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Obsessive compulsive disorder and anxiety sensitivity: Identification of specific relations among symptom dimensions

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ABSTRACT

Anxiety sensitivity (AS) is a well-established individual difference variable reflecting the tendency to fear bodily sensations associated with anxious arousal. AS is composed of three subfactors including physical, cognitive, and social concerns. Although AS has been consistently linked to the development and maintenance of several anxiety disorders, little research has examined the relationship between AS subfactors and obsessive–compulsive (OC) symptoms. The primary aim of the current investigation was to extend previous research by examining the relationships between these constructs within a clinical population. The sample consisted of 76 treatment seeking adults with a primary diagnosis of OCD. Multiple regression analyses revealed that AS was significantly associated with OC symptom severity even after controlling for anxiety and MDD diagnoses. In addition, the three subfactors of AS were found to be differentially related to the five OC symptom domains (checking, ordering, neutralizing, washing, and obsessing). These results corroborate previous work suggesting a unique and important relationship between AS and OC symptoms. In addition, the current study provides initial evidence clarifying the nature of this relationship within an OCD population.

1. Introduction

Anxiety sensitivity (AS), otherwise known as a "fear of fear", is a well-established individual difference variable reflecting a tendency to fear bodily sensations associated with anxious arousal (Reiss & McNally, 1985). Individuals high in AS fear anxious arousal because they believe there will be a negative physical, cognitive, and/or social consequence associated with these symptoms. For example, individuals high in AS may misinterpret benign bodily sensations such as heart palpitations as being indicative of a heart attack, whereas those low in AS will simply regard the sensations as uncomfortable. Previous research has demonstrated that AS plays a key role in the development and maintenance of several anxiety-related conditions including panic disorder (PD), social anxiety disorder (SAD), and posttraumatic stress disorder (PTSD; Rodriguez, Bruce, Pagano, Spencer, & Keller, 2004; Schmidt, Lerew, & Jackson, 1997; Taylor, Koch, & McNally, 1992). In addition, AS has been shown to be highly associated with other psychopathology including substance use disorders, eating disorders and suicidality (Anestis, Holm-Denoma, Gordon, Schmidt, & Joiner, 2008; Capron et al., 2012; Capron, Norr, Macatee, & Schmidt, 2012; Schmidt, Buckner, & Keough, 2007).

The extant literature has established AS as a multidimensional construct comprising three separate dimensions reflecting fears of the physical, cognitive, and social domains of anxiety (Taylor et al., 2007). The three dimensions of AS have been found to be differentially related to various anxiety symptoms. For example, the physical concerns subscale, which primarily reflects a fear of physical catastrophe such as heart attacks, is most strongly related to panic (Deacon & Abramowitz, 2006; Rector, Szacun-Shimizu, & Leybman, 2007) and PTSD (Taylor et al., 1992). Additionally, the social concerns subscale, reflecting adverse social consequences associated with anxiety (e.g., "I worry that other people will notice my anxiety") is most consistently linked to fears of negative evaluation and symptoms of social anxiety (Deacon & Abramowitz, 2006; McWilliams, Stewart, & MacPherson, 2000). Finally, the cognitive concerns subscale, which reflects fears of cognitive dyscontrol (e.g., "When my thoughts seem to speed up, I worry that I might be going crazy"), has frequently been associated with pathological worry (Rector et al., 2007).

Despite the substantial literature examining the associations between AS dimensions and anxiety disorders, studies of the associations between obsessive-compulsive disorder (OCD)[1] and AS dimensions are scarce. OCD is characterized by recurrent and persistent thoughts and/or images (i.e., obsessions) that bring about subsequent distress/impairment, as well as repetitive behaviors (i.e., compulsions) aimed at neutralizing or reducing the associated anxiety (American Psychiatric Association, 2013).

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[1] It should be noted that due to changes in the DSM-5, OCD is no longer diagnosed as an anxiety disorder. However, OCD has a long history of being considered in the context of these disorders.

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Previous research has demonstrated that, compared to healthy individuals, OCD patients report greater levels of AS (Deacon & Abramowitz, 2006; Taylor et al., 1992; Wheaton, Deacon, McGrath, Berman, & Abramowitz, 2012a). However, when compared to other anxiety conditions such as panic and social anxiety, OC symptoms appear to be more weakly associated with AS (Deacon & Abramowitz, 2006; Wheaton et al., 2012a).

One limitation of the previous literature examining the associations between OCD and AS is that OCD was examined as a unitary construct. More specifically, researchers used aggregate scores on OCD symptom measures as a marker of symptom severity. However, OCD is known for its heterogeneity and thematic diversity regarding obsessive and compulsive symptoms (Foa & Kozak, 1995; Mataix-Cols, do Rosario-Campos, & Leckman, 2005). For example, data on the dimensional structure of OCD has identified four main symptom dimensions including: (1) contamination obsessions/washing compulsions, (2) responsibility for harm obsessions/checking compulsions, (3) symmetry and ordering obsessions/arranging compulsions, and (4) unacceptable thoughts (e.g., sexual, religious, or violent obsessions)/neutralizing compulsions (e.g., thought suppression; Abramowitz et al., 2010). Previous research has demonstrated that these dimensions are associated with discrete patterns of comorbidity, hereditary transmission and treatment response (Mataix-Cols et al., 2005). Thus, examining OCD as a unitary construct may obscure potential associations among AS dimensions and OCD.

To date only two studies have examined AS subfactors in relation to OCD symptom dimensions. Utilizing a large sample of primary OCD patients ($N=280$), Calamari, Rector, Woodard, Cohen, and Chik (2008) assigned OCD patients to empirically derived symptom subgroups based on their principal OC symptom subtype (e.g., contamination, harming, symmetry). The authors found significant between-subgroup differences for AS physical concerns, cognitive concerns, and social concerns with the combined harming/contamination subgroup demonstrating higher subscale levels of AS than all other subgroups. While informative, grouping patients into mutually exclusive subgroups based on their primary symptom subtype significantly limits the interpretability of the findings. Complex clinical presentations with multiple overlapping symptom subtypes is often the rule rather than the exception among OCD patients (Mataix-Cols, 2006). Consistent with this conceptualization, contemporary approaches suggest a dimensional view of OC symptoms rather than a categorical one (Mataix-Cols et al., 2005).

In an effort to address this limitation, Wheaton, Mahaffey, Timpano, Berman, and Abramowitz (2012b) examined the associations among AS subfactors and OC symptom dimensions in a large sample of undergraduate students ($N=636$). Regression analyses revealed that the three domains of AS were differentially associated with OC symptom dimensions. Specifically, AS physical concerns significantly predicted fears of contamination, responsibility for harm, and symmetry. AS social concerns significantly predicted unacceptable thoughts and AS cognitive concerns significantly predicted unacceptable thoughts, responsibility for harm and symmetry. Although the examination of OCD symptom dimensions extended previous work (Calamari et al., 2008), questions remain as to whether these findings extend to a clinical sample.

The current study sought to extend previous work by examining associations among OC symptom dimensions and AS subfactors within a sample of OCD patients. To control for the possibility that the associations among AS subfactors and OC symptom dimensions were better accounted for by comorbid levels of depression and/or anxiety, we controlled for MDD diagnoses as well as the presence of any anxiety diagnoses. Based on the findings of Wheaton et al. (2012b) we hypothesized that the physical concerns subscale of AS would be most associated with contamination/washing concerns symptoms and responsibility for harm/checking symptoms. Next we hypothesized that the cognitive concerns subscale of AS would be most associated with unacceptable thoughts/neutralizing symptoms and responsibility for harm/checking symptoms. Finally, we hypothesized that the social concerns subscale of AS would also be associated with the unacceptable thoughts/neutralizing symptoms.

2. Methods

2.1. Sample and setting

The sample consisted of 76 outpatients receiving psychological services at the Florida State University (FSU) Anxiety and Behavioral Health Clinic (ABHC). The ABHC is an outpatient clinic that primarily serves individuals from the local community. Individuals are referred elsewhere only if they are suffering from psychotic and/or bipolar-spectrum disorders or if they are an immediate danger to themselves or others. Only individuals with a primary diagnosis of OCD, as determined by the Structured Clinical Interview for DSM-IV Axis I Disorders (First, Spitzer, Gibbon, & Williams, 1996), were included in the current sample. In the present investigation, participants were primarily female (60.5%), with ages ranging from 13 to 74 ($M=28.84$, $SD=13.67$). The ethnic breakdown was as follows: 69.7% Caucasian, 10.5% African American, 18.4% Other (e.g., bi-racial), and 1.4% declined to identify.

2.2. Procedure

All individuals in the present sample agreed to participate in the FSU Institutional Review Board approved research being conducted at the ABHC. Prior to treatment initiation, individuals were assessed by clinical psychology graduate students using the SCID-I. Diagnoses were confirmed at weekly supervision meetings with the director of the ABHC and licensed clinical psychologist. The self-report data examined in the present study were part of a battery of questionnaires given after completion of the SCID-I.

2.3. Measures

2.3.1. Anxiety sensitivity

Anxiety sensitivity was assessed using the *Anxiety Sensitivity Index* (ASI; Reiss, Peterson, Gursky, & McNally, 1986). The ASI is a 16-item self-report questionnaire used to measure an individual's fear of and concern about the negative effects of anxious arousal. Individuals are asked to indicate the degree to which they agree with each item on a 5-point Likert type scale ranging from 0 (*Very little*) to 4 (*Very much*). Higher scores on the ASI indicate greater levels of anxiety sensitivity. The ASI is composed of three empirically supported subfactors: fear of physical arousal (e.g., It scares me when my heart beats rapidly), fear of publicly observable anxiety symptoms (e.g., It is important to me not to appear nervous), and fear of cognitive dyscontrol (e.g., It scares me when I am unable to keep my mind on a task). The ASI has demonstrated sound psychometric properties in previous research (Zvolensky, Goodie, McNeil, Sperry, & Sorrell, 2001). In the present investigation, the ASI demonstrated excellent internal consistency ($\alpha=.91$).

2.3.2. Obsessive–compulsive symptoms

The *obsessive–compulsive inventory-revised* (OCI-R; Foa et al. (2002)) is an 18-item self-report measure of OCD symptoms. Respondents are asked to rate each item on a 5-point Likert type scale (0=*Not at all*, 4=*Very much*), with higher scores reflecting increased OCD symptoms. The OCI-R contains six subscales representing the six OCD symptom dimensions: Checking, Neutralizing, Obsessing, Ordering, Washing, and Hoarding. However, due to recent changes in DSM-5 regarding the nosological classification of hoarding disorder as a separate diagnostic entity (American Psychiatric Association, 2013), no analyses were conducted on the hoarding subscale of the OCI-R. The OCI-R has demonstrated good psychometric properties in OCD and other anxiety disorder populations (Abramowitz & Deacon, 2006; Foa et al., 2002). Internal consistency in the present investigation was adequate for all five subscales (checking $\alpha=.93$, neutralizing $\alpha=.85$, obsessing $\alpha=.86$, ordering $\alpha=.93$, and washing $\alpha=.89$).

2.3.3. Structured clinical interview for DSM-IV Axis I disorders

The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First et al., 1996) is a widely administered and well-validated semi-structured interview intended to assess DSM-IV Axis I diagnoses. In the present investigation, only those who met criteria for a primary diagnosis of OCD were included in the sample. In addition, SCID-I depression and anxiety diagnoses were used as covariates. The SCID was administered by highly trained, advanced doctoral students. Training