Does Obsessive-Compulsive Personality Disorder Belong Within the Obsessive-Compulsive Spectrum?

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Focus Points

- In this article, we consider the advantages and disadvantages of current categorical models for diagnosing obsessive-compulsive personality disorder (OCPD).
- We review the similarities and differences between OCPD and obsessive-compulsive spectrum disorders.

Abstract

It has been proposed that certain Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition *Axis I disorders share overlapping clinical features, genetic contributions, and treatment response and fall within an "obsessive-compulsive" spectrum. Obsessive-compulsive personality disorder (OCPD) resembles obsessive-compulsive disorder (OCD) and other spectrum disorders in terms of phenomenology, comorbidity, neurocognition, and treatment response. This article critically examines the nosological profile of OCPD with special reference to OCD and related disorders. By viewing OCPD as a candidate member of the obsessive-compulsive spectrum, we gain a fresh approach to understanding its neurobiology, etiology, and potential treatments.*

Introduction

The definition of obsessive-compulsive personality disorder (OCPD) and its relationship with other *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition-Text Revision* (*DSM-IV-TR*)[1] Axis I and Axis II diagnoses1 has always been controversial. Despite sharing overlapping nosology, the link between OCPD and obsessive-compulsive disorder (OCD) remains contested in the literature.[2,3] Early studies[4,5] suggested high rates of comorbidity between OCPD and OCD, whereas more recent data indicate that OCD patients show increased rates of personality disorders, per se and not OCPD in particular. Differences in outlook between professional disciplines has added to the confusion: psychiatrists tending to favor disordered personality traits, child psychiatrists developmental profiles, and psychologists neurocognitive mechanisms. According to the *DSM-IV-TR*, OCPD is categorized as an Axis II disorder within cluster C, together with avoidant and dependent personality disorders, representing enduring and pervasive patterns of behavior characterized by excessive anxiety and fear. In contrast, OCD is classified as an Axis I disorder within the anxiety disorders.

Certain *DSM-IV* Axis-I conditions share overlapping clinical features, genetic contributions and possibly treatment response and have been proposed to belong within an "obsessive-compulsive" (OC) spectrum.[6-9] Members of this putative spectrum so far include OCD, body dysmorphic disorder, compulsive hoarding, trichotillomania, compulsive skin-picking, tic disorders, autistic disorders, and eating disorders. In a study by Richter and colleagues,[10] patients with OCD showed a greater lifetime occurrence of multiple spectrum conditions compared with control patients with panic disorder and social phobia. Phenomenologically, OCPD is akin to OCD and many of these other conditions in that it is associated with maladaptive cognitive and behavioral inflexibility.[11] As attention turns toward possible future reclassification of disorders such as OCD, it is timely to review the diagnostic position of OCPD. In this article, we critically examine the status of OCPD with special reference to OCD and the OC spectrum of disorders, by focusing on phenomenology, epidemiology,

demographics, comorbidity, neurobiology, and treatment response. Specifically, we address whether there are sufficient grounds to remove OCPD from Axis II disorders and place it within the OC spectrum of disorders.
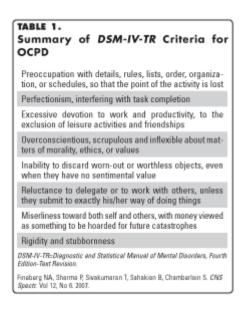
Obsessive-Compulsive Disorder and the Anal Character: A Historical Perspective

Modern concepts of OCPD are heavily influenced by psychoanalytic theory, and the extent to which current definitions mirror these early descriptions is remarkable. As early as 1903, Janet[12] described traits considered integral to the early stages of "psychesthenic illness" (now called OCD). These included perfectionism, indecisiveness, orderliness, authoritarianism, and restricted emotional expression.[13,14] By 1908, Freud's theory of "anal character types" included orderliness, parsimony, and obstinacy.[15] The need for control was subsequently emphasised as the core "anal-erotic" character trait.[16] Negative aspects of perfectionism were linked with negative affect and maladaptive social consequences, such as difficulty working cooperatively, though adaptive aspects, such as conscientiousness and persistence were also acknowledged.[17] A common etiology for OCD and OCPD was proposed, involving regression to an "anal stage" of childhood development. Specific personality traits were considered to precede the development of OCD and contribute to the condition.[13,18] However, in 1935, Lewis[19] noted these characteristics were also commonly found among patients without obsessions. Lewis suggested that there were two types of personality in individuals with obsessional neurosis: one characterized by negative affect, stubbornness, and irritability; and the other by uncertainty.

Categorical Definitions: The *DSM-I* to the *DSM-IV*

According to the *Diagnostic and Statistical Manual of Mental Disorders, First Edition*, (*DSM-I*),[20] "compulsive personality" constituted a "persistence of an adolescent pattern of behavior," or a "regression from more mature functioning as a result of stress." In the *Diagnostic and Statistical Manual of Mental Disorders, Second Edition* (*DSM-II*),[21] the name was changed to "obsessive-compulsive personality" and "anankastic personality" was introduced as an alternative to mitigate confusion with OCD (although this was deleted from subsequent editions). Key features included excessive adherence to standards of conscience, overinhibitedness, inordinate capacity for work, rigidity, and inability to relax. In the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition* (*DSM-III*)[22] OCPD was modified to include affective constriction and difficulty expressing warm and tender emotions, reminiscent of autistic disorders. Cold and uncaring traits superceded overinhibited, overconscientious features. Other criteria included perfectionism that interfered with completing larger goals, insistence that others submit to his or her way of doing things, lack of awareness of the feelings elicited by this behavior in others, excessive devotion to work to the exclusion of pleasure and interpersonal relationships, and indecisiveness associated with fear of making a mistake. In the transition from the *DSM-III* to the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition-Revised* (*DSM-III-R*)[23] affective constriction was downplayed and criteria, including excessive preoccupation with details and rules, overconscientiousness, scrupulousness, inflexibility about matters of

morality, ethics, or values, lack of generosity, and inability to discard worthless objects, were added. Table 1 summarizes the eight listed *DSM-IV-TR* criteria for OCPD. Since any four (or more) of the listed criteria constitute a diagnosis (assuming functional impairment), OCPD, thus defined, is a multifaceted and heterogeneous disorder.

TABLE 1.
Summary of *DSM-IV-TR* Criteria for OCPD

Preoccupation with details, rules, lists, order, organization, or schedules, so that the point of the activity is lost

Perfectionism, interfering with task completion

Excessive devotion to work and productivity, to the exclusion of leisure activities and friendships

Overconscientious, scrupulous and inflexible about matters of morality, ethics, or values

Inability to discard worn-out or worthless objects, even when they have no sentimental value

Reluctance to delegate or to work with others, unless they submit to exactly his/her way of doing things

Miserliness toward both self and others, with money viewed as something to be hoarded for future catastrophes

Rigidity and stubbornness

DSM-IV-TR: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition-Text Revision.

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Analysis of diagnostic efficiency statistics (sensitivity, specificity, positive, and negative predictive power) suggested criteria 1, 2, 6, and 8 (preoccupied with details, perfectionism, reluctance to delegate, rigid, and stubborn) were more useful than others for making the diagnosis, whereas criteria 7 and 3 (miserly and workaholic, respectively) performed so poorly they could be removed.[24] Nonetheless, the concept of "diagnostic efficiency statistics" assumes a gold standard with regard to categorical diagnosis, which is not the case for OCPD, for which limited methods of assessment are available. Shea and colleagues[25] reported high levels of stability for OCPD trait constellations over 12-month follow-up, although the number of criteria endorsed significantly decreased over time such that many patients no longer met the diagnostic threshold. After 24 months the predictive validity of items 1, 6, and 8 was supported, relative to the other criteria.[26] The most changeable criteria were miserliness and strict moral behaviors.[27] These observations suggest that, within OCPD, relatively fixed criteria are trait-like and attitudinal, whereas intermittent criteria are behavioral and reactive, and that OCPD exists as a hybrid of interacting traits and symptomatic behaviors that fluctuate in degree of maladaptive expression.
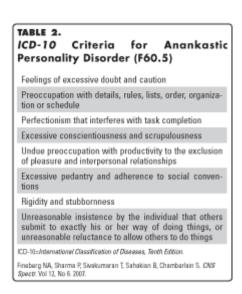
Diagnostic Thresholds

Although there are situations in which extreme orderliness, perfectionism, and conscientiousness may be useful, OC traits are not adaptive in many interpersonal situations. For a *Diagnostic and Statitical Manual of Mental Disorders, Fourth Edition* (*DSM-IV*)[28] diagnosis, general criteria for a personality disorder must be met, including clinically significant distress or impairment in social, occupational, or other areas of functioning. Four or more of the eight listed items are also required. Zanarini and colleagues[29] reported better interrater agreement on whether a subject displayed a specific item than on the number of diagnostic criteria met. They questioned the "threshold" model for OCPD and suggested a dimensional model as a more meaningful alternative. Existing dimensional models (eg, the highly cited five-factor model [FFM])[30,31] included adaptive as well as maladaptive

personality features. In the FFM, positive aspects were emphasized and OCPD was proposed as a disorder of excessive conscientiousness. Another approach toward improved understanding of personality pathology relations has been directed at better identifying personality features that covary.[32,33] Validation of these and other models in the context of OCPD remains inconclusive.[34,35]

International Classification of Diseases, Tenth Edition

According to the *International Classification of Diseases, Tenth Edition (ICD-10)*,[36] a diagnosis of "anankastic personality disorder" requires four or more of the eight listed criteria (Table 2). *DSM-IV* criterion 4 was split into excessive conscientiousness and excessive pedantry with adherence to social conventions. The *ICD-10* also added excessive doubt and caution, and removed hoarding and miserliness. The low specificity of the frequently endorsed "excessive doubt and caution" criterion (1; *ICD-10*), which can be indistinguishable from the OCD symptom of obsessive doubt[37] and "what if?" worries of generalized anxiety disorder, may result in anankastic personality disorder being over-diagnosed in comparison to *DSM-IV* OCPD.

TABLE 2.
ICD-10 Criteria for Anankastic Personality Disorder (F60.5)

Feelings of excessive doubt and caution
Preoccupation with details, rules, lists, order, organization or schedule
Perfectionism that interferes with task completion
Excessive conscientiousness and scrupulousness
Undue preoccupation with productivity to the exclusion of pleasure and interpersonal relationships
Excessive pedantry and adherence to social conventions
Rigidity and stubbornness
Unreasonable insistence by the individual that others submit to exactly his or her way of doing things, or unreasonable reluctance to allow others to do things

ICD-10=*International Classification of Diseases, Tenth Edition*.

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Obsessive-Compulsive Personality Disorder Versus Obsessive-Compulsive Disorder

OCD is a chronic, lifelong disorder characterized by obsessions (recurrent, intrusive thoughts) and compulsions (repetitive, unwanted behaviors) revolving around key themes such as harm and uncertainty. Although the *DSM-IV* attempted to distinguish between OCPD and OCD by focusing on the absence of obsessions and compulsions in OCPD, OC personality traits are easily mistaken for abnormal cognitions or values considered to underpin OCD. Aspects of self-directed perfectionism, such as believing a perfect solution is commendable, discomfort if things are sensed not to have been done completely, and doubting ones actions were performed correctly, have also been proposed as enduring

features of OCD[38] and may represent specific vulnerability factors for early onset OCD. Moreover, in *DSM-IV* field trials, a majority of OCD patients reported being unsure whether their OC symptoms really were unreasonable.[39] Unlike OCD, OCPD is not usually associated with morally repugnant urges. However, the classical "egodystonicity" that may distinguish obsessions from "egosyntonic" traits of OCPD, can be difficult to discern in clinical settings. Egodystonicity was downplayed in the *DSM-IV* criteria for OCD and a separate specifier for "poor insight" disorder was added. Compulsive hoarding constitutes a particularly insightless and treatment-resistant variant of OCD.[40] It also happens to be a core criterion for *DSM-IV* OCPD. Perhaps the clinical factor that best dissociates the two disorders is the greater mental discomfort (anxiety/affect) associated with OCD in comparison to OCPD. For many cases, OCD starts in childhood and adolescence (mean age of onset reported at 18 years, median: 16 years, mode: 13 years)[41] and runs an unremitting course, but unlike OCPD the illness is recognized to cause serious social and occupational impairment across multiple domains.[42]

Compulsive Hoarding

Compulsive hoarding (item 5, *DSM-IV* OCPD, Table 1) is also a recognized OCD symptom according to the current Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) symptom checklist.[43] Hoarding occurs in up to 31% OCD patients,[44] and frequently co-exists in patients with eating disorders,[45] organic mental disorders,[46] and psychotic disorders.[47] Hoarding usually starts in childhood,[48] represents a particularly intransigent behavior,[49] and has been found to correlate with perfectionism.[48] Severe hoarders tend not to find their behaviors unreasonable. Their ability to endure squalor with equanimity suggests a degree of affective withdrawal and lack of empathy as well as lack of insight. In a clinical sample of 15 severe hoarders, nine met *DSM-IV* criteria for OCD, nine for OCPD, and six for another OC spectrum disorder.[50] Frost and colleagues[51] found greater levels of anxiety, depression, and functional disability in OCD hoarders compared with non-hoarding OCD cases. Both OCD-hoarders and non-hoarders displayed higher levels of comorbid personality disorder, including OCPD, than controls. However, whereas OCD-hoarders reported significantly higher levels of schizotypal and dependent personality symptoms relative to OCD non-hoarders, OCPD did not differentiate, possibly reflecting the small numbers in the study.

Hoarders are difficult to treat and do not respond well to anti-obsessional therapies, including behavior therapy and selective serotonin reuptake inhibitors (SSRIs) compared with OCD patients with other symptom clusters.[52-54] Factor analysis,[52] genetic,[55] and neuroimaging studies suggest that hoarding is distinguishable from other OCD content. Mataix-Cols and colleagues[40] reported specific changes on functional magnetic resonance imaging in the left precentral gyrus and right orbitofrontal cortex compared with non-hoarders with OCD. Saxena and colleagues[56] reported that compared with controls, OCD patients with compulsive hoarding had significantly lower glucose metabolism on Fluorodeoxyglucose positron emission tomography in the posterior cingulate gyrus and cuneus, whereas non-hoarding OCD patients had significantly higher glucose metabolism bilaterally in the thalamus and caudate. In relation to non-hoarding OCD patients, compulsive hoarders had significantly lower metabolism in the dorsal anterior cingulate gyrus. The authors suggested that compulsive hoarding may be a neurobiologically distinct OCD subtype whose symptoms and poor response to anti-obsessional treatment are mediated by lower activity in the cingulate cortex.

Although the majority of researchers presume that compulsive hoarding is a symptom of OCD,[57] some researchers have questioned this notion, viewing it either as an exclusively OCPD trait or a stand-alone disorder. Wu and Watson[58] investigated inter-correlations between hoarding and OCD symptoms (checking, rituals, contamination) using OCD questionnaires (eg, Obsessive-Compulsive Inventory [OCI], Schedule of Compulsions, Obsessions, and Pathological Impulses [SCOPI]) in college students (n=1,244, 29% males). Classic OCD symptoms (rituals, checking, contamination) inter-correlated strongly between each other, whereas the correlations with hoarding were less marked. Similar findings were reported by the same authors[58] for a sample of psychology undergraduates (n=426), psychiatric outpatients (n=107) and previously diagnosed OCD patients (n=53). Additionally, hoarding correlated almost as strongly with general distress scales as it did with OCD symptoms. Non-hoarding symptoms correlated consistently with trait negative affect whereas hoarding did not. The authors concluded that their data did not support a specific OCD-hoarding relationship. Contrasting results are available elsewhere. Coles and colleagues[53] investigated self-report measures in psychology students (n=563) (eg, the OCI, and Savings Inventory Revised [SIR]). Total scores on the SIR (an instrument designed to comprehensively assess hoarding) and all four of its subscales were significantly correlated (medium to large effect sizes) with the frequency of OCD symptoms across all symptom types, including hoarding. Thus, the relationship between hoarding, OCD, and OCPD remains open to debate and further research is clearly warranted.

Assessment of Obsessive-Compulsive Personality Disorder

Structured interviews for diagnosis such as the Structured Clinical Interview for *DSM-II* (SCID-II),[60] Diagnostic Interview for Personality Disorders (DIPD)[61] and the Structured Interview for *DSM-III* Personality Disorders (SIDP),[62] possess reasonably good interrater reliability for OCPD (k>0.70), although the test-retest reliability even over short-term intervals is lower (0.50 for SCID-II, 0.58 for DIPD and 0.66 for SIDP).[63] There are no established rating instruments for assessing the severity of OCPD. Some studies computed the number of positively scored OCPD criteria as a proxy measure of severity.[64,65] In a separate treatment study,[64] each of the eight *DSM-IV* points were rated on a 5-point scale (0–4). Table 3 simulates this model. The scale was sensitive enough to discriminate active from inactive treatments over a 12-week trial duration, in a total of 24 cases. These findings support the likely utility of this scale in future research trials. There are also a few self-report questionnaires of uncertain provenance (eg, the self-rating obsessive-compulsive personality inventory).[66] Other self-rated scales have been devised to measure specific attitudes or beliefs that resemble OCPD traits, such as perfectionism, doubts about actions, and concern over mistakes (eg, the Multidimensional Perfectionism Scales).[67,68] However, these scales have not been validated against *DSM-IV* OCPD and have no evidence of showing sensitivity to change.

TABLE 3.
Compulsive Personality Assessment Scale

Subject's name _____ Date of birth ___ / ___ / ___

Rater's name _____ Date of rating ___ / ___ / ___

Items refer to a stable pattern of enduring traits dating back to adolescence or early adulthood. Use the questions listed as part of a semi-structured interview.

For each item circle the appropriate score: 0=absent; 1=mild; 2=moderate; 3=severe; 4=very severe

Item	Rating				
1. Preoccupation with details Are you preoccupied with details, rules, lists, order, organization, or schedules to the extent that the major aim of the activity is lost?	0	1	2	3	4
2. Perfectionism Would you describe yourself as a perfectionist who struggles with completing the task at hand?	0	1	2	3	4
3. Workaholism Are you excessively devoted to work to the exclusion of leisure activities and friendships?	0	1	2	3	4
4. Over-conscientiousness Would you describe yourself as over-conscientious and inflexible about matters of morality, ethics or values?	0	1	2	3	4
5. Hoarding Are you unable to discard worn-out or worthless objects even when they have no sentimental value?	0	1	2	3	4
6. Need for control Are you reluctant to delegate tasks or to work with others unless they submit to exactly your way of doing things?	0	1	2	3	4
7. Miserliness Do you see money as something to be hoarded for future catastrophes?	0	1	2	3	4
8. Rigidity Do you think you are rigid or stubborn?	0	1	2	3	4
Total:					

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Demographics

The estimated prevalence of *DSM-III* OCPD in the Epidemiological Catchment Area (ECA) Survey of United States communities was 1.7%.[69] In a selected subgroup of ECA subjects, a prevalence of 9% for any *DSM-IV* personality disorder, and 0.9% for *DSM-IV* OCPD was reported.[65] For comparison, ECA studies reported a lifetime prevalence of 2% to 3% for *DSM-III-R* OCD in the adult population[70] and 1.6% using the *DSM-IV*.[71] In children, a United Kingdom epidemiological study reported an increasing point prevalence of *DSM-IV* OCD with age, from 0.2% in 5–7-year-olds to 0.8% in 14–15-year-olds.[72]

Unlike OCD, where females have tended to predominate in epidemiological samples,[42] in the ECA studies, males were overrepresented in the OCPD cohort.[69] Males are overrepresented in most other personality disorders as well,[73] and also predominate in studies of early onset OCD,[74] suggesting a possible link between OCPD and early onset cases of OCD. There are no prospective studies comparing the age of onset of OCD and OCPD, though in some studies OCD predated OCPD. Eisen and colleagues[75] reported an earlier onset for OCD cases with OCPD compared to those without OCPD. Early onset OCD is associated with a higher familial risk, suggesting greater heritability,[76,77] though in the latter study there was no evidence of increased heritability for OCD in those with comorbid OCPD.

Although individual items may change, *DSM-IV* OCPD appears relatively stable over time.[25] Long-term (<8 years) follow-up of first psychiatric admissions with a diagnosis of OCD or OCPD showed 15% OCD cases converted to schizophrenia or bipolar disorder compared with 13% OCPD cases who developed exclusively bipolar disorder.[78]

Comorbidity

The co-existence of two or more illnesses, at a rate exceeding that expected from the population frequency, indicates the possibility of a common etiology (environmental and/or genetic) between them. Few studies have examined the co-occurrence of Axis I disorders in individuals with OCPD. Traditionally, OCPD has been linked with affective disorders.[79] McGlashan and colleagues[80] reported that 75.8% cases of OCPD were diagnosed with major depressive disorder, 29.4% with generalized anxiety disorder (GAD), 29.4% with alcohol abuse/dependence, and 25.7% with drug abuse/dependence (only Axis I disorders >25% reported). The frequency of depression comorbidity in OCD is similar at around two thirds of cases.[81] Another study[82] reported OCD occurred in 20% of 262 cases with OCPD. Table 4 lists reported prevalence rates for OCPD co-occurring with Axis I disorders.

TABLE 4.
Comorbidity Rates for OCPD Occurring Together with *DSM-IV* Axis I Disorders

Author (Year)	Axis I Disorder	Percentage with OCPD
Pinto et al (2006)[82]	OCD	25%
Samuels et al (2000)[05]		32%
Rossi et al (2001)[83]	Major depressive disorder	30.8%
Rossi et al (2001)[83]	Bipolar affective disorder	30.4%
Devanand et al (2000)[41]	Dysthymic disorder	17.1%
Nilsson et al (1999)[08]	Anorexia nervosa	20%
Anderluh et al (2003)[09]		61%
Grilo and McGlashan (2000)[118]	Bulimia	25.7%
Karwautz et al (2003)[118]		26%
Albert et al (2004)[86]	Panic disorder	17.1%

OCPD=obsessive-compulsive personality disorder; DSM-IV=Diagnostic and Statistical Manual of Mental Disorder, Fourth Edition; OCD=obsessive-compulsive disorder.

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Obsessive-Compulsive Personality Disorder and Affective and Anxiety Disorders

Among patients with depressive disorders, Rossi and colleagues[83] found that *DSM-IV* OCPD (30.8%) was one of the three most common co-existing personality disorders, and among bipolar affective disorders, OCPD (32.4%) was the most common. Bipolar disorders also share notable comorbidity with OCD.[84] OCPD was also the most common personality disorder (17.1%) in elderly patients with dysthymic disorder.[41] Brooks and colleagues[85] reported that *DSM-III* OCPD (26.7%) was one of the two most common personality disorders in individuals with panic disorder with agoraphobia. Albert and colleagues[86] reported a prevalence of 17.1% for *DSM-IV* OCPD in 82 non-comorbid clinical cases of panic disorder.

Obsessive-Compulsive Personality Disorder and Obsessive-Compulsive Disorder

Differences in conceptualization and diagnostic practice partly explain the variability in the reported comorbidity of OCPD in OCD. Outside the research setting, clinicians may not actively discriminate OCPD in OCD cases. Studies[4,87] conducted in the 1970s and 1980s indicated that 64% to 84% of patients with OCD had premorbid obsessional traits, but standardized diagnostic instruments were rarely used. Family studies[88] found high frequencies of obsessional-personality traits in relatives of OCD patients. However, the occurrence of personality traits in relatives of non-OCD control groups were not reported (reviewed in Black and Noyes, 1997).[88] Some studies,[89-92] using standardized assessment instruments, found a relatively high comorbidity of *DSM-III* or *DSM-III-R* OCPD, ranging from 16% to 44% individuals with OCD.[5] In contrast, other similar studies[93-96] found a low co-occurrence (2% to 6%) and instead a high frequency of avoidant, dependent, and passive-aggressive personality disorders (classified with OCPD in *DSM-III* "anxious" cluster) in OCD cases. Schizoid, schizoypal, paranoid, histrionic, narcissistic, and borderline personality disorders have all been reported by multiple studies to be present in individuals with OCD.

Samuels and colleagues[65] assessed personality disorders in 72 OCD cases, 72 controls, and ~200 first-degree relatives of cases and controls, respectively. OCD patients showed significantly higher rates of personality disorders from cluster C (OCPD and avoidant personality disorders) but not from cluster A or B. Relatives of patients also showed higher rates of cluster C disorders (specifically, OCPD) versus control relatives.[65] The authors concluded that OCPD may thus share a common familial aetiology with OCD. Subsequently, Pinto and colleagues[97] reported a longitudinal study of 293 cases of OCD. 25% cases were diagnosed with comorbid *DSM-IV* OCPD (compared with 15.3% avoidant personality disorder) using the SCID-II.

Although controlled studies indicated that OCPD occurred more frequently than expected in families with OCD, OCPD as defined by *DSM* criteria was not found in most OCD cases. Thus, OCPD is not a prerequisite for OCD. The possibility of underreporting merits consideration, since individuals with OCPD commonly fail to recognize obsessiveness in themselves. In addition, reliance upon categorical "threshold" models may have led to relevant cases being missed. Instead, it may be more appropriate to evaluate severity within individual OCPD traits or dimensions.[102]

Eisen and colleagues[82] investigated the convergence between OCPD traits and OCD in a large cohort of participants of the Collaborative Longitudinal Personality Disorders Study. Logistic regressions showed significant associations between OCPD and OCD (odds ratio: 2.71–2.99), but few associations with other anxiety disorders or major depressive disorder. Not all OCPD characteristics were equally related to OCD (perfectionism, preoccupation with details and hoarding were significantly more frequent in subjects with OCD [n=89] than in subjects without OCD [n=540]), whereas inflexible morality, workaholism, rigidity, and miserliness were not. The authors interpreted their results to support a unique relationship between certain OCPD traits and OCD. OCD cases with comorbid OCPD had higher compulsion subscores on the Y-BOCS, were more psychosocially impaired, and had an earlier onset of illness compared with uncomplicated OCD.[82,97]

Wellen and colleagues[103] explored the utility of the Leyton Obsessional Inventory (LOI), a self-report instrument designed to measure obsessional and perfectionist symptoms and traits, in discriminating OCD and OCPD. The sample comprised OCD patients, relatives, control probands, and control relatives (groups collapsed, n=488). Factor analysis using all 69 variables on the interference scale of the LOI, yielded five factors labeled as obsessive

ruminations/compulsions; ordering/arranging; organizing activities; contamination; and parsimony. Multiple logistic regression was conducted. Factors corresponding to obsessive ruminations/compulsions, organizing, and contamination were strongly linked with OCD after controlling for OCPD. By contrast, ordering/arranging was associated with OCPD. The authors concluded that the LOI may help to discriminate OCD and OCPD. On the other hand, variables "difficulty discarding" and "hoards paper and boxes" were most associated with obsessive ruminations/compulsions, suggesting hoarding as a potential symptom of OCD and as a symptom of OCPD.

In other research, another symptom-factor within OCD (apart from hoarding) reported to be more frequently associated with OCPD was the need for symmetry.[49,104] In contrast, cases of OCD comorbid with major depression were shown to be primarily affected with obsessions, especially aggressive obsessions.[105] Such differences in comorbidity patterns support the suggestion of clinically relevant subgroups within OCD, and hint that OCPD-related and depression-related disorder may be etiologically separate. In the study by Samuels and colleagues,[65] OCD cases with OCPD scored particularly highly on neuroticism facets of the FFM, but not on the conscientiousness domain considered by some to represent OCPD. Alternative suggestions include: that "incompleteness" rather than "harm avoidance" is the core cognitive feature underpinning OCPD; that an excessive need for completeness separates this comorbid group from other forms of OCD; and that these patients are more treatment-refractory.[106] These proposals warrant confirmation in controlled studies.

Obsessive-Compulsive Personality Disorder

Perfectionism and obsessionality are also key features of eating disorders.[107] In several studies, OCPD has been shown to be the most common Axis II disorder occurring concurrently with binge eating disorder or anorexia nervosa.[102] Reported co-occurrence rates ranged around 26%[100,101] of cases with binge eating disorder, and from 20% to 61% of cases with anorexia nervosa.[98,99] Perfectionism, rigidity, and miserliness seemed to be the *DSM-IV* factors most associated with binge eating disorder,[106] whereas for anorexia nervosa, in some studies,[99] high rates of perfectionism and rigidity only were reported, which commonly predated the onset of the eating disorder. Thus, different variants of OCPD may be linked to these and other OC spectrum disorders.

Heritability

While the likely genetic contributions to OCPD have been barely explored to date, OCPD is expected to be strongly influenced by genetic factors, some of which may involve monoamine neurocircuitry, in common with OCD and spectrum disorders.[109-111] Torgersen and colleagues[112] investigated a large group of monozygotic and dizygotic twin-pairs using the SCID-II and found a heritability of 0.6 for *DSM-III-R* personality disorders in general, and 0.78 for *DSM-III-R* OCPD. Heritability for OCPD seemed to be stronger for categorical than dimensional models of the disorder, raising further concerns about the validity of proposed dimensional approaches, and was higher than for most Axis I disorders, though similar to that of OCD. Lilenfeld and colleagues[113] found evidence for shared familial transmission of anorexia nervosa and OCPD. The family study by Samuels and colleagues[65] reported that of the individual *DSM-IV* personality disorders, only OCPD occurred significantly more often in relatives of OCD probands than in relatives of controls. OCPD was twice as common in case relatives compared with control relatives (around 12% vs 6%),

suggesting a specific shared heritability between OCPD and OCD.[76] Nesdadt and colleagues[76] reported a similar prevalence for OCD (11.7%) in first-degree relatives of OCD probands. Higher neuroticism scores, including anxiety, self consciousness, and vulnerability to stress, were also found in OCD case relatives compared with control relatives and in the former but not the latter group, the presence of OCPD correlated with higher neuroticism scores. These findings suggest that the heritable component of OCPD manifests itself in aspects of neuroticism, at least in OCD families.

Brain Circuitry and Neuropsychology

Thus far, no studies have investigated brain-imaging abnormalities in uncomplicated OCPD. Irle and colleagues[114] retrospectively assessed the long-term outcome in 16 refractory cases of OCD who had undergone neurosurgery involving ventromedial frontal leucotomy. The three patients with comorbid OCPD had improved significantly less, raising the possibility that OCPD is associated with differing underlying neurocircuitry. Blunted fenfluramine-mediated prolactin-responses have been reported for depression,[115] anorexia nervosa and binge eating disorders[116,117] and also in OCPD[118] suggesting similarities in serotonergic processing in the untreated disorders. Blunted fenfluramine responses have also been reported for OCD but the results were less conclusive for this disorder and increased responses have also been reported.[119]

There have been no studies specifically examining neurocognitive function in uncomplicated OCPD. A study of university students identified associations between performance deficits on putative measures of frontal executive function and obsessive-compulsive traits, but not OCPD categorically defined.[120] OCD is associated with prominent executive dysfunction involving fronto-striatal circuitry.[11,121-126] Deficits in set-shifting tasks have been reported in anorexia nervosa, and were considered to be associated with childhood rigidity and inflexibility.[127] A preliminary, unpublished analysis by the present review authors suggested a similar profile of executive dysfunction (eg, response inhibition) in OCD patients with and without comorbid OCPD; however, comorbid OCPD cases showed significantly more severe cognitive inflexibility on the Cambridge Neuropsychological Test Automated Battery set-shift paradigm (Table 5). Groups were matched for Y-BOCS[43] and Montgomery-Asberg Depression Rating Scale scores.[128] Our results suggest that subjects with OCD and OCPD are more neurocognitively impaired than those with OCD alone. If impaired cognitive flexibility is corroborated in non-comorbid OCPD, these results would suggest a functional link between performance on laboratory-based tests and the clinical expression of cognitive inflexibility.

TABLE 5.
OCD (n=20) Versus OCD+OCPD (n=20): Preliminary Group Comparison on Cognitive Flexibility (CANTAB ID/ED Test)

	OCD Patients					
Variable	OCPD–ve		OCPD+ve		F df=1,39	P.
	Mean	SD	Mean	SD		
MADRS	4.65	4.49	6.55	7.18	1.008	.322
Y-BOCS	21.5	6.69	21.65	4.98	.006	.936
ID/ED task (cognitive flexibility)						
Trials to criterion ID	6.8	2.01	6.4	.6	.724	.4
Trials to criterion ED	20.95	17.76	32.8	18.62	4.312	.045*

* P<.05

OCD=obsessive-compulsive disorder; OCPD=obsessive-compulsive personality disorder; CANTAB ID/ED=Cambridge Neuropsychological Test Automated Battery Intra/Extra-Dimensional Set Shift; –ve=negative; +ve=positive; MADRS=Montgomery-Asberg Depression Rating Scale; Y-BOCS=Yale Brown Obsessive-Compulsive Scale.

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Interventional Treatment

No randomized controlled trials have evaluated treatments for uncomplicated OCPD, stringently defined. Ansseau[64] reported a double-blind study on non-depressed OCPD (published in abstract form to date). Twenty-four outpatients with *DSM-IV* OCPD were randomised to fluvoxamine (50–100 mg/day) or placebo for up to 12 weeks. Individuals with major depression, and those scoring >7 on the 17-item Hamilton Rating Scale for Depression[129] were excluded. The results showed substantially greater improvement (*P*=.0003) in OC personality severity scores for individuals in the group treated with fluvoxamine (n=12; mean reduction from 18.6 to 13.7) than for those in the placebo-treated group (n=12; mean reduction from 18.5 to 17.7).

Treatment effects can also be surmised by looking at the effects on OCPD in comorbid cases, though the data are patchy and scant. Volavka and colleagues130 randomized 11 OCD patients to 6-weeks clomipramine treatment and 12 to imipramine. Five of the clomipramine-treated patients and seven of the imipramine-treated group also fulfilled DSM-III criteria for OCPD. Clomipramine emerged as superior to imipramine on the 25-item self-rating obsessive-compulsive personality inventory (validation details not confirmed) as well as measures of OCD and depression, on a completer analysis. On the other hand, Stein and colleagues66 failed to differentiate between 21 comorbid OCD/OCPD patients randomized to clomipramine and 23 randomized to placebo, using a self-rating OC personality inventory, although the outcome on this scale was significantly better for the clomipramine-treated group than a group of 14 alprazolam-treated patients treated openly by the same authors using the same trial design. Ekselius and von Knorring[131] evaluated the effects of 24 weeks of sertraline and citalopram on 308 depressed patients with a range of comorbid *DSM-III-R* personality disorders. Significant reductions were observed in most categories of personality disorder, including OCPD for both treatment modalities.[131] Ricciardi and colleagues[132] reported the effects of 4 months of uncontrolled pharmacologic or behavioral treatment on 17 cases of OCD with comorbid personality disorder, of whom seven had OCPD. After treatment only two cases of OCPD continued to meet personality disorder criteria. Taken

together, these results suggest a beneficial effect for SSRIs in OCPD and favor the possibility that OCPD may share underlying serotoninergic dysfunction with OCD.

It is of clinical relevance to consider the effect of comorbid OCPD on the anti-obsessional treatment-response in cases of primary OCD, to see if the presence of OCPD alters outcome. Cavedini and colleagues[133] investigated a group of 30 OCD patients. Those with comorbid OCPD had a worse outcome following 10-week SSRI treatment than those with uncomplicated OCD. OCPD has also been reported to have adversely affected treatment outcomes in patients with eating disorders. However, when Ansseau and colleagues[134] compared changes in Hamilton Rating Scale for Depression scores in 46 depressed patients treated with fluvoxamine for 8 weeks, of whom 22 also fulfilled *DSM-III* criteria for OCPD, they found a significantly greater response in the comorbid OCPD group than in those with uncomplicated depression, implying that OCPD improved the antidepressant response to SSRIs. This intriguing result distinguishes OCPD from other personality disorders, whose effect is usually to diminish treatment efficacy for depression, and further hints at a shared SSRI-responsiveness for OCPD.
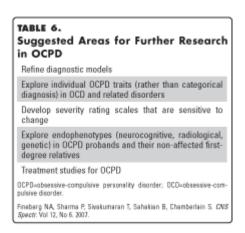
Does Obsessive-Compulsive Disorder Stand Apart From Other Axis II Disorders?

Whether or not OCPD should be separated from Axis II disorders and regarded as a member of the OC spectrum remains contentious. Zimmerman and Coryell[135] explored *DSM-III* personality disorders using a dimensional approach. Participants comprised relatives of psychiatric patients and relatives of never-ill control subjects (n=791 total), interviewed using the Diagnostic Interview Schedule for Axis I disorders and the SIDP for Axis II disorders. The authors compared total scores for *DSM-III* personality disorder traits (ie, number of listed criteria met) in people with and without a history of Axis I disorders including OCD. OCPD scores were higher in subjects with Axis I disorders generally, compared to those without. Thus, while OCPD traits (total score on checklist) were greater in those with a history of OCD, they were also higher in those with a history of other disorders, including mania, major depressive disorder, and panic disorder. The authors factor analyzed the dimensional personality disorder data and found that cluster 2 personality disorders loaded heaviest on factor 1, cluster 1 personality disorders loaded heaviest on factor 2, and cluster 3 personality disorders loaded heaviest on factor 3. Critically, there were two exceptions: passive-aggressive and compulsive-personality disorders did not load strongly on any of these factors.[135]

That OCPD is distinguishable from other personality disorders does not, of itself, mean that OCPD is not a personality disorder, per se.[103] Features of OCPD that may support its reclassification alongside the OC spectrum include its phenomenological similairty with so many traits shared or barely distinguishable from features of OCD and this spectrum, its high level of heritability related specifically to families with these disorders, its likely response to SSRIs, and its enhancement of the antidepressant response to SSRIs. Furthermore, comorbid OCPD/OCD may represent a distinct manifestation (or subtype) of OCD itself.

Studies investigating specific cognitive, genetic, and radiological endophenotypes in individuals with uncomplicated OCPD may help to shed light on the best way to advance classification systems, and clarify the boundaries between OCPD and Axis II disorders, in

general, and cluster C disorders in particular. A specific pharmacologic-treatment response, if corroborated in controlled studies, could be a strong argument serving to distinguish OCPD from other Axis II disorders. Table 6 lists suggested areas for further research.

TABLE 6.
Suggested Areas for Further Research in OCPD

Refine diagnostic models

Explore individual OCPD traits (rather than categorical diagnosis) in OCD and related disorders

Develop severity rating scales that are sensitive to change

Explore endophenotypes (neurocognitive, radiological, genetic) in OCPD probands and their non-affected first-degree relatives

Treatment studies for OCPD

OCPD=obsessive-compulsive personality disorder; OCD=obsessive-compulsive disorder.

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Obsessive-Compulsive Personlity Disorder as an Obsessive-Compulsive Spectrum Disorder

OCPD accompanies a wide range of different Axis I disorders, including affective, eating, and anxiety disorders. Although it occurs frequently with OCD, and in families of OCD probands, its relationship is not most commonly with OCD. Thus, the prima facie argument for it being a specific vulnerability factor for OCD, or an intrinsic element of the illness is weakened. However, the other Axis I disorders with which OCPD shares major comorbidity, namely affective, anxiety, and eating disorders, are also illnesses for which considerable comorbidity with OCD has been reported.

We have seen that OCPD and OCD share several important similarities, including age of onset, course of disorder, heritability, and clinical response to SSRIs, suggesting a shared etiology is plausible (Table 7). OCD comorbid with OCPD shared a similar profile of executive impairment on a battery of neurocognitive tests compared with non-comorbid OCPD, but appeared more severely affected on tests of cognitive inflexibility.

TABLE 7.
OCPD and OCD: Similarities and Differences Systematically Examined

	OCPD	OCD
Prevalence	0.78%	2% to 3%
Gender	Male > Female	Male ≤ Female (Male > Female in early onset OCD)
Early age of onset	+++	+++
Chronic course	++	++
Shift to psychosis	13%	15%
Functional impairment	?/–	++
Celibacy	+	+
Comorbid with depression	+++	+++
Comorbid with eating disorder	+++	+++
Comorbid with OC spectrum disorder	++	+++
Comorbid with anxiety disorders	++	++
Inherited in OCD families	++	+++
Frequency in first-degree relatives	11.5%	12%
Monoaminergic genes	+	++
Specific neurocognitive impairment (extra-dimensional set shift)	++	+++
Response to SSRIs	++	+++

OCPD=obsessive-compulsive personality disorder; OCD=obsessive-compulsive disorder; +++=strong evidence and large effect size; ++=strong evidence or large effect size; ?=insufficient evidence; –=evidence of no effect; +=limited evidence or small effect size; OC=obsessive-compulsive; SSRIs=selective serotonin reuptake inhibitors.

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The utility of the rather broad categorical definition of OCPD in the *DSM-IV* has been called into question. It has been argued that the disorder might be more meaningfully represented by a dimensional description of a more limited group of key traits. Perfectionism and preoccupation with details predominate in patients with comorbid OCD.[82] Neurocognitive tasks point to increased cognitive rigidity in this group. Perfectionism and rigidity are the OCPD traits that overlap most commonly with eating disorders.[90] Preoccupation with details, perfectionism and rigidity are also factors recognized to carry the greatest predictive utility for a diagnosis of OCPD,[24] highlighting the closeness of the relationship between these disorders. Hoarding overlaps OCPD and OCD. Hoarders may be distinguishable from other subtypes of OCD by their distinctive neuroimaging[40] and cognitive profiles[136] and poorer response to anti-obsessional treatment. Thus, OCPD, if more narrowly defined than in *DSM-IV*, may underpin phenotypic variants of early onset, familial OCD, or OC spectrum disorders, characterized by traits such as perfectionism, preoccupation with details, rigidity, and hoarding. Conceivably, OCPD represents the neuropsychological substrate linking OC spectrum disorders with each other and their underlying neurobiology. Further exploration of links between the full range of OCPD traits, including *DSM-III* affective constriction and lack of empathy, and OC spectrum symptoms, and comparison of radiological and neurocognitive endophenotypes across "pure" and and comorbid conditions within affected families, are likely to shed further light on these intriguing relationships and bring us closer to the genetic basis of OCPD.

Conclusion

Arguments for the integration of OCPD into a broadly defined OC spectrum of disorders are becoming increasingly persuasive. Delineating the boundaries between traits, dimensions and symptoms is a challenge for future research.A model linking OCPD to phenomenologically related disorders could act as the basis for further systematic investigation.

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