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Anxiety sensitivity and obsessive-compulsive symptom dimensions: Further evidence of specific relationships in a clinical sample

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ABSTRACT

The relationship between anxiety sensitivity (AS) and obsessive-compulsive disorder (OCD) has been widely recognized. The specific relationships between AS dimensions and OCD symptom dimensions are less often investigated and the existing studies have shown several limitations and have reported inconsistent results. The present study analyzed the role of AS dimensions in OCD, focusing on different types of OCD symptoms. Dimensional self-report measures of AS and OCD were administered to a clinical sample (86 OCD patients), together with measures of depression, anxiety, and obsessive beliefs. At a bivariate level, the symmetry dimension of OCD was strongly correlated with the social dimension of AS and moderately with the physical and cognitive dimensions. The other OCD and AS dimensions were weakly correlated or uncorrelated. Hierarchical regression analyses revealed that the symmetry dimension was mainly predicted by the social AS dimension and, to a lesser extent, by obsessive beliefs, while the responsibility for harm and mistakes dimension was predicted by obsessive beliefs, but not by the AS dimensions. Unexpectedly, the unacceptable thoughts and contamination OCD symptom dimensions were not predicted by any of the considered variables. Theoretical and clinical implications for the results pertaining to symmetry-related OCD symptoms are discussed.

1. Introduction

Anxiety sensitivity (AS; Reiss & McNally, 1985) is conceptualized as a trait characteristic that reflects the individual propensity to fear bodily sensations associated with anxious arousal because of the belief that such arousal could ultimately lead to physical, psychological, or socially harmful consequences (Taylor, 1995). AS was initially postulated as a unidimensional construct (Taylor, Koch, & McNally, 1992) and first measured using the 16-item Anxiety Sensitivity Index (ASI; Reiss, Peterson, Gursky, & McNally, 1986). However, the original ASI had several limitations (Olatunji & Wolitzky-Taylor, 2009; Zinbarg, Barlow, & Brown, 1997) and its ensuing revisions (Taylor et al., 2007; Taylor & Cox, 1998) have led to the current 18-item Anxiety Sensitivity Index-3 (ASI-3). Factor analyses revealed that AS is a multidimensional construct which shows a hierarchical structure with one higher order factor and three lower-order subfactors. These three subfactors are: physical concern (fear of the consequences of anxiety's physical symptoms), cognitive concern (fear of cognitive dyscontrol) and social concern (fear of the negative social consequences brought by others observing one's anxiety symptoms), in both clinical and non-clinical samples (Wheaton, Deacon, McGrath, Berman, & Abramowitz, 2012).

There is convincing evidence that AS plays a fundamental role in the development and maintenance of symptoms across anxiety disorders, including Panic Disorder (PD), Social Anxiety Disorder (SAD), and Post-Traumatic Stress Disorder (PTSD) (Rodriguez, Bruce, Pagano, Spencer, & Keller, 2004; Schmidt, Lerew, & Jackson, 1997; Taylor, 1999; Taylor et al., 1992). Specifically, it has been shown that the physical dimension of AS is strongly related to PD (Allan, Capron, Raines, & Schmidt, 2014; Deacon & Abramowitz, 2006; Olthuis, Watt, & Stewart, 2014; Rector, Szacun-Shimizu, & Leybman, 2007; Rodriguez et al., 2004). The social dimension of AS is strongly related to fear of negative evaluation and social anxiety (Allan et al., 2014; Deacon & Abramowitz, 2006; McWilliams, Stewart, & MacPherson, 2000; Olthuis et al., 2014; Rector et al., 2007; Rodriguez et al., 2004). The cognitive dimension relates to generalized anxiety disorder (GAD), major depressive disorder (MDD), SAD, and pathological worry (Allan et al., 2014; Rector et al., 2007; Rodriguez et al., 2004).

Few studies have examined the associations between AS dimensions and obsessive-compulsive disorder (OCD) – for a review, see Robinson and Freeston (2014) – even though it was included among anxiety disorders before the DSM-5 (American Psychiatric Association, 2013). Several studies report increased levels of AS in OCD patients when

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compared to non-clinical controls, using the ASI (Taylor et al., 1992; Zinbarg et al., 1997), the ASI-R (Deacon & Abramowitz, 2006), and the ASI-3 (Taylor et al., 2007; Wheaton, Deacon, et al., 2012). However, AS seems to be more weakly associated with OC symptoms, when it is compared to anxiety and somatoform disorders, like PD, SAD and health anxiety (Deacon & Abramowitz, 2006; Wheaton, Deacon, et al., 2012).

Notably, these studies were carried out considering OCD as a unitary syndrome and the total score of OC symptom scales – such as the Obsessive-Compulsive Inventory-Revised (OCI-R; Foa et al., 2002) – as an indication of the disorder's severity. This approach may have masked specific associations that each AS dimension may have with different OC manifestations. In order to overcome this limitation, Calamari, Rector, Woodard, Cohen, and Chik (2008) grouped a sample of OCD patients into mutually exclusive categories on the basis of their main symptoms and identified seven categories: (a) contamination, (b) harming, (c) hoarding, (d) obsessional, (e) symmetry, (f) certainty, and (g) contamination/harming. The results showed that AS correlates with OC symptom severity in all groups except for the hoarding and obsessional ones. Furthermore, patients characterized by both prominent contamination and harming obsessions showed higher levels of AS compared to the other groups.

Though informative, this approach did not take into account current OCD conceptualization which deems that this disorder can be better understood as a spectrum of multiple, potentially overlapping, symptom dimensions rather than mutually exclusive symptom categories. OCD symptom dimensions have shown to be continuous with normal OC phenomena and occur in OCD patients as well as in the general population (Mataix-Cols, 2006; Mataix-Cols, Rosario-Campos, & Leckman, 2005). Assessing potentially overlapping OC symptoms using dimensional measures may therefore be a better approach to understand the relationship between specific OC dimensions and other variables.

To date, only two studies have examined the relationship between AS and OC symptom dimensions. In the first study, Wheaton, Mahaffey, Timpano, Berman, and Abramowitz (2012) used the ASI-3 and the Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz et al., 2010) to measure AS and OC symptom dimensions respectively. They investigated their relationship, controlling for general distress and obsessive beliefs (OB), in a non-clinical convenience sample of 636 undergraduate students. Although general distress and OB were predictive of all the four OC symptom dimensions measured by the DOCS, the authors found that the physical dimension of AS was still predictive of the contamination OC dimension, while both the physical and cognitive dimensions of AS were predictive of the responsibility for harm and the symmetry OC dimensions. Finally, the unacceptable thoughts OC dimension was predicted by both the cognitive and social dimensions of AS. However, these results needed to be replicated in a sample of OCD patients to infer more robust implications for clinical practice.

Raines, Oglesby, Capron, and Schmidt (2014) examined the relationship between AS and OC symptom dimensions – using the ASI and the OCI-R, respectively – in a clinical sample of 76 adults having primary OCD diagnosis, controlling for depression and any other anxiety disorder diagnosis. Regression analyses revealed that the cognitive dimension of AS was able to predict both the obsessing and mental neutralizing OC symptom subscales, while the social dimension of AS was able to predict the ordering and checking OC symptom subscales. In contrast with the first study (Wheaton, Mahaffey, et al., 2012), no associations were found between the physical dimension of AS and washing rituals. Even though Raines and colleagues used a clinical OCD sample, their study has important limitations: (a) the authors used the OCI-R to measure OC symptom dimensions (Foa et al., 2002); though it is a valid tool, it refers to a categorical conceptualization of OC symptoms that has been recently overcome (Abramowitz et al., 2010) and includes a hoarding subscale that is no longer considered among OCD symptoms (American Psychiatric Association, 2013); (b) the authors used the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1996), a categorical tool to control for general distress, which did not allow them to take into account the dimensional nature of anxious and depressive symptoms; (c) the authors used the ASI (Reiss et al., 1986) to measure AS, instead of the ASI-3 (Taylor et al., 2007), a more psychometrically sound tool; (d) in their study the authors did not include any measure for OB which are considered fundamental predictors of OC symptoms (Wheaton, Abramowitz, Berman, Riemann, & Hale, 2010).

Given the inconsistent results achieved across the aforementioned studies and taking into account their limitations, our study aimed to further investigate the relationship between AS and OC symptom dimensions in a relatively large OCD sample, using dimensional measures and controlling for anxiety, depression, and OB.

2. Method

2.1. Participants

Eighty-six OCD patients had been referred to an Italian private adult psychotherapy center for evaluation and treatment. During the routine assessment phase, patients were interviewed by one of the members of the research team (all doctoral psychologists experienced in diagnosing psychiatric disorders) using the Italian versions of the Anxiety Disorder Interview Schedule IV (ADIS-IV; Brown, Di Nardo, & Barlow, 1994) and the Yale-Brown Obsessive-Compulsive Scale-Second Edition (Y-BOCS-II; Storch et al., 2010; Italian version in Melli, Avallone, Moulding, Pinto, Micheli and Carraresi, 2015) to establish diagnoses. Each case was audio-recorded, carefully reviewed during supervisory meetings and all diagnoses were reached by raters' consensus (inter-rater reliabilities were excellent: ADIS-IV: $\kappa = 0.92$; Y-BOCS-II: ICC = 0.96). Some participants had one or more secondary diagnoses, including anxiety disorders (social phobia [n = 1], PD [n = 3] and GAD [n = 7]) and mood disorders (MDD [n = 15]). Potential participants with a secondary or tertiary diagnosis of OCD were excluded. Participants under 18 years of age were also excluded as were those with psychosis, current mania, and/or substance dependence.

The final sample included 86 OCD patients (56.4% males), with a mean age of 32.34 years (SD = 9.89). In terms of education, 55.8% of the participants had an intermediate education level (12–13 years, high school degree), 33.8% had a higher-level degree (16 or more years of schooling, Bachelor's Degree or Ph.D.) and the remaining 10.4% had a low education level (8 or less years of schooling, primary or secondary school). Less than half were employed (41.6%), 27.3% were undergraduate university students, and the remaining 31.1% were homemakers, unemployed, or retired. Regarding marital status, 62.3% were single, while 33.8% were married or cohabiting, 2.6% were divorced, and 1.3% were widows or widowers.

2.2. Measures

2.2.1. Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz et al., 2010)

The DOCS is a 20-item scale that assesses the main symptom dimensions of OCD: contamination obsessions as well as washing and cleaning compulsions; obsessions about responsibility for harm and checking compulsions; obsessions about order and symmetry and ordering or arranging compulsions; repugnant obsessive thoughts and mental compulsive rituals or other covert neutralizing strategies. Within each symptom dimension, items – rated on a scale ranging from 0 ('no symptoms') to 4 ('extreme symptoms') – assess 5 severity parameters in relation to the past month. The subscales were found to be highly valid and reliable (Abramowitz et al., 2010). The Italian version of the DOCS (Melli, Chiorri, Bulli, Carraresi, Stopani and Abramowitz, 2015) replicated the four-factor structure of the original version and showed good internal consistency ($\alpha > 0.80$ for all subscales), adequate temporal stability (ICC > 0.75 for all scales), and good construct validity.