). As we will discuss later in this article, this phenomenology is not necessarily present in other disorders presumed to be related to OCD.

**Obsessions or Compulsions versus Obsessions and Compulsions.** *Diagnostic and Statistical Manual of Mental Disorders* diagnosis of OCD requires only the presence of *either* obsessions *or* compulsions (assuming the compulsions are intended to account for all forms of resistance to obsessions) implying that these symptoms are independent phenomena and not functionally linked as

discussed previously. Research (and clinical observations), however, does not support this *DSM* definition, as studies with large samples indicate that virtually all individuals with a diagnosis of OCD report *both* obsessions *and* compulsions (e.g., Foa & Kozak, 1995; Leonard & Riemann, 2012). Dimensional analyses of *DSM*-defined OCD symptoms are also consistent in identifying dimensions comprised of both obsessions *and* compulsions, further supporting the idea that these symptoms co-occur in a functionally related way. Indeed, certain types of obsessions and compulsions load together on the same symptom-based factors (such as contamination obsessions with washing rituals; e.g., Abramowitz et al., 2010; Abramowitz, Franklin, Schwartz, & Furr, 2003; Leckman et al., 1997; McKay et al., 2004; Summerfeldt, Richter, Antony, & Swinson, 1999). Moreover, the persistence of obsessions is linked to the repeated performance of compulsions and other forms of subjective resistance to obsessions (e.g., Salkovskis, 1999). Thus, as much as the distinction between obsessions and compulsions might be intuitively appealing, OCD phenomenology does not distill neatly into these two separate categories.

#### The OCRD Chapter

Inclusion of the new OCRD chapter in *DSM-5* has been widely criticized by clinicians and researchers on both conceptual and empirical grounds (Abramowitz & Deacon, 2005a, 2005b; Storch, Abramowitz, & Goodman, 2008). For example, many OCD specialists disagreed with moving OCD out of the anxiety disorders chapter (Mataix-Cols, Pertusa, & Leckman, 2007). Consensus opinion aside, however, according to the APA the new chapter on OCRDs was included in *DSM-5* because it was thought to reflect the “increasing evidence of these disorders’ relatedness to one another in terms of a range of diagnostic validators as well as the clinical utility of grouping these disorders in the same chapter” (APA, 2013, p. 235). While the *DSM-5* text does not detail what this evidence is, the following scientific arguments have been advanced for shifting OCD out of the anxiety disorders and creating the new OCRD chapter (e.g., Hollander, 2011):

- (a) OCD and the OCRDs all have repetitive behaviors as primary symptoms,

- (b) OCD and OCRDs have similar associated features (e.g., ages of onset, comorbidity patterns, and family loading),
- (c) OCD and OCRDs share brain circuitry abnormalities and neurotransmitter abnormalities, and
- (d) OCD and OCRDs overlap in terms of treatment response profiles.

In this section, we critically examine these arguments, which serve as the basis for the OCD chapter in *DSM-5*. Still later in this article, we will address the ostensible clinical utility of grouping these disorders in the same chapter of the *DSM*.

**Repetitive Behaviors.** The OCD approach assumes that these disorders are linked on a “core repetitive behavior domain” that is characterized by (a) the inability to delay or inhibit repetitive behaviors and (b) a continuum from risk aversion (compulsive) to pleasure-seeking (impulsive) behavior. Put another way, compulsive disorders characterized by repetitive behaviors that reduce or avoid risk and harm (e.g., OCD and BDD) are located at one end of this continuum, and impulse control disorders characterized by pleasure-seeking behaviors (e.g., hair pulling, skin picking) are on the other end (e.g., Hollander, Friedberg, Wasserman, Yeh, & lyengar, 2005).

Is the presence of repetitive behavior sufficient for aggregating *DSM* disorders into a single category? Are compulsivity and impulsivity opposite ends of a continuum of repetitive behavior? Although the idea that disorders can be classified based on the commonality of repetitive behaviors may have commonsense appeal, what exactly is meant by “compulsivity,” “impulsivity,” and “continuum” has not been well defined in this context. As we have discussed, the compulsive behavior observed in OCD is performed with the goal of resisting (i.e., escaping from or coping with) obsessional thoughts and relieving anxiety or discomfort. It is not gratifying to the individual; rather, it serves a similar purpose as does avoidance behavior that is often observed in OCD as well as in anxiety disorders such as phobias and panic disorder). In contrast, impulsive behavior, such as that which characterizes excoriation and hair-pulling disorders (neither of which involve fear-evoking OCD-like obsessions), is accompanied by

gratification that is intrinsically reinforcing (Grant & Potenza, 2004). Such behavior is not motivated by anxiety reduction or the need to resist intrusive thoughts. Moreover, not only are there no data to suggest that these two classes of repetitive behavior exist on a continuum; it is not even clear what *kind* of data would be required to demonstrate whether such a continuum exists.

Available research, in fact, suggests the *lack* of any specific relationship between impulsivity and compulsivity for a number of reasons. First, impulse control disorders occur at rather low rates among people with OCD (Bienvenu et al., 2000). Second, people with OCD do not necessarily evidence greater levels of impulsivity than do individuals with other sorts of psychological disorders (e.g., Summerfeldt, Hood, Antony, Richter, & Swinson, 2004). Third, very different treatment approaches are successful in reducing these two sorts of undesirable behaviors (e.g., Abramowitz & Houts, 2002). We will address these differing treatment techniques in more detail later in this article.

Another difficulty is that the presence of repetitive behaviors has little sensitivity or specificity to the OCRDs given that (a) some individuals with OCD do not show compulsive behaviors (i.e., so-called “pure obsessionals” who primarily use avoidance behavior and covert neutralizing, rather than compulsive rituals, in response to obsessions) and (b) repetitive behaviors (both compulsive and impulsive) are characteristic of many other *DSM-5* disorders outside of the OCRDs. For example, illness anxiety disorder (a.k.a. hypochondriasis), many substance use disorders, and gambling disorder all involve repetitive behavior as defined in their diagnostic criteria, yet are excluded from the OCD chapter. Moreover, operational definitions of what constitutes repetitive behavior are lacking. For example, some disorders are characterized by the frequent occurrence of repetitive behavior (e.g., OCD, hair-pulling disorder), whereas the primary symptoms of others may occur less frequently (e.g., hoarding disorder, substance use disorders). Given that the formation of the OCD chapter was based in large part on the presence of repetitive behaviors (e.g., Hollander, 2011), the fact that the cardinal characteristic of OCRDs is neither sensitive nor specific to these disorders represents a significant problem for this change in *DSM-5*.

**Associated Features.** Consistent findings suggest that although OCD may begin at any time from childhood through old age, it usually onsets in the late teen years into the mid-20s, and tends to wax and wane in intensity through its generally chronic course (for a review, see Abramowitz, 2006). Likewise, many of the OCRDs begin at this time and follow a similar course (e.g., McEroy, Keck, & Phillips, 1995; Stein, Simeon, Cohen, & Holander, 1995). Similarity in age of onset and course, however, is not persuasive evidence that the OCRDs are related to one another since a look through the *DSM-5* reveals that many disorders (e.g., mood, anxiety, sexual, sleep, psychotic, somatoform, substance abuse, and eating disorders) also begin during this period and evidence a chronic, waxing and waning course absent effective treatment. Thus, the fact that OCRDs share the same age of onset (and course) does not indicate anything specific about these conditions, much less that they are related to one another.

Proponents of the OCRD chapter also argue that the high comorbidity among OCD and the other OCRDs supports grouping these disorders together. Results of several large-scale comorbidity studies, however, diverge greatly from this proposition. Bienvenu et al. (2000), for example, found that the rates of BDD and trichotillomania among 80 individuals with OCD were 15% and 4%, respectively. This indicates that trichotillomania is rather *uncommon* among people with OCD, although BDD (which is often considered to be anxiety-related; e.g., Abramowitz & Deacon, 2005a, 2005b) appears to be somewhat more prevalent.<sup>1</sup>

Is comorbidity even a useful indicator of relationships among disorders? Should it be used for grouping disorders within the *DSM's* symptom-based nosological scheme? For one thing, comorbidity is common in most major psychological disorders, and there are numerous explanations for this phenomenon. For instance, alcohol dependence, depression, and posttraumatic stress disorder (PTSD) are all more highly comorbid than what would be expected by chance. While it is easy to recognize several potential reasons for the co-occurrence of these disorders (e.g., sense of a foreshortened future; substance use to escape from depressive feelings), few would suggest that alcohol dependence, depression, and PTSD should be grouped together diagnostically. Second,

comorbidity among the OCRDs is not specific to OCD and the OCRDs. Indeed, Summerfeldt et al. (2004) found that while OCD was associated with elevated levels of impulsivity compared with nonclinical controls, all of the *DSM-IV* anxiety disorders also showed increased impulsivity relative to nonclinical individuals. Taken together, these clinical realities suggest that comorbidity is of limited value in understanding the relatedness among OCRDs.

A similar problem arises with the claim that OCRDs have overlapping familial or genetic associations. Not only is there little research on the family history of people with many of the OCRDs, but the available data strongly suggest that among people with OCD, the rates of other anxiety disorders among first-degree relatives are far higher than the rates of OCRDs among such relatives (e.g., Bienvenu et al., 2000; Nestadt et al., 2001). Nestadt et al. (2001) reported the following rates of anxiety disorders in first-degree relatives of adults with OCD: 16.3% OCD, 15.6% generalized anxiety disorder, 9.0% panic disorder, 22.9% social phobia, 25.0% specific phobia, and 12.6% separation anxiety disorder. In the same dataset, however, the lifetime prevalence rate of trichotillomania in first-degree relatives of adults with OCD was only 1% (Bienvenu et al., 2000). Interestingly enough, the assertion that familial loading is evidence for a relationship between OCD and other OCRDs ends up supporting the view that OCD is more strongly related to anxiety disorders.

#### **Brain Circuitry and Neurotransmitter Systems.**

Although existing data on the brain structure and function in OCD and other OCRDs are remarkably equivocal, and there are no neurobiological or neuropsychological markers of OCD (e.g., Abramovitch, Abramowitz, & Mittleman, 2013), differences in brain circuitry are at least hypothesized to exist between OCD and anxiety disorders (Hollander, 2011). Some findings, for example, suggest that OCD symptoms are implemented in frontal-striatal circuitry, whereas many anxiety disorder symptoms are implemented in the amygdala (Saxena & Rauch, 2000). One basis for the new OCRD chapter in *DSM-5* is that understanding such differences can help shift the foundations of psychiatric diagnoses from identification of

overt presentation of signs and symptoms to information about brain structure and function.

While the merits of this proposition are debatable (e.g., Deacon, 2013), the use of neurobiology to inform diagnosis and classification is at best premature for *DSM-5* (e.g., Hyman, 2007). Findings from neuroimaging studies are highly inconsistent (i.e., differences between OCD patients and controls are not replicated) across studies of the orbitofrontal cortex, caudate nucleus, frontal cortex, parietal, left temporal, right temporal, anterior cingulate, or thalamus (Whiteside, Port, & Abramowitz, 2004). In addition, the *specificity* of brain structures and functions to OCD has not been studied satisfactorily. That is, there are few (if any) controlled studies comparing patients with OCD to those with other OCRDs and those with anxiety disorders on neuropsychiatric (imaging) variables. This problem of lack of evidence for specificity is perhaps the most limiting factor in our ability to infer that OCD belongs grouped with the other OCRDs (and out of the anxiety disorders chapter) on the basis of neurocircuitry.

The position that the disorders in the OCRD chapter are related via an overlap in abnormal neurotransmitter (e.g., serotonin) function is also precarious. One problem is that the findings from biological marker and pharmacological challenge studies of neurotransmitter systems in OCD have also been remarkably inconsistent—and such studies are almost nonexistent in the other OCRDs (Hollander, 2011). The only relatively consistent data on this issue come from studies showing that serotonin reuptake inhibitor (SRI) medication is associated with reductions in symptoms of OCRDs. Yet, the appeal to a similar response to SRIs is only a compelling argument for the formation of an OCRD chapter if this response pattern is both sensitive and specific to the OCRDs. If other disorders not classified as OCRDs respond selectively to SRIs, this argument is of little value as a means of designating OCRDs as a separate diagnostic category. Ironically, a scientific dilemma with SRIs is that they appear to improve such a wide variety of disorders (including most anxiety disorders and depression) that there is little chance of meaningful pharmacological dissection of disorders with these medications.

A second issue is that the OCRDs' preferential response to SRIs (even if it were sensitive and specific) does not necessarily implicate the serotonin system as a

*causal* factor since etiological models cannot logically be deduced from successful treatment response. Inferring such a relationship grossly oversimplifies how neurotransmitters (and likely how SRIs) work, and is also a logical error known as *ex juvantibus* reasoning, or “reasoning backward from what helps” (a variation of *post hoc ergo propter hoc*, or “after this, therefore because of this” reasoning). The problem with such reasoning is clear in the following example: “*When steroid cream is applied to a skin rash, the rash goes away. Therefore, skin rashes are caused by low steroid levels.*” Just as the way steroids reduce rashes (e.g., by suppressing the immune system and reducing inflammation) is different from the cause of the rash (e.g., exposure to allergens such as poison ivy), the mechanisms by which SRIs reduce OCRDs (e.g., interactions among bodily systems, placebo effects) might be different from the causes of these conditions. As of yet, there are no convincing data to suggest that OCRDs are caused by abnormalities in the serotonin system.

**Treatment Response.** Do OCD and the other OCRDs overlap in terms of their treatment response? First, it is important to note that despite two well-studied approaches to the treatment of OCD (i.e., cognitive-behavioral therapy [CBT] and SRI medication), when the framers of the OCRD chapter refer to “treatment,” they appear to be referring exclusively to medication (Fineberg, Saxena, Zohar, & Craig, 2011). Thus, we will consider this treatment modality first. Indeed, numerous randomized placebo-controlled studies have demonstrated the efficacy of SRIs (e.g., clomipramine and selective serotonin reuptake inhibitors [SSRIs; e.g., sertraline]) in OCD (e.g., DeVaugh-Geiss et al., 1992; Foa et al., 2005; Geller et al., 2003; Goodman et al., 1989; Greist et al., 1995; Tollefson et al., 1994). These medications, on average, lead to about 20–40% reduction in symptoms for about 50–60% of people who use them. Yet response to SRIs among the other OCRDs is even more modest and varied in terms of efficacy and the amount of available data. Several studies have shown no beneficial effect of SRIs in trichotillomania relative to placebo (Christenson, Mackenzie, Mitchell, & Callies, 1991; van Minnen, Hoogduin, Keijsers, Hellenbrand, & Hendriks, 2003; Ninan, Rothbaum, Marsteller,



Knight, & Eccard, 2000; Streichenwein & Thornby, 1995), whereas others have found efficacy (Dougherty, Loh, Jenike, & Keuthen, 2006). In one well-designed multimodal study, van Minnen et al. (2003) found that both behavioral therapy and waitlist control were superior to fluoxetine for trichotillomania. Controlled data, however, are lacking regarding other OCRDs (e.g., excoriation, hoarding). Thus, there are insufficient data to support any linkage among putative OCRDs as a function of response to SRIs.

The appeal to an overlap in treatment response, however, is only useful as a basis for grouping together OCD and the other OCRDs if the following three conditions are met: (a) preferential response to SRIs is observed *uniformly* in OCD and the OCRDs, (b) the preferential response to SRIs is observed *only* among the OCRDs, and (c) SRIs are the *best* treatment available for OCD and OCRDs. Unfortunately, none of these parameters have empirical support. First, whereas OCD responds preferentially to SRIs (e.g., over non-SRIs; Abramowitz, Taylor, & McKay, 2009), the claim of a similar preferential response across the OCRDs is not supported by the data. In particular, few controlled studies comparing SRIs and non-SRIs have been conducted for the other OCRDs; the assertion of preferential treatment response in most OCRDs is based on open trials that are not adequate for addressing relative efficacy. Second, as we have mentioned, the SRIs are also efficacious (often more so than other classes of psychotropic medications) in the treatment of numerous mood (e.g., Nemeroff & Shatzberg, 1998) and anxiety disorders (e.g., Boyer, 1995) that are excluded from the OCD chapter. Third, seemingly overlooked by those who developed the OCD chapter is the fact that CBT—particularly exposure and response prevention (ERP)—is more effective than any type of medication for OCD (average symptom reduction rates for ERP are 60–70%; e.g., Foa et al., 2005; Jenike, 2004). Moreover, with the exception of BDD, ERP is not effective in the treatment of other OCRDs (e.g., Campsi, 1995; Cororve & Gleaves, 2001; Greenberg & Wilhelm, 2011).

#### Is OCD an Anxiety Disorder?

Clinical observations and empirical research (e.g., Abramowitz & Deacon, 2005a, 2005b; Barlow, 2002)

strongly suggest that OCD has more in common with the *DSM-5* anxiety disorders than with the other OCRDs, again with the exception of BDD. For example, OCD, BDD, phobias, social anxiety disorder, panic disorder, and generalized anxiety disorder all involve anxiety or fear that occurs in the context of more or less disorder-specific situations or stimuli. Research also shows that in OCD, BDD, and the anxiety disorders, fear is maintained by the same sorts of exaggerated perceptions of the probability and severity of harm (in one form or another) resulting from such stimuli. For example, in OCD, fear is triggered by unwanted thoughts (e.g., of violence) that are misinterpreted as threatening (“I might act on the thought”). Analogously, in panic disorder, fear is triggered by arousal-related body sensations (e.g., racing heart) that are misinterpreted as threatening (“I’m having a heart attack”; e.g., Abramowitz & Deacon, 2005a, 2005b; Clark, 1999).

There is also phenomenological similarity in how people with OCD and those with anxiety disorders use active and passive escape and avoidance strategies when confronted with feared stimuli (or the prospect of being confronted; e.g., Clark, 1999). Examples of such “safety-seeking behavior” include resting to prevent heart attacks during panic episodes, use of a “safety person” to avoid losing control in agoraphobia, drinking alcohol to reduce fear of social situations by someone with social anxiety, and avoidance of disorder-specific feared stimuli across the phobias. These behaviors are all functionally equivalent to compulsive rituals and other forms of active and passive resistance to obsessional thoughts in OCD. Although the excessive avoidance and escape behaviors in OCD, BDD, and in the other anxiety disorders might appear topographically diverse (and sometimes “compulsive” or repetitive in OCD), all are phenomenologically linked to a feared stimulus and a belief (i.e., overestimation of threat) characteristic of that particular disorder. All of this is to point out that the fundamental phenomenology of OCD is threat detection-based, and the same as that in the other anxiety disorders.

#### IMPLICATIONS OF *DSM-5* FOR THE TREATMENT AND STUDY OF OCD

##### Clinical Practice Implications

As clinicians and researchers in the field of OCD, we see the potential for the transition from *DSM-IV* to

DSM-5 to have a number of implications—both positive and negative—for the accurate diagnosis, assessment, and treatment (psychological and pharmacological) of OCD and the other OCRDs. Some of these implications derive from the OCD diagnostic criteria themselves, while others might stem from the creation of the new OCRD chapter, and indeed, two new diagnoses.

**Misdiagnosis.** Even before the DSM-5 officially grouped OCD with skin picking and hair pulling, we commonly received referrals and inquiries from individuals with the latter problems seeking treatment for “OCD.” Many had been labeled as having OCD by another mental health professional who had made the diagnosis on the basis of the repetitive behaviors alone. One concern raised by the lumping of OCD and these impulse control problems within the same chapter in DSM-5 is that more clinicians will overlook the functional differences in repetitive behaviors and give a diagnosis of OCD (based on the mere *presence* of repetitive “compulsive” behavior), as it is the flagship condition of the DSM-5 chapter. As we discuss later in this section, such a misdiagnosis could lead to receiving inappropriate treatment.

Retaining the criterion that either obsessions or compulsions be present for a diagnosis of OCD could also perpetuate problems with misdiagnosing various other sorts of “compulsive” behaviors as OCD. For example, we receive inquiries from individuals who self-diagnose, or have been given a diagnosis of OCD by a professional, solely on the basis of their being extremely “compulsive” about keeping their home or car very clean. Such behavior is not motivated by obsessional fears and thus (if pathological at all) is more likely a sign of OCPD than OCD. Similarly, individuals with ruminative thoughts (as seen in depression), repetitive worries (as seen in generalized anxiety disorder), or intrusive feelings of jealousy (as described in the Other Specified OCRDs) could also be labeled as having OCD, resulting in further confusion and misdiagnosis.

**Overlooking Key Signs and Symptoms.** The DSM’s emphasis on the repetitiveness and persistent nature of obsessions and compulsions could also hinder the clinician’s assessment and conceptualization of a patient’s

presentation of OCD. That is, whereas repetition is often the most readily *observable* sign of OCD, this emphasis could lead to overlooking the functional relationship *between* obsessions and efforts to reduce this distress (e.g., compulsions), which is a key feature of this problem. As we have discussed, repetitive compulsive rituals represent only one class of overt and covert tactics that patients use to resist their distressing obsessional thoughts. The DSM diagnostic criteria overlook equally important (yet more covert) tactics such as thought suppression, avoidance, and other forms of neutralization that are less “compulsive.”

**Confusion About Which Treatments for Which Disorders.** We propose that the OCRD chapter and inclusion of OCD in the same diagnostic category along with problems such as hair pulling, skin picking, and hoarding is likely to lead many mental health clinicians to offer the same types of treatment for all OCRDs—even when this might be inappropriate. Regarding psychological treatment, ERP for OCD was developed from an empirically demonstrated conceptualization of obsessional problems as being characterized by escape and avoidance behaviors that are performed to reduce inappropriate fear associated with obsessional stimuli. Because hoarding, excoriation, and hair-pulling disorders involve neither obsessional fears nor urges to perform behaviors designed to escape or neutralize fear, ERP does not have a place in the treatment of these problems (Abramowitz, 2013; Mataix-Cols, Marks, Greist, Kobak, & Baer, 2002). Skin picking in excoriation disorder, for example, is not evoked by obsessional fear, but rather by general tension, fatigue, or boredom. Similarly, hair pulling in trichotillomania is not performed to reduce the probability of danger, as is observed with compulsive rituals in OCD. Thus, there are no obsessional fears for which to conduct exposure; instead, habit reversal training and stimulus control techniques are effectively utilized for these conditions (Grant, Donahue, & Odlaug, 2011; van Minnen et al., 2003), methods that are not used or recommended for OCD. The situation might also be similar for psychotropic medications, which have little empirical testing in OCRDs other than OCD itself. As we discuss next, we anticipate that the OCRD chapter will lead to the use of SRI

medication for all OCRDs even without proper empirical support.

**New Markets for SRI Medications.** Other than OCD, the disorders that comprise the OCD chapter in *DSM-5* do not have any medications that are specifically indicated for them. This is primarily because there is not sufficient evidence from well-conducted randomized controlled trials that such medications are efficacious for these disorders. Yet as a result of the OCD chapter, which now links BDD, hoarding disorders, skin-picking disorder, and hair-pulling disorder with OCD, we would anticipate an increase in the prescription rates for medications used in the treatment of OCD—namely, SRIs—for these other problems as well (which is problematic given a lack of evidence of their efficacy).

**Improved Psychological Treatment for BDD.** If our prediction is correct that treatments used for OCD will become more widely used for other OCRDs, then the use of appropriate psychological treatment of BDD stands to increase. That is because similar ERP techniques that are effective for OCD are also effective in the treatment of BDD (e.g., Greenberg & Wilhelm, 2011). Previously categorized as a somatoform disorder, however, many clinicians overlooked the overlaps between OCD and BDD in terms of their nature and treatment. BDD, however, is characterized by body-focused thoughts and preoccupations that are phenomenologically similar to obsessions in OCD. Moreover, individuals with BDD deploy subjective resistance strategies similar to those used in OCD, such as avoidance, checking mirrors and other shiny surfaces, and asking for reassurance. As with the analogous strategies in OCD, while these behaviors might reduce physical defect-related preoccupation in the short term, they maintain the problem in the long run. Thus, ERP is an appropriate intervention (Abramowitz, 2013).

**Increased Recognition and Attention to Hoarding and Skin Picking.** Hoarding and, to a lesser extent, severe skin picking have long been recognized as chronic, harmful, distressing, and often functionally interfering problems. With the inclusion of these problems as new diagnostic entities in *DSM-5*, we anticipate that they

will be more readily recognized by clinicians in the mental health field and elsewhere, and that more people will seek treatment for these problems.

**Better Identification of Potential Treatment Nonresponders.** Another potentially positive implication of changes to OCD in the *DSM-5* is that the new specifiers could assist with identifying individuals at greater risk of nonresponse to both ERP and pharmacological treatments. Research suggests that poor insight is predictive of attenuated response to empirically supported treatment for OCD (e.g., Foa, Abramowitz, Franklin, & Kozak, 1999). Thus, identification of individuals with very poor insight might lead to the use of more intensive treatment regimens, which might be of greater benefit. Similarly, individuals with tic-related OCD are often found to be treatment refractory (Ferrão, Miguel, & Stein, 2009; Franklin, Harrison, & Benavides, 2012; Mansueto & Keuler, 2005; see Verdellen et al., 2004, for an exception), and with the addition of the tic-related specifier in *DSM-5*, future directions can explore potential treatment modifications for improving outcomes with this population.

#### **Implications for Research on OCD**

The new specifiers—three levels of insight and tic-related OCD—will have potential implications for research. It will be interesting to determine the extent to which these specifications are predictive of phenomenology and treatment response. OCD is well known as a heterogeneous condition, yet the heterogeneity is commonly considered to occur in the form of obsessional or compulsive themes. It remains to be determined whether results of studies on individuals with nontic-related OCD symptoms extend to those with tic-related OCD. This will help address whether future OCD studies should include individuals with tic-related OCD, or whether it is best to study tic- and nontic-related OCD presentations separately.

To a similar end, it is unfortunate that the *DSM-5* does not speak to the heterogeneity of OCD and the fact that various symptom dimensions have been replicated across the empirical literature (e.g., McKay et al., 2004). These dimensions are characterized by somewhat different psychopathology and treatment response (McKay et al., 2004). While some researchers continue

to study the nature and treatment of OCD as if it were a homogeneous condition (e.g., Foa et al., 2005), others have begun studying the nature and treatment of individual symptom dimensions to ensure more homogeneous samples (e.g., Summerfeldt, 2004).

Finally, it will be important for investigators not to assume that simply because OCD and the other OCRDs are included in the same chapter that they can be studied as if they are the same condition. As we (and others; e.g., Abramowitz & Deacon, 2005a, 2005b; Storch et al., 2008) have pointed out, there are many important differences in the psychopathology and treatment across the OCRDs that warrant treating these conditions as highly distinct. In particular, many existing studies of OCD treatment and psychopathology include individuals with hoarding. Yet given strong evidence that hoarding is distinct from OCD, it will be important for future investigations of OCD not to include participants with this condition.

#### CONCLUSIONS

The transition from *DSM-IV* to *DSM-5* has resulted in the removal of OCD from the anxiety disorders category, as well as in the generation of a new OCRD classification of putatively similar diagnoses. Despite claims that OCD and the other OCRDs share common repetitive behaviors (e.g., hand washing and hair pulling), associated features (e.g., age of onset, comorbidity), neurobiological abnormalities, and treatment response profiles, the areas of overlap among these disorders demonstrate neither sensitivity nor specificity to OCD and the putatively related conditions, and in fact, OCD appears to have more in common with the *DSM-5* anxiety disorders than with most of the other OCRDs, with BDD being the main exception. Additionally, in its fifth edition, the *DSM* fails to self-correct for criteria that mischaracterize the functional link between obsessions and compulsions by requiring either obsessions or compulsions in order for individuals to meet diagnostic criteria and by not adequately capturing other anxiety-reduction strategies (e.g., mental neutralizing, avoidance) that similarly serve to maintain the disorder. Thus, we raise concerns about the potential for the misunderstanding of both OCRD symptoms and treatments. At the same time, however, we anticipate potential improvements

in the understanding of BDD, tic-related OCD, and patients with low insight, populations that are under-researched and are at high risk to be nonresponsive to treatment.

#### NOTE

1. Among people with OCD, comorbidity rates of other anxiety (and mood) disorders are considerably higher than the rates of other OCRDs. For example, Nestadt et al. (2001) found that 13% of OCD patients also meet criteria for generalized anxiety disorder, 20.8% for panic disorder, 36% for social phobia, 30.7% for specific phobias, and 54.1% for recurrent major depression. Thus, ironically, the argument that OCRDs are related on the basis of comorbidity is actually much more in line with the view that OCD (and perhaps BDD) should have been classified as an anxiety disorder in *DSM-5*.

#### REFERENCES

- Abramovitch, A., Abramowitz, J. S., & Mittelman, A. (2013). The neuropsychology of adult obsessive-compulsive disorder: A meta-analysis. *Clinical Psychology Review, 33*, 1163–1171. doi:10.1016/j.cpr.2013.09.004
- Abramowitz, J. S. (2006). *Understanding and treating obsessive-compulsive disorder: A cognitive-behavioral approach*. New York, NY: Erlbaum.
- Abramowitz, J. S. (2013). The practice of exposure therapy: Relevance of cognitive-behavioral theory and extinction theory. *Behavior Therapy, 44*, 548–558. doi:10.1016/j.beth.2013.03.003
- Abramowitz, J. S., & Deacon, B. J. (2005a). Obsessive-compulsive disorder: Essential phenomenology and overlap with anxiety disorders. In J. S. Abramowitz & A. C. Houts (Eds.), *Concepts and controversies in obsessive-compulsive disorder* (pp. 119–135). New York, NY: Springer. doi:10.1007/0-387-23370-9\_6
- Abramowitz, J. S., & Deacon, B. J. (2005b). The OCD spectrum: A closer look at the arguments and the data. In J. S. Abramowitz & A. C. Houts (Eds.), *Concepts and controversies in obsessive-compulsive disorder* (pp. 141–149). New York, NY: Springer.
- Abramowitz, J. S., Deacon, B., Olatunji, B., Wheaton, M. G., Berman, N., Losardo, D., ... Hale, L. (2010). Assessment of obsessive-compulsive symptom dimensions: Development and evaluation of the Dimensional Obsessive-Compulsive Scale. *Psychological Assessment, 22*, 180–198. doi:10.1037/a0018260
- Abramowitz, J. S., Franklin, M. E., Schwartz, S. A., & Furr, J. M. (2003). Symptom presentation and outcome of

- cognitive-behavior therapy for obsessive-compulsive disorder. *Journal of Consulting and Clinical Psychology*, 71, 1049–1057. doi:10.1037/0022-006X.71.6.1049
- Abramowitz, J. S., & Houts, A. C. (2002). What is OCD and what is not: Problems with the OCD spectrum concept. *Scientific Review of Mental Health Practice*, 1, 139–156.
- Abramowitz, J. S., Taylor, S., & McKay, D. (2009). Obsessive-compulsive disorder. *The Lancet*, 374, 491–499. doi:10.1016/S0140-6736(09)60240-3
- Abramowitz, J. S., Tolin, D. F., & Street, G. P. (2001). Paradoxical effects of thought suppression: A meta-analysis of controlled studies. *Clinical Psychology Review*, 21, 683–703. doi:10.1016/S0272-7358(00)00057-X
- Abramowitz, J. S., Wheaton, M. G., & Storch, E. A. (2008). The status of hoarding as a symptom of obsessive-compulsive disorder. *Behaviour Research and Therapy*, 46, 1026–1033. doi:10.1016/j.brat.2008.05.006
- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Barlow, D. H. (2002). *Anxiety and its disorders*. (2nd ed.). New York, NY: Guilford.
- Bienvenu, O. J., Samuels, J. F., Riddle, M. A., Hoehn-Saric, R., Liang, K. Y., Cullen, B. A., ... 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
- Boyer, W. (1995). Serotonin uptake inhibitors are superior to imipramine and alprazolam in alleviating panic attacks: A meta-analysis. *International Clinical Psychopharmacology*, 10, 45–49. doi:10.1097/00004850-199503000-00006
- Campsi, T. A. (1995). Exposure and response prevention in the treatment of body dysmorphic disorder. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 56, 7036.
- Christenson, G. A., Mackenzie, T. B., Mitchell, J. E., & Callies, A. L. (1991). A placebo controlled, double-blind crossover study of fluoxetine in trichotillomania. *American Journal of Psychiatry*, 148, 1566–1571.
- Clark, D. M. (1999). Anxiety disorders: Why they persist and how to treat them. *Behaviour Research & Therapy*, 37, S5–S27. doi:10.1016/S0005-7967(99)00048-0
- Clark, D. A. (2004). *Cognitive behavioral therapy for OCD*. New York, NY: Guilford Press.
- 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
- Deacon, B. J. (2013). The biomedical model of mental disorder: A critical analysis of its validity, utility, and effects on psychotherapy research. *Clinical Psychology Review*, 33, 846–861. doi:10.1016/j.cpr.2012.09.007
- DeVeauh-Geiss, J., Moroz, G., Biederman, J. B., Cantwell, D., Fontaine, R., Greist, J. H., ... Landau, P. (1992). Clomipramine hydrochloride in childhood and adolescent obsessive-compulsive disorder: A multicenter trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31, 45–49. doi:10.1097/00004583-199201000-00008
- Dougherty, D. D., Loh, R., Jenike, M. A., & Keuthen, N. J. (2006). Single modality versus dual modality treatment for trichotillomania: Sertraline, behavioral therapy, or both? *Journal of Clinical Psychiatry*, 67, 1086–1092. doi:10.4088/JCP.v67n0711
- Ferrão, Y., Miguel, E., & Stein, D. (2009). Tourette's syndrome, trichotillomania, and obsessive-compulsive disorder: How closely are they related? *Psychiatry Research*, 170(1), 32–42. doi:10.1016/j.psychres.2008.06.008
- Fineberg, N., Saxena, S., Zohar, J., & Craig, K. (2011). Obsessive-compulsive disorder: Boundary issues. In E. Hollander, J. Zohar, P. J. Sirovatka, & D. A. Regier (Eds.), *Obsessive-compulsive spectrum disorders: Refining the research agenda for DSM-V* (pp. 1–32). Washington, DC: American Psychiatric Association.
- Foa, E. B., Abramowitz, J. S., Franklin, M. E., & Kozak, M. J. (1999). Feared consequences, fixity of belief, and treatment outcome in patients with obsessive-compulsive disorder. *Behavior Therapy*, 30, 717–724. doi:10.1016/S0005-7894(99)80035-5
- Foa, E. B., & Kozak, M. J. (1995). DSM-IV field trial: Obsessive-compulsive disorder. *American Journal of Psychiatry*, 152, 90–96.
- Foa, E. B., Liebowitz, M. R., Kozak, M. J., Davies, S., Campeas, R., Franklin, M. E., ... Tu, X. (2005). Randomized, placebo-controlled trial of exposure and ritual prevention, clomipramine, and their combination in the treatment of obsessive compulsive disorder. *American Journal of Psychiatry*, 162, 151–161. doi:10.1176/appi.ajp.162.1.151

- Franklin, M. E., Harrison, J. P., & Benavides, K. L. (2012). Obsessive-compulsive and tic-related disorders. *Child and Adolescent Psychiatric Clinics of North America*, 21, 555–571. doi:10.1016/j.chc.2012.05.008
- Freeston, M. H., & Ladouceur, R. (1997). What do patients do with their obsessive thoughts? *Behaviour Research & Therapy*, 35, 335–348. doi:10.1016/S0005-7967(96)00094-0
- Frost, R. O., & Steketee, G. (2008). Compulsive hoarding. In J. S. Abramowitz, D. McKay, & S. Taylor (Eds.), *Obsessive-compulsive disorder: Subtypes and spectrum conditions* (pp. 76–93). New York, NY: Elsevier.
- Geller, D. A., Biederman, J., Stewart, S. E., Mullin, B., Martin, A., Spencer, T., & Faraone, S. V. (2003). Which SSRI? A meta-analysis of pharmacotherapy trials in pediatric obsessive-compulsive disorder. *American Journal of Psychiatry*, 160, 1919–1928. doi:10.1176/appi.ajp.160.11.1919
- Goodman, W. K., Price, L. H., Rasmussen, S. A., Delgado, P. L., Heninger, G. R., & Charney, D. S. (1989). Efficacy of fluvoxamine in obsessive-compulsive disorder. A double-blind comparison with placebo. *Archives of General Psychiatry*, 46, 36–44. doi:10.1001/archpsyc.1989.01810010038006
- Grant, J. E., Donahue, C. B., & Odlaug, B. L. (2011). *Treating impulse control disorders: A cognitive-behavioral therapy program*. Oxford, UK: Oxford University Press.
- Grant, J. E., & Potenza, M. N. (2004). Impulse control disorders: Clinical characteristics and pharmacological management. *Annals of Clinical Psychiatry*, 16, 27–34. doi:10.1080/10401230490281366
- Greenberg, J. L., & Wilhelm, S. (2011). Cognitive-behavioral therapy for body dysmorphic disorder: A review and future directions. *International Journal of Cognitive Therapy*, 4, 349–362. doi:10.1521/ijct.2011.4.4.349
- Greist, J., Chouinard, G., DuBoff, E., Halaris, A., Kim, S. W., Koran, L., ... Sikes, C. (1995). Double-blind parallel comparison of three dosages of sertraline and placebo in outpatients with obsessive-compulsive disorder. *Archives of General Psychiatry*, 52, 289–295. doi:10.1001/archpsyc.1995.03950160039008
- Hollander, E. (1993). Obsessive-compulsive spectrum disorders: An overview. *Psychiatric Annals*, 23, 355–358.
- Hollander, E., Friedberg, J. P., Wasserman, S., Yeh, C., & Iyengar, R. (2005). The case for the OCD spectrum. In J. S. Abramowitz & A. C. Houts (Eds.), *Concepts and controversies in obsessive-compulsive disorder* (pp. 95–118). New York, NY: Springer. doi:10.1007/0-387-23370-9\_5
- Hollander, E., Zohar, J., Sirovatka, P. J., & Regier, D. A. (Eds.). (2011). *Obsessive-compulsive behavior spectrum disorders: Refining the research agenda for DSM-5*. Arlington, VA: American Psychiatric Association.
- Hyman, S. E. (2007). Can neuroscience be integrated into the DSM-V? *Nature Reviews: Neuroscience*, 8, 725–732. doi:10.1038/nrn2218
- Jenike, M. (2004). Obsessive-compulsive disorder. *New England Journal of Medicine*, 350, 259–265. doi:10.1056/NEJMcp031002
- Ladouceur, R., Freeston, M. H., Rheaume, J., Dugas, M. J., Gagnon, F., Thibodeau, N., & Fournier, S. (2000). Strategies used with intrusive thoughts: A comparison of OCD patients with anxious and community controls. *Journal of Abnormal Psychology*, 109, 179–187. doi:10.1037/0021-843X.109.2.179
- Leckman, J. F., Grice, D. E., Boardman, J., Zhang, H., Vitale, A., Bondi, C., ... Pauls, D. L. (1997). Symptoms of obsessive-compulsive disorder. *American Journal of Psychiatry*, 154, 911–917.
- Leonard, R., & Riemann, B. (2012). The co-occurrence of obsessions and compulsions in OCD. *Journal of Obsessive-Compulsive and Related Disorders*, 1, 211–215. doi:10.1016/j.jocrd.2012.06.002
- Mansueto, C. S., & Keuler, D. J. (2005). Tic or compulsion? It's Tourette's OCD. *Behavior Modification*, 29, 784–799. doi:10.1177/0145445505279261
- Mataix-Cols, D., Frost, R. O., Pertusa, A., Clark, L. A., Saxena, S., Leckman, J. F., ... Wilhelm, S. (2010). Hoarding disorder: A new diagnosis for DSM-V? *Depression and Anxiety*, 27, 556–572. doi:10.1002/da.20693
- Mataix-Cols, D., Marks, I. M., Greist, J. H., Kobak, K. A., & Baer, L. (2002). Obsessive-compulsive symptom dimensions as predictors of compliance with and response to behaviour therapy: Results from a controlled trial. *Psychotherapy and Psychosomatics*, 71, 255–262. doi:10.1159/000064812
- Mataix-Cols, D., Pertusa, A., & Leckman, J. F. (2007). Issues for DSM-V: How should obsessive-compulsive and related disorders be classified? *American Journal of Psychiatry*, 164, 1313–1314. doi:10.1176/appi.ajp.2007.07040568
- McEroy, S. L., Keck, P. E., & Phillips, K. A. (1995). Kleptomania, compulsive buying, and binge-eating disorder. *Journal of Clinical Psychiatry*, 56(Suppl. 4), 14–27.
- McKay, D., Abramowitz, J. S., Calamari, J., Kyrios, M., Sookman, D., Taylor, S., & Wilhelm, S. (2004). A critical evaluation of obsessive-compulsive disorder subtypes: Symptoms versus mechanisms. *Clinical Psychology Review*, 24, 283–313. doi:10.1016/j.cpr.2004.04.003
- van Minnen, A., Hoogduin, K. A., Keijsers, G. P., Hellenbrand, I., & Hendriks, G. J. (2003). Treatment of

- trichotillomania with behavioral therapy or fluoxetine: A randomized, waiting-list controlled study. *Archives of General Psychiatry*, *60*, 517–522. doi:10.1001/archpsyc.60.5.517
- Nemeroff, C., & Shatzberg, A. (1998). *Textbook of psychopharmacology* (2nd ed.). Washington, DC: American Psychiatric Press.
- Nestadt, G., Samuels, J., Riddle, M. A., Liang, K. Y., Bienvenu, O. J., Hoehn-Saric, R., . . . Cullen, B. (2001). The relationship between obsessive-compulsive disorder and anxiety and affective disorders: Results from the Johns Hopkins OCD Family Study. *Psychological Medicine*, *31*, 481–487. doi:10.1017/S0033291701003579
- Ninan, P. T., Rothbaum, B. O., Marsteller, F. A., Knight, B. T., & Eccard, M. B. (2000). A placebo-controlled trial of cognitive-behavioral therapy and clomipramine in trichotillomania. *Journal of Clinical Psychiatry*, *61*, 47–50. doi:10.4088/JCP.v61n0111
- Pertusa, A., Frost, R. O., Fullana, M. A., Samuels, J. F., Steketee, G., Tolin, D. F., . . . Mataix-Cols, D. (2010). Refining the diagnostic boundaries of compulsive hoarding: A critical review. *Clinical Psychology Review*, *30*, 371–386. doi:10.1016/j.cpr.2010.01.007
- Rachman, S. (1997). A cognitive theory of obsessions. *Behaviour Research and Therapy*, *35*, 793–802. doi:10.1016/S0005-7967(97)00040-5
- Rachman, S., & Hodgson, R. (1980). *Obsessions and compulsions*. Englewood Cliffs, NJ: Prentice Hall.
- Salkovskis, P. M. (1999). Understanding and treating obsessive-compulsive disorder. *Behavior Research and Therapy*, *37*(Suppl. 1), S29–S52. doi:10.1016/S0005-7967(99)00049-2
- Saxena, S., & Rauch, S. L. (2000). Functional neuroimaging and the neuroanatomy of obsessive compulsive disorder. *Psychiatric Clinics of North America*, *23*, 563–586. doi:10.1016/S0193-953X(05)70181-7
- Stein, D. J., Simeon, D., Cohen, L. J., & Holander, E. (1995). Trichotillomania and obsessive-compulsive disorder. *Journal of Clinical Psychiatry*, *56*(Suppl. 4), 28–34.
- Storch, E. A., Abramowitz, J. S., & Goodman, W. K. (2008). Does obsessive-compulsive disorder belong among the anxiety disorders in DSM-V? *Depression and Anxiety*, *25*, 326–347. doi:10.1002/da.20699
- Streichenwein, S. M., & Thornby, J. I. (1995). A long-term, double-blind, placebo-controlled crossover trial of the efficacy of fluoxetine for trichotillomania. *American Journal of Psychiatry*, *152*, 1192–1196.
- Summerfeldt, L. J. (2004). Understanding and treating incompleteness in obsessive-compulsive disorder. *Journal of Clinical Psychology*, *60*, 1155–1168. doi:10.1002/jclp.20080
- Summerfeldt, L., Hood, K., Antony, M., Richter, M., & Swinson, R. (2004). Impulsivity in obsessive-compulsive disorder: Comparisons with other anxiety disorders and within tic-related subgroups. *Personality and Individual Differences*, *36*, 539–553. doi:10.1016/S0191-8869(03)00113-2
- Summerfeldt, L. J., Richter, M. A., Antony, M. M., & Swinson, R. P. (1999). Symptom structure in obsessive-compulsive disorder: A confirmatory factor-analytic study. *Behaviour Research and Therapy*, *37*, 297–311. doi:10.1016/S0005-7967(98)00134-X
- Tollefson, G. D., Rampey, A. H., Jr., Potvin, J. H., Jenike, M. A., Rush, A. J., Kominguez, R. A., . . . Genduso, L. A. (1994). A multicenter investigation of fixed-dose fluoxetine in the treatment of obsessive compulsive disorder. *Archives of General Psychiatry*, *51*, 559–567. doi:10.1001/archpsyc.1994.03950070051010
- Verdellen, C. W., Keijsers, G. P., Cath, D. C., & Hoogduin, C. A. (2004). Exposure with response prevention versus habit reversal in Tourette's syndrome: A controlled study. *Behavior Research and Therapy*, *42*, 501–511. doi:10.1016/S0005-7967(03)00154-2
- Wheaton, M. G., Abramowitz, J. S., Fabricant, L. E., Berman, N. C., & Franklin, J. C. (2011). Is hoarding a symptom of obsessive-compulsive disorder? *International Journal of Cognitive Therapy*, *4*, 225–238. doi:10.1521/ijct.2011.4.3.225
- Whiteside, S. P., Port, J. D., & Abramowitz, J. S. (2004). A review and meta-analysis of functional neuroimaging in obsessive-compulsive disorder. *Psychiatry Research: Neuroimaging*, *132*, 69–79. doi:10.1016/j.pscychresns.2004.07.001

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