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Examining heterogeneity of obsessive-compulsive disorder: Evidence for subgroups based on motivations☆

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ABSTRACT

Obsessive-compulsive disorder (OCD) is a heterogeneous illness and evidence suggests that different clinical characteristics may relate to varying treatment outcomes. This study was designed to identify subgroups based on core motivational domains in a clinical sample of individuals with OCD, and to compare groups on clinical characteristics. Cluster analyses identified four subgroups including groups with relatively high or low levels of both harm avoidance (HA) and incompleteness (INC) motivations. A subgroup was identified that demonstrated a "traditional profile" marked by high motivation to avoid harm, and elevated levels of beliefs about responsibility/overestimation of threat. The model also contained a subgroup characterized by high incompleteness, low motivation to avoid harm, and higher levels of perfectionistic beliefs and intolerance of uncertainty. Findings reemphasize that current cognitive and behavioral models of OCD may be enhanced by integrating incompleteness/NJREs.

1. Introduction

Obsessive-compulsive disorder (OCD) is a debilitating and chronic illness with an estimated lifetime prevalence of 1.6% (Kessler et al., 2005). It is associated with an early age of onset, significant psychiatric comorbidity, and economic costs in the billions of dollars (DuPont, Rice, Shiraki, & Rowland, 1995; Eisen et al., 2006). Although effective treatments exist, only a portion of patients achieve meaningful symptom reduction, with as many as 50–70% of patients remaining symptomatic following either psychotherapy or medication (Abramowitz, 2007; De Haan, 2006; Farris, McLean, Van Meter, Simpson, & Foa, 2013; Jenike, 2004). Research suggests the presence of potential subtypes based on observable features such as symptom content, comorbidity or age of onset, while others have been based on hypothesized underlying mechanisms such as dysfunctional beliefs or neural correlates (McKay et al., 2004). There is a body of evidence showing that some of these subtypes may respond better than others to existing treatments (Abramowitz, Franklin, Schwartz, & Furr, 2003; Mataix-Cols, Rauch, Manzo, Jenike, & Baer, 2014; Steketee et al., 2011). This supports the notion that there is utility in pursuing a greater understanding of the heterogeneity of OCD.

Symptom-based subtyping of OCD is perhaps the most common method of classification. Factor and cluster-analytic investigations have identified specific symptoms clusters, with the most reliable categories including contamination/cleaning, harming/checking, and symmetry obsessions/ordering compulsions (Baer, 1994; Calamari et al., 2004; Leckman et al., 1997; Mataix-Cols, Junqué et al., 1999; Summerfeldt, Richter, Antony, & Swinson, 1999). There is also some evidence to suggest that symptom-based subtypes demonstrate differential treatment response. For example, one investigation found that only individuals with symmetry-related symptoms responded to phenelzine compared to individuals with other symptom content (Jenike, Baer, Minichiello, Rauch, & Buttolph, 1997). Indeed, experts have suggested that symmetry related symptoms may relate to different motivations than other types of OCD symptoms.

Belief-based subgrouping is a second classification scheme based on cognitive models of OCD in which it is suggested that dysfunctional beliefs underlie OCD pathology (Clark, 2004; Frost & Steketee, 2002; Salkovskis, 1996). More specifically, beliefs emphasizing increased sense of personal responsibility, overestimation of threat (RH), and the importance of thoughts and the need to control them (IT), are hypothesized to influence interpretations of intrusions in a manner that increases anxiety and motivates

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attempts to avoid harm (HA; Obsessive Compulsive Cognitions Working Group, 2001). Previous studies employing cluster analytic methods and the Obsessive Beliefs Questionnaire, a measure of OCD related beliefs across domains (OBQ-44, Obsessive Compulsive Cognitions Working Group, 2005a) have identified OCD subgroups based on dysfunctional beliefs, including a subgroup with low levels of beliefs (Calamari et al., 2006; Chik, 2007; Polman, O'Connor, & Huisman, 2011; Taylor et al., 2006). The identification of a low beliefs subgroup in all of these investigations was seen as evidence for a subset of OCD patients where OC-related beliefs do not play a central role, and therefore other factors must be driving their OCD symptoms. One potential factor is a different motivation underlying the symptoms. For example, it has been hypothesized that the motivation to address "not just right experiences (NJREs)", rather than dysfunctional cognitions, could have a stronger influence on the pathology underlying this low beliefs group (Calamari et al., 2006; Chik, 2007; Polman et al., 2011; Taylor et al., 2006).

Recently, greater attention has been paid to the Motivation Model of OCD, which suggests that two core motivations underlie symptoms. Rasmussen and Eisen (1992) discussed a presentation of OCD similar to anxiety disorders, where the person experiences disproportional worry about the potential of future harm. On the other hand, some individuals with OCD don't experience this elevated anxiety, but instead a feeling of something being "not just right" or imperfect. In this subset of patients, compulsions are performed to alleviate this discomfort and are more ego-syntonic (Rasmussen and Eisen, 1992). Rasmussen and Eisen (1992) noted that some individuals with OCD demonstrate symptoms characterized by extremely high perfectionism that results in a pattern of increasing tension when something is out of place or not just right followed by a sense of relief when resolved. This model was reviewed and further modified by Summerfeldt (2004), Summerfeldt, Kloosterman, Antony, and Swinson, (2014), Summerfeldt (2007). In this model, the harm avoidance dimension (HA) pertains to a perception of potential threat and the subsequent desire to avoid this threat. The other hypothesized motivational domain, incompleteness (INC), is posited to reflect a desire to ameliorate a feeling of discomfort, often described as a not just right experience (NJREs; Coles, Frost, Heimberg, & Rhéaume, 2003; Summerfeldt et al., 2014). Investigations in clinical and nonclinical samples have found INC to be significantly and uniquely associated with both OC symptoms and severity, even after controlling for other variables, such as HA and OC-related beliefs (Ecker & Gönner, 2008; Pietrefesa & Coles, 2008; Taylor et al., 2014). These findings suggest that existing cognitive models may not apply as well to OCD motivated by INC rather than HA (Calamari et al., 2006; Cougle, Fitch, Jacobson, & Lee, 2013; Taylor et al., 2006).

In the current study, we sought to identify subgroups of individuals with OCD based on underlying motivations using cluster-analytic methods in a clinical sample of OCD patients (Aim 1). Next, we examined patterns of beliefs and symptoms in these motivation-based subgroups (Aim 2).

2. Method

2.1. Participants

Our sample (N = 85, 51.8% male; age M = 29.01, SD = 12.96) included individuals with a diagnosis of OCD. The sample included both treatment seeking outpatients (n = 67, 78.8%) and research participants with OCD (n = 18, 21.2%) recruited from a university-based anxiety specialty clinic that provides psychological services to the general community. Outpatients were assessed between 2005 and 2016. Of the research participants, 10 participated in a study investigating NJREs and 8 were recruited for a study investigating general OC symptoms which did not include inclusion/exclusion criteria related to NJREs. Diagnosis was assigned according to DSM-IV or DSM-5 criteria using the Anxiety Disorders Interview Schedule (ADIS-IV; ADIS-5; American Psychiatric Association, 2000, 2013; Brown, DiNardo, Barlow, & DiNardo, 1994; Brown & Barlow, 2014). All diagnoses were assigned by reliability-trained doctoral students and were then confirmed by a senior clinical psychologist. Inter-rater agreement for diagnoses at the anxiety clinic is excellent (k = 0.80). The majority of the sample had at least one comorbid diagnosis (n = 53, 62.35%, M = 2.0, SD = 0.99). The most common comorbid diagnoses included anxiety disorders (n = 37, 43.50%), depressive disorders (n = 31, 36.50%), body dysmorphic disorder (n = 6, 7.06%), eating disorders (n = 3, 3.53%), and substance use disorders (n = 3, 3.53%).

2.2. Measures

2.2.1. Obsessive-Compulsive Trait Core Dimensions Questionnaire (OC-TCDQ); (Summerfeldt, Kloosterman, Parker, Antony, & Swinson, 2001; Summerfeldt et al., 2014)

Harm avoidance (HA) and incompleteness (INC), the proposed motivational dimensions underlying compulsions, were assessed using the OC-TCDQ, a 20 item self-report measure. Items assessing HA ("I have fears that I wish I could ignore, but can't,") and INC ("I must do things in a certain way or I will not feel right,") are rated on a 5-point likert scale from 1 ("never") to 5 ("always"). Previous psychometric investigations and data from this sample found the OC-TCDQ to demonstrate strong internal consistency and good convergent validity with measures of OC symptoms (Our sample: α = 0.93, convergent validity with OCI = 0.47-0.54) (Summerfeldt et al., 2001, 2014).

2.2.2. The Obsessive Beliefs Questionnaire (Obsessive Compulsive Cognitions Working Group, 2005b)

A 44 item self-report scale was used to assess OC related beliefs. Items comprise three subscales thought to be characteristic of obsessions: (1) inflated responsibility and overestimation of threat (RH; "Even ordinary experiences in my life are full of risk,)" (2) perfectionism and intolerance of uncertainty (PC; "I must keep working at something until it's done exactly right,"), and (3) importance and over-control of thoughts (IT; "Having a bad thought is morally no different than doing a bad deed)". Items are rated on a 7-point likert scale, ranging from 1 (disagree very much) to 7 (agree very much). The OBQ demonstrates strong psychometric properties both in this sample (α = 0.94) and previous validations (Obsessive Compulsive Cognitions Working Group, 2001, 2003, 2005b).

2.2.3. Obsessive Compulsive Inventory (OCI; Foa, Kozak, Salkovskis, Coles, & Amir, 1998)

Frequency and distress of OCD symptoms were assessed using the OCI, a 42-item self-report measure. Items constitute seven subscales: washing, checking, doubting, ordering, obsessing, hoarding, and neutralizing. For distress items, responses range from 0 ("not at all") to 4 ("extremely"), and frequency response range from 0 ("never") to 4 ("almost always"). Overall distress and frequency scores are determined by calculating the average of all items. Mean scores for each subscale were also calculated. Good to excellent internal consistency (α = 0.86–0.95; our sample: α = 0.85–0.93) and retest reliability (r = 0.84–0.90) has been in clinical and nonclinical samples (Foa et al., 1998; Simonds, Thorpe, & Elliott, 2000).