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Incremental specificity of disgust sensitivity in the prediction of obsessive-compulsive disorder symptoms: Cross-sectional and prospective approaches☆

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ABSTRACT

The present study examines the association between disgust sensitivity (DS) and obsessive-compulsive disorder (OCD) symptoms in two non-clinical samples. Findings from Study 1 ($n = 270$) revealed a significant association between DS and OCD symptoms even after controlling for negative affect and anxiety sensitivity. Subsequent analysis also revealed a specific association between DS and the washing subtype of OCD symptoms when controlling for other OCD symptom dimensions. DS did not significantly predict residual change in total symptoms of OCD over a 12-week period ($n = 300$) when controlling for risk factors for anxiety disorder symptoms in general (e.g., negative affect, anxiety sensitivity) and OCD specifically (e.g., obsessive beliefs) in Study 2. However, exploratory analyses suggest that DS may be predictive of residual change in some OCD symptom subtypes but not others. Implications of these findings for future research on the role of disgust in OCD are discussed.

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Obsessive-Compulsive Disorder (OCD) is a psychiatric condition characterized by the presence of distressing, time consuming obsessions and/or compulsions that significantly interfere with social and/or professional activities (*DSM-IV TR*; American Psychiatric Association [APA], 2000). Obsessions are intrusive, repetitive thoughts, images, or impulses that are often considered unacceptable to the individual. Compulsions are purposeful, repetitive overt and covert behaviors performed in an effort to relieve obsessional distress. In light of the diversity of presenting symptoms, contemporary approaches conceptualize OCD dimensionally (McKay et al., 2004). A review of factor-analytic studies identified symmetry/ordering, hoarding, contamination/cleaning, and obsessions/checking as the most commonly extracted OCD symptom dimensions (Mataix, Rosario-Campos, & Leckman, 2005). Importantly, these OCD symptom dimensions appear to be marked by differences in response to treatment (see McKay et al., 2004 for review), patterns of comorbidity (e.g., Holzer, Goodman, McDougle, & Baer, 1994), neural correlates (e.g., Philips et al., 2000), genetic transmission (Leckman et al., 2003), and underlying latent structure (Olatunji, Williams, Haslam, Abramowitz, & Tolin, 2008).

The cognitive-behavioral model of OCD (e.g., Rachman, 1998; Salkovskis et al., 2000) proposes that OCD arises from dysfunctional "obsessive beliefs" such as inflated estimates of threat and responsibility and beliefs about the importance of, and need to control, intrusive thoughts (Abramowitz, Lackey, & Wheaton, 2009). While there is ample evidence indicating that obsessive beliefs in general constitute a cognitive risk factor for OCD, different obsessive beliefs appear to be related to different OCD symptom dimensions. For example, studies in non-clinical (e.g., Tolin, Woods, & Abramowitz, 2003) and clinical samples (Tolin, Brady, & Hannan, 2008) have found that overestimation of threat significantly predicted washing, checking, and neutralizing symptoms; beliefs about the importance of and need to control thoughts predicted obsessing and neutralizing symptoms; and perfectionism predicted ordering and hoarding symptoms. As McKay et al. (2004) note, such specificity should be expected; beliefs about responsibility, for example, "may be less relevant for washers who fear 'feeling' contaminated, or patients preoccupied with symmetry or order" (p. 296). In addition to this specificity, longitudinal research has shown that certain symptom dimensions are less predicted by obsessive beliefs, in general. Obsessive beliefs prospectively predict the development of washing, checking, and obsessional symptoms, but not that of ordering or hoarding symptoms (Abramowitz, Khandker, Nelson, Deacon, & Rygwall, 2006).

A separate line of research has begun to examine the role of affective vulnerabilities in OCD. Perhaps most notable is descriptive and experimental research implicating disgust in the development and maintenance of OCD (Deacon & Olatunji, 2007; Tsao & McKay, 2004), in particular, the contamination/washing symptom dimension (Mancini, Gragnani, & D'Olimpio, 2001; Tolin, Woods, & Abramowitz, 2006). Disgust is thought to serve a disease-avoidance function, as the emotion motivates avoidance of objects that are appraised to be contaminated (Matchett & Davey, 1991). Indeed, it was recently concluded that "OCD may represent a dysfunction in the appraisal and processing of disgust" (Husted, Shapira, & Goodman, 2006, pp. 390). In support of this conclusion, recent research suggests that the association between disgust and OCD symptoms, particularly the contamination/washing symptom dimension, is independent of common risk factors for anxiety disorders, such as trait anxiety (Olatunji, Williams et al., 2007), and behavioral findings appear to be consistent with this notion. For example, Deacon and Olatunji (2007) recently found that disgust levels significantly predicted behavioral avoidance of sources of contamination even when controlling for anxiety, depression, and contamination cognitions. Furthermore, neuroimaging studies suggest that the neural substrates involved in the processing of disgust (rather than threat) may be relevant to OCD and, in particular, to the contamination/washing symptom dimension (Husted et al., 2006). Shapira et al. (2003) for example, found that brain activation during exposure to disgusting stimuli, but not threatening stimuli, successfully discriminated OCD patients from normal controls.

The majority of the available evidence indicates that a heightened frequency/intensity of disgust experiences (disgust propensity; "When I experience disgust, it is an intense feeling") is associated with contamination-based OCD. However, recent research suggests that contamination-based OCD may be best characterized by heightened disgust sensitivity (DS; "When I notice that I feel nauseous, I worry about vomiting"), described as the overestimation of the negative impact of experiencing disgust (Olatunji, Cisler, Deacon, Connolly, & Lohr, 2007). This latter finding suggests that proneness to experiencing disgust may not be sufficient for dysfunction in contamination-based OCD; instead, dysfunction arises in the catastrophic evaluation and interpretation of one's experience of disgust. Consistent