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## An Empirical Investigation of Incompleteness in a Large Clinical Sample of Obsessive Compulsive Disorder

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### Abstract

Obsessive Compulsive Disorder (OCD) is a disorder with heterogeneous clinical presentations. To advance our understanding of this heterogeneity we investigated the prevalence and clinical features associated with incompleteness (INC), a putative underlying core feature of OCD. We predicted INC would be prominent in individuals with OCD and associated with greater severity and impairment. We examined the impact of INC in 307 adults with primary OCD. Participants with clinically significant INC (22.8% of the sample) had significantly greater OCD severity, greater rates of comorbidity, poorer ratings of functioning, lower quality of life, and higher rates of unemployment and disability. Participants with clinically significant INC were also more likely to be diagnosed with OCPD and to endorse symmetry/exactness obsessions and ordering/arranging compulsions than those who reported low INC. Our findings provide evidence that INC is associated with greater severity, comorbidity, and impairment, highlighting the need for improved assessment and treatment of INC in OCD.

### Keywords

obsessive compulsive disorder; incompleteness; harm avoidance; not just right experiences; core features

### 1. Introduction

Recently, a growing body of research has established the heterogeneity of obsessive compulsive disorder (OCD). Examining OCD subtypes (e.g., contamination, taboo), primary symptoms (e.g., fear of dirt/germs, harming others), and other clinical characteristics of the course and outcome of this disorder has been valuable for advancing our understanding of

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etiology, prognosis, neurobiological underpinnings, and treatment outcome. These studies have also led to a revised classification of OCD-related symptoms, notably the recent addition of Hoarding Disorder to DSM 5, which was based in large part on OCD subtype research. While there is evidence to support these subtype/symptom distinctions (Baer, 1994; Ball, Baer, & Otto, 1996; Denys, de Geus, van Megen, & Westenberg, 2004; Gilbert et al., 2008; Leckman et al., 2010; Mataix-Cols, Rauch, Manzo, Jenike, & Baer, 1999; Rasmussen & Eisen, 1991; van den Heuvel et al., 2009), there are shortcomings to this approach. Of note, identical symptoms may be driven by different underlying motivations. For example, patients may endorse contamination concerns and wash their hands repetitively to prevent illness and disease (a harm avoidant motivation), or to have their hands feel perfectly clean (an incompleteness or “just right” motivation). In this paper we present data illustrating the important clinical implications of one putative underlying motivational feature of OCD, incompleteness.

### 1.1 Incompleteness as a Putative Core Motivation

In 1992, Rasmussen and Eisen proposed a comprehensive model of OCD, positing a dimensional core features conceptualization of OCD, with symptoms manifesting along a continuum from abnormal risk assessment (harm avoidance; HA) on one end, to incompleteness (INC), or the need to do something “just right” or perfectly, on the other (Rasmussen & Eisen, 1992a). This model was an effort to provide context for organizing and understanding the varied phenomenological manifestations and clinical presentations of OCD symptoms. This core feature model of OCD was based on clinical experience, but also built on ideas first advanced by Pierre Janet (Janet, 1904) over a century ago. Janet described the phenomena of “feelings of incompleteness in intellectual operations”, noting that a subset of patients “...feel that actions they perform are incompletely achieved or do not produce the sought-for satisfaction” as these individuals are driven to perform their compulsions in search of “the occasional brief appearance of sublime ecstasy”, which becomes attached to relatively insignificant events (e.g., symmetry) and become disabling.

The description of OCD symptoms being motivated by a search for completeness or “sublime ecstasy” is in contrast to typical conceptualizations of OCD as a disorder grounded solely in the need to avoid harm. Individuals with INC-driven OCD may be driven less by fear, and more by a need to complete tasks perfectly, and the mechanism maintaining their compulsive symptoms may be driven by positive reinforcement (i.e., Janet’s feeling of ‘ecstasy’, or completeness), or by negative reinforcement of the relief provided by reducing the discomfort experienced with the “not just right” feeling. Clarifying these mechanisms may have important implications for effective treatment of the INC phenomenon. In order to effectively advance our understanding of OCD, it is important to further investigate the understudied construct of INC in clinical samples to determine the prevalence and clinical relevance of this putative underlying motivation.

### 1.2 Clinical Importance of Incompleteness and Limited Research

In the 112 years since Janet, and even in the 24 years since Rasmussen and Eisen (Rasmussen & Eisen, 1992a; 1992b) proposed their model of HA and INC, surprisingly little research has explored the impact of INC in clinical samples. A small number of studies have

addressed the concept of INC, and much of this work was facilitated by the development of a self-report measure of INC by Summerfeldt and colleagues (Summerfeldt, Kloosterman, Parker, Antony, & Swinson, 2001, June; Summerfeldt, Richter, Antony, & Swinson, 1999), the Obsessive-Compulsive Trait Core Dimensions Questionnaire (OC-TCDQ), which assesses HA and INC on two non-mutually exclusive dimensions. Pietrefesa and Coles (Pietrefesa & Coles, 2009) found that elevated INC was associated with feelings of tension and discomfort and a desire to perform tasks perfectly or “just right”, rather than anxiety and nervousness. Research using this measure suggests that individuals with elevated INC may experience greater symptom severity, functional impairment, and more complicated comorbidity profiles relative to their elevated HA counterparts (Ecker & Gönner, 2008; Summerfeldt, 2004). Additionally, Ecker, Kupfer, and Gönner (2013) found support for INC as a potentially critical link between OCD and Obsessive Compulsive Personality Disorder (OCPD) traits.

Knowledge about INC in OCD has also been explored via related concepts, such as “Not Just Right Experiences” (NJREs) (Coles, Frost, Heimberg, & Rheume, 2003), lack of feared consequences in OCD (Foa, Abramowitz, Franklin, & Kozak, 1999), perfectionism and obsessive-compulsive personality disorder (OCPD) characteristics (Ecker et al., 2013), sensory phenomena (Buse et al., 2015; Summers, Fitch, & Cogle, 2014), and tic-like experiences (Miguel et al., 2000; Neal & Cavanna, 2013). In the DSM-IV field trial, for example, Foa et al. (Foa & Kozak, 1995) found that as many as 40% of OCD patients lacked an identifiable feared consequence driving their compulsions, as would otherwise be expected based on HA conceptualizations of OCD. Recent research has also demonstrated the unique association of INC and NJREs to OCD vs. other anxiety and depressive disorders (Ecker, Kupfer, & Gönner, 2014; Ghisi, Chiri, Marchetti, Sanavio, & Sica, 2010).

Summerfeldt (Summerfeldt, Antony, & Swinson, 2000; Summerfeldt, Kloosterman, Antony, Richter, & Swinson, 2004) found the OCD symptom most commonly associated with elevated INC was symmetry and exactness obsessions, and Coles and colleagues (Coles, Heimberg, Frost, & Steketee, 2005) found that in addition to perfectionism and checking, NJREs were strongly associated with ordering compulsions, an association supported by a recent meta-analysis (Taylor et al., 2014). Employing in-vivo INC inductions (Cogle, Fitch, Jacobson, & Lee, 2013) has found strong associations between dispositional INC and the urge to order/arrange and check. Further, Summers and colleagues (Summers et al., 2014) found that distress resulting from experimentally induced NJREs across three sensory modalities were uniquely associated with ordering/arranging symptoms, as well as checking and washing. If indeed the need for symmetry and ordering is an important associated feature of INC, the treatment challenges posed by these OCD patients is further underscored by findings that symmetry is associated with poorer treatment outcome. Abramowitz (Abramowitz, Franklin, Schwartz, & Furr, 2003), for example, found that after hoarding, symmetry was associated with the second-worse outcome in a trial of cognitive behavioral therapy (CBT) for OCD. Additionally, Ruck and colleagues (Ruck, Larsson, & Mataix-Cols, 2012) noted that neurosurgery for OCD (Capsulotomy) was ineffective for OCD patients with primary symmetry, while Denys and colleagues (Denys et al., 2010) noted a clear relationship between symmetry and Deep Brain Stimulation (DBS) non-response, echoing a finding previously suggested to explain poor clinical outcomes (Greenberg et al., 2006) in a

DBS trial for OCD. Based on symmetry as a possible indicator of INC, these studies provide further support for important clinical challenges posed by OCD patients with elevated INC, and may hint at differential neural mechanisms underlying the HA/INC distinction.

While the research outlined above highlights similarities in the clinical manifestations of INC and INC-related concepts, much of this research has been conducted in student samples and/or relied exclusively on self-report questionnaire measurement of INC (Coles et al., 2005; Ecker et al., 2013; Pietrefesa & Coles, 2008, 2009). In the present study, we explore the impact of INC in a large, well-characterized clinical sample of adults with primary OCD on a range of severity and functioning measures. Using experts in OCD to diagnose INC through self-report clinical interviews, we predicted that compared to those OCD patients with Low-INC-driven OCD, participants with High-INC will present with more severe OCD, poorer overall functioning, and more comorbidity. Further, we expected that participants with High-INC will be more likely to endorse INC-related features, with higher rates of OCPD, symmetry and exactness obsessions, ordering and arranging compulsions, tic disorders, rigidity, and perfectionism.

## 2. Methods

### 2.1 Participants

This study reports on 307 adults (94.5% of the intake sample) assessed for INC as part of the Brown Longitudinal Obsessive Compulsive Study (BLOCS), a large naturalistic prospective study of illness course. The remaining 5.5% did not have clinical consensus ratings available. A detailed description of sample characteristics and study procedures is reported elsewhere (Pinto, Mancebo, Eisen, Pagano, & Rasmussen, 2006). Individuals were included if they were age 19 or older, had a primary *DSM-IV* (American Psychiatric Association, 2000) diagnosis of OCD (the disorder participants considered their biggest problem overall across their lifetime), and had sought treatment for OCD within the past 5 years. The only exclusion criterion was evidence of an organic mental disorder or other condition that would prevent participants from providing informed consent ( $n = 2$ ). Demographic and clinical characteristics of this sample are consistent with previous studies of OCD, including the *DSM-IV* field trial (Eisen et al., 1999; Foa & Kozak, 1995; Rasmussen & Tsuang, 1986).

### 2.2 Procedures

Participants were recruited from several psychiatric treatment settings in the Rhode Island/Southeastern Massachusetts area, including a hospital-based outpatient OCD clinic, inpatient and partial hospitalization units of a private psychiatric hospital, two community mental health centers, a general outpatient psychiatric group practice, and three private practice psychotherapy sites known locally for their expertise in treating OCD. The Butler Hospital and Brown University Institutional Review Boards approved the study. After providing written informed consent, participants were interviewed in person by trained clinical interviewers and completed a battery of self-report questionnaires.

### 2.3 Assessments

Intake Axis I and Axis II diagnoses were established using the Structured Clinical Interview for *DSM-IV* Axis I Disorders-Patient Edition (SCID-I) (First, Spitzer, Gibbon, & Williams, 1996) and the Structured Clinical Interview for DSM-IV Axis-II Personality Disorders (SCID-II) (First, Gibbon, Spitzer, Williams, & Benjamin, 1997). Tics disorders were assessed with a modified version of the Yale Global Tic Severity Scale (Leckman et al., 1989) adapted for use with adults. Demographics and clinical history were assessed using The Butler Hospital OCD Database (Rasmussen, 1993). Current (past-week) OCD symptom presentation and severity was assessed using the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) and Symptom Checklist (Goodman, Price, Rasmussen, Mazure, Delgado, et al., 1989; Goodman, Price, Rasmussen, Mazure, Fleischman, et al., 1989). In addition, the Global Assessment of Functioning (GAF) scale and the Social and Occupational Functioning Assessment Scale (SOFAS) were administered to assess overall severity of psychopathology and functional and social impairment (American Psychiatric Association, 2000). Quality of life was assessed using the Quality of Life Enjoyment and Satisfaction Questionnaire (QLESQ; Endicott, Nee, Harrison, & Blumenthal, 1993), a 91-item self-report instrument with demonstrated reliability and validity. Good to excellent inter-rater reliability has been established in this study for Axis I diagnoses, Y-BOCS total score, and GAF and are reported elsewhere (Eisen et al., 2010).

### 2.4 Clinician Ratings of Incompleteness

Following each in-person interview, narrative summary reports describing psychiatric symptoms and psychosocial functioning were prepared for all participants, and DSM-IV diagnoses and ratings of functioning were assigned. The clinical raters presented each case to experts in the diagnosis of OCD (MCM and JLE) at a weekly case conference to review diagnoses and psychosocial impairment and to ensure ongoing consistency and accuracy in ratings. During these case presentations, the raters and the OCD experts completed a consensus rating of INC. During the clinical interviews with participants, an INC rating scale was completed by directly asking participants about their compulsions, and specifically whether 1.) their compulsion was aimed at reducing anxiety due to feared consequences and 2.) whether they could not move on from their compulsions without it “feeling right” (see Coles, Pinto, Mancebo, Rasmussen, & Eisen, 2008). INC was coded when the primary obsession(s) and/or compulsion(s) were not associated with an identifiable feared consequence, and/or the participant described being unable to “move onto the next thing without *feeling right*”. Participants were divided into 3 categories based on these ratings: primary INC (e.g., INC related to their primary OCD symptomatology and thus characteristic of the participant’s overall clinical presentation); clinically significant INC (e.g., significant difficulty due to INC, but not associated with the primary OCD symptom); or no or little current reported INC (i.e., No INC/INC is not a significant clinical feature). No significant differences were found between the primary INC and clinically significant INC groups on gender, race, ethnicity, marital status, education, age, age of OCD onset, Y-BOCS score, lifetime DSM-IV Axis I comorbidity, or OCPD comorbidity (all  $ps > .05$ ). Therefore, in the current study, participants with primary and clinically significant INC were combined and classified as High-INC, and were compared to those currently reporting Low-INC<sup>1</sup>. The classification of groups as “High-INC” and “Low-INC”, rather than “INC” and

“no INC”, reflects the prior research that has demonstrated that INC exists on a continuum (e.g., Summerfeldt et al., 1999), and it is therefore unlikely that participants in the Low-INC group could be accurately described as having “no INC”.

## 2.5 Statistical Analyses

Analyses were performed with SPSS 20.0 (IBM Corp, Released 2011). Comparisons were made between participants with 1) High-INC and 2) Low-INC, as determined by the expert consensus described above. Between-group differences were examined using chi-square tests for categorical variables and multivariate analysis of variance (MANOVA) for continuous variables. Due to unequal cell sizes between groups in the MANOVA analysis, normality and heterogeneity of variance diagnostics were computed for each dependent variable, and when these assumptions were violated, the more conservative computation of the *F* statistic (Pillai’s Criterion and Welch’s Statistic) was used, which is more appropriate under these conditions. Effect size estimates are reported as Cramer’s *V* for chi-square analyses (0.10 = small, 0.30 = medium, 0.50 = large), and partial eta-squared (part- $\eta^2$ ) for MANOVA (0.01 = small, 0.06 = medium, 0.14 = large). Follow-up univariate ANOVAs are reported with Bonferroni correction, and family-wise Bonferroni correction was used for all chi-square analyses, resulting in an alpha threshold of .007 for clinical and psychosocial functioning variables (.05/7 = .007), a threshold of .006 for OCPD symptom-level analyses (.05/8 = .006), and .0009 (.05/58 = .00086) for analysis of obsessions and compulsions endorsed on the 58 item Y-BOCS symptom checklist used in the current study. All results were identified as significant if they met Bonferroni-corrected thresholds, and marginal for *p*-values less than .05.

## 3. Results

### 3.1 Frequency of INC

Seventy of the 307 adults with primary OCD were identified as having High-INC (22.8%; 28 primary INC and 42 with clinically significant INC), and 237 were identified as having no or Low-INC (77.2% of the total sample). No significant differences were found between the High-INC and Low-INC groups on gender, race/ethnicity, marital status, education, age, or age of OCD onset (all *ps* > .05; see Table 1). Table 2 presents details for all clinical and functional results described below.

### 3.2 Clinical Characteristics Severity, Comorbidity, and Psychosocial Functioning

Participants with High-INC had significantly higher Y-BOCS total severity scores than the Low-INC group (*p* < .012). Separate analyses on the YBOCS Obsessions and Compulsions Severity Scales indicated that High-INC participants had significantly greater Obsession (*M* = 10.83, *SD* = 4.04 vs. *M* = 9.65, *SD* = 4.24, *F*(1, 305) = 4.30, *p* < .039) and Compulsion

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<sup>1</sup>Initial recruitment and intake of participants for this study began before the availability of a validated measure of INC. However, the Obsessive-Compulsive Trait Core Dimensions Questionnaire (OC-TCDQ; Summerfeldt et al., 2001) was subsequently added to the study and is available for a small subset of participants (43.6%, *n* = 134). Analyses of this subset of participants supports our clinician ratings of High-INC, revealing a significant difference between High-INC and Low-INC participants on the OC-TCDQ INC Scale (*M* = 38.11, *SD* = 7.90 vs. *M* = 29.91, *SD* = 9.51; *t*(132) = -4.19, *p* < .001, *r* = .34) but not on the HA Scale (*M* = 31.46, *SD* = 10.81 vs. *M* = 30.38, *SD* = 9.09; *t*(132) = -0.54, *p* = .593, *r* = .05).

( $M = 11.83$ ,  $SD = 3.48$  vs.  $M = 10.05$ ,  $SD = 4.90$ ,  $Welch's F(1, 157.53) = 11.50$ ,  $p < .001$ ) severity scores compared to the Low-INC group. Participants with High-INC also reported a significantly greater number of lifetime comorbid *DSM-IV* Axis-I disorders ( $p < .001$ ). Participants with High-INC were significantly more likely than Low-INC participants to be diagnosed with Chronic Tic Disorder ( $p < .001$ ), and marginally more likely to have Tourette's disorder ( $p < .013$ ). Further, participants with High-INC were significantly more likely than Low-INC participants to be diagnosed with OCPD ( $p < .001$ ).

Analyses of OCPD symptoms indicated that participants with High-INC were significantly more likely to endorse preoccupation with details ( $p < .001$ ) and perfectionism ( $p < .005$ ), and marginally more likely to endorse reluctance to delegate ( $p < .008$ ) and rigidity and stubbornness ( $p < .025$ ). No significant differences were found for excess devotion to work, over-conscientiousness, hoarding, or miserly spending (all  $ps > .05$ ).

Analysis of functioning measures yielded significant differences between groups, with High-INC participants reporting significantly lower global functioning (GAF;  $p < .050$ ), significantly more impairment in social and occupational functioning (SOFAS;  $p < .026$ ), and significantly lower quality of life ( $p < .004$ ). Further, participants with High-INC were significantly more likely to be unemployed ( $p < .002$ ) and were significantly more likely to be receiving disability benefits due to OCD ( $p < .001$ ) than Low-INC participants.

Analyses of Y-BOCS symptom checklist items found that participants with High-INC were significantly more likely to endorse current obsessions about symmetry and exactness ( $p < .0001$ ) as well as ordering and arranging compulsions ( $p < .0001$ ) compared to Low-INC participants. No other significant differences emerged between High-INC and Low-INC groups for any other obsessions or compulsions. Further, those with High-INC were significantly more likely to endorse symmetry and exactness as their primary symptom compared to those with Low-INC ( $p < .0001$ ).

#### 4. Discussion

The present study explored clinical and functional features associated with clinician-assessed INC in a sample of adults with primary OCD, and provides support for the importance of INC as a core feature underlying OCD. INC was found to be fairly prevalent; nearly 1 in 4 participants rated as exhibiting clinically significant INC symptoms. Thus a significant minority of individuals with OCD experience INC as a significant clinical phenomenon, highlighting the need for additional research on this phenomenon.

Y-BOCS data supported our hypotheses that High-INC is associated with greater OCD severity. Furthermore, OCD participants with High-INC were significantly more likely to be unemployed, disabled due to OCD, report lower overall quality of life, and receive lower ratings of global (GAF) and social/occupational (SOFAS) functioning, underscoring the difficulties associated with this putative core feature of OCD. As predicted, participants with High-INC also had a higher number of comorbid DSM diagnoses, as well as higher rates of INC-related disorders including OCPD, chronic tics, and marginally, Tourette's disorder. Participants with High-INC were more likely to endorse perfectionism, preoccupation with

details, symmetry and exactness obsessions, and ordering and arranging compulsions. Symmetry obsessions appeared to be an indicator of INC, with nearly 93% of INC participants endorsing this symptom, compared to only 35% of Non-INC participants. If symmetry is a potential indicator for INC, this further underscores the clinical implications of this core feature, as several studies have demonstrated that symmetry is associated with poorer outcomes (Abramowitz et al., 2003; Denys et al., 2010; Greenberg et al., 2006; Ruck et al., 2012).

While OCD participants in the current study were significantly more likely to endorse many of the INC-related correlates identified above, it is important to note that our findings suggest that none of these exclusively account for the differences found in clinical and functional variables. For example, although High-INC participants were significantly more likely to be diagnosed with OCPD, it is notable that nearly 56% of those with High-INC did not. Similarly, High-INC participants were more likely to have chronic tics and Tourette's disorder, but rates were still very low (10% for each disorder in the High-INC group). These data provide evidence that while these INC-related factors are part of the clinical picture, they do not fully explain our findings by themselves, and suggest that there are aspects of INC above and beyond these variables, which we were able to capture by our self-report clinical interview assessment of INC via expert consensus ratings.

The current study provides data from a well-characterized clinical sample of adults with OCD and highlights the important clinical and functional implications of High-INC. Our results, coupled with extant research, have significant implications for treatment outcome. Research suggests that OCD patients are often left with incompleteness symptoms following pharmacologic and exposure treatments (Foa et al., 1999), underscoring the need for attention to be focused on developing alternative, more effective treatments for incompleteness. Future research examining the neurobiological underpinnings of OCD may also benefit from investigating dysfunctional reward circuitry in OCD, rather than fear circuitry alone. The findings in this sample of adults with OCD suggest a moderately high rate of INC, and the associated clinical features provide initial guidance to clinicians that this phenomenon should be investigated among treatment-refractory patients.

The current study has a number of strengths, as well as limitations. Our sample is comprised of treatment-seeking adults with well-characterized OCD. Our assessment of INC did not rely exclusively on self-report questionnaires, as nearly all previous research has. However, our clinical consensus ratings of INC were conducted only at study intake and not repeated at each follow-up, limiting our ability to test for the stability of this feature over time, as well as retest reliability of our consensus ratings. Furthermore, the assessment of INC in the current study was limited to the identification of High-INC or Low-INC, rather than INC vs. HA, limiting our ability to contrast these core dimensions directly. Furthermore, it is important to note that our INC rating system should not be over interpreted to mean that the absence of a feared consequence necessarily equates to the presence of INC, and conversely, that the presence of INC precludes the possibility of feared consequences. Indeed, previous research suggests that HA and INC may coexist on independent dimensions (Summerfeldt et al., 1999), and additional research is needed to clarify this relationship in clinical samples. Although we did collect limited convergent data that supported our classification (see



Footnote #1), it is also important to note that subjective self-report of an individual's motivation for performing compulsions may not be reliable in every case. For example, the performance of the compulsions themselves may lead to a post-hoc perception of threat that can, in turn, influence perception of motivation (e.g., "I'm washing my hands, therefore I must be at risk for contamination"; see for example, van Uijen, & Toffolo, (2015); Gillan & Robbins, (2014); and Cogle, & Lee, (2014) for a discussion of this issue). Also, the current sample reported a low rate of tic disorders, and OCD samples with a higher prevalence of tics might contain a greater representation of INC-related phenomena. Although our sample characteristics are consistent with other large studies of OCD, this was not an epidemiological sample, and therefore may not fully generalize to the larger OCD population. Relatively low representation of racial/ethnic minorities further limits generalizability.

The current study raises a number of important areas for further research. These include clarifying the mechanisms of maintenance of INC-driven compulsions, and specifically whether these symptoms are maintained via positive reinforcement (i.e., achieving "sublime ecstasy") or negative reinforcement (i.e., relieving "not just right" discomfort). Additionally, elucidating the relative contribution of INC and HA to critical clinical outcomes remains an important goal for additional investigation. Future research that improves assessment and understanding of the broader aspects of INC in OCD, including its potential relationship to difficulties with slowness, prioritizing and goal-oriented behavior (Ghisi, Bottesi, Sica, Sanavio, & Freeston, 2013; Wahl, Salkovskis, & Cotter, 2008), perfectionism, OCPD, "just right" experiences, and sensory and tic-like phenomena, offers significant promise for the development and refinement of interventions for individuals with this chronic, disabling, and often treatment refractory disorder.

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### Highlights

- OCD is a debilitating and heterogeneous disorder with varied clinical manifestations
- Exploring core features of OCD may aid in understanding this heterogeneity
- We explored the role of Incompleteness (INC), a putative core feature, in OCD patients
- Participants with INC had more severe OCD, more comorbidity, and poorer functioning
- Results highlight the importance of assessing and treating INC in OCD

**Table 1**

Demographic Characteristics of the Sample at Intake.

Variable	High-INC ( <i>N</i> = 70)		Low-INC ( <i>N</i> = 237)	
	<i>M</i>	( <i>SD</i> )	<i>M</i>	( <i>SD</i> )
Age	38.99	(11.34)	40.59	(13.28)
Age of OCD Onset	19.51	(11.73)	18.27	(9.19)
	<i>N</i>	(%)	<i>N</i>	(%)
Gender (Female)	39	(55.7)	129	(54.4)
Race				
White	66	(95.7)	233	(98.3)
Non-White	3	(4.3)	4	(1.7)
Ethnicity				
Hispanic or Latino	3	(4.3)	5	(2.1)
Non-Hispanic or Latino	66	(95.7)	232	(97.9)
Education				
High School or Less	17	(24.3)	50	(21.1)
Some College or More	53	(75.7)	187	(78.9)

Notes. *M* = Mean, *SD* = Standard Deviation, all *p* values > .05.

**Table 2**  
 Comparison of Clinical and Functional Variables Between High-INC and Low-INC OCD Groups

Variable	High-INC (N = 70)		Low-INC (N = 237)		F(df) <sup>a</sup>	P	Effect Size part- $\eta^2$
	M	(SD)	M	(SD)			
Y-BOCS Total Severity	22.59	(6.88)	19.30	(8.80)	8.49 (1, 137.37) <sup>a</sup>	.012*	.03
Comorbid DSM-IV Disorders	3.17	(2.15)	2.31	(1.73)	7.19 (1, 116.28) <sup>a</sup>	.001*	.04
Global Assessment of Functioning	49.48	(12.02)	53.18	(12.33)	3.89 (1, 257)	.050*	.02
Social and Occupational Functioning	51.54	(13.15)	56.66	(14.82)	5.34 (1, 257)	.026*	.02
Quality of Life	43.56	(10.76)	48.40	(10.08)	9.60 (1, 257)	.004*	.04
	%		%		$\chi^2$ (1)	P	V
Chronic Tic Disorder	10.0		0.8		15.84	.001**	.23
Tourette's Disorder	10.0		3.0		6.12	.013	.14
OCPD Diagnosis	44.3		22.4		13.07	.001**	.21
Symmetry and Exactness Obsessions	92.9		34.6		73.50	.0001**	.49
Ordering and Arranging Compulsions	80.0		32.5		50.56	.0001**	.41
Primary Symmetry and Exactness	34.3		6.8		36.16	.0001**	.34
OCPD Symptoms							
Preoccupation with Details	78.0		45.4		15.80	.001**	.29
Perfectionism	72.0		48.9		7.93	.005**	.20
Reluctance to Delegate	70.0		48.2		7.04	.008	.19
Rigidity/Stubbornness	66.0		47.5		5.06	.025	.16
Excess Devotion to Work	18.0		27.7		1.83	.176	.10
Over-Conscientiousness	26.0		26.2		0.001	.973	.002
Hoarding	38.0		40.4		0.09	.763	.02
Miserly Spending	14.0		6.4		2.79	.095	.12
Unemployed	57.1		36.7		9.30	.002**	.17
Disability Due to OCD	25.7		10.5		10.32	.001**	.18

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Notes. *M* = Mean, *SD* = Standard Deviation,

\* = results are Bonferroni-adjusted for multiple comparisons and significant at  $p < .05$ ,

\*\* = chi-square analyses are significant at Bonferroni-corrected alpha thresholds. Effect size measures = Cramer's *V* for chi-square analyses (0.10 = small, 0.30 = medium, 0.50 = large), and partial eta-squared (part- $\eta^2$ ) for MANOVA (0.01 = small, 0.06 = medium, 0.14 = large).

<sub>g</sub>To account for unequal cell sizes, Welch's Statistic was used to compute *F* values when assumptions of homogeneity of variance were violated in ANOVA.