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The association between metacognitions, the obsessive compulsive symptom dimensions and hoarding: A focus on specificity

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ABSTRACT

In recent year's metacognitive theories – particularly the self-regulatory executive function model proposed by Wells and colleagues – have emerged as a potentially useful perspective from which to extend current cognitive-behavioral models for the mood and anxiety disorders. Metacognitions refer to different beliefs individuals endorse about their thoughts, internal states, and effective coping strategies. Research has linked these attitudes to obsessive compulsive symptoms (OCS), yet it remains unclear whether there may be a differential association with the different OCS dimensions and hoarding. The current study aimed to investigate the *specific* relationships between the OCS dimensions, hoarding, and metacognitions controlling for general distress. The sample ($N=160$) was comprised of young adults at a large university in Germany. Although all symptom types were significantly linked with the various metacognitions assessed (all p's $< .05$), a series of linear regression analyses provided support for more nuanced and particular relationships. The analyses conducted allowed us to examine the specificity of any associations, by factoring out any shared variance between the different OCS dimensions and hoarding. Results revealed that (1) positive beliefs about worry were significantly associated with obsessions and ordering; (2) negative beliefs about uncontrollability were significantly associated with obsessions and checking; (3) cognitive confidence was significantly associated with ordering and hoarding; (4) beliefs about the need to control thoughts were significantly associated with obsessions, ordering, and hoarding; and (5) cognitive self-consciousness was significantly linked with obsessions and ordering. Additional analyses were conducted to examine the relationships between metacognitions, hoarding-specific beliefs, and hoarding symptoms. Results are discussed from the perspective of current theoretical models of OCD and hoarding and future directions are also highlighted.

1. Introduction

In recent years metacognitive theories have emerged as a potentially useful perspective from which to extend current cognitive-behavioral models for the mood and anxiety disorders. The metacognitive model proposed by Wells and Matthews (1996) incorporates the traditional aspects of disorder specific, schematic appraisals and beliefs, with various cognitive processes that influence information processing and modulate the *act* of thinking. More specifically, metacognition refers to both positive and negative beliefs or attitudes that individuals endorse about their thoughts and internal states, which also directly influence plans and tendencies for action (Cartwright-Hatton & Wells, 1997; Wells & Matthews, 1996). While metacognitions in general are thought to be a normative aspect of cognitive processing, they may also maintain the dysfunctional processing seen in many emotional disorders (Papageorgiou & Wells, 2003; Wells, 1999; Wells & Papageorgiou, 1999). For example, metacognitions can lead to mood congruent thinking by impacting the allocation of attention, and may also lead an individual to rely on worry or neutralizing behaviors as a coping strategy. In particular, five types of metacognitions have been hypothesized to play a key role in emotional disorders, including levels of: (1) *cognitive confidence* in one's attention and memory abilities, (2) *positive beliefs about worry*, (3) *cognitive self-consciousness* that focuses attention on thought processes, (4) *negative beliefs about thoughts concerning uncontrollability and danger*, and (5) *beliefs about the need to control thoughts* (Wells & Cartwright-Hatton, 2004; Wells & Matthews, 1996).

Metacognitive models have been developed for both anxiety and mood disorders and elevated metacognitions have been

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demonstrated across a wide range of psychiatric conditions including, but not limited to depression, panic disorder, and schizophrenia (Cucchi et al., 2012; Moritz, Peters, Laroi, & Lincoln, 2010; Papageorgiou & Wells, 2003). For example, metacognitive theories postulate that pathological worrying in anxiety and ruminative thinking in depression are reinforced by positive and negative appraisals about worry (i.e., metacognitions). These theories have been supported by studies showing that worry proneness is associated with both positive and negative beliefs about worry (Cartwright-Hatton & Wells, 1997) and ruminative thinking in depression is mediated by negative beliefs about worry (Papageorgiou & Wells, 2003).

Metacognitive processes are also thought to represent a central facet of obsessive compulsive disorder (OCD). Even prior to the work conducted by Wells and colleagues, Rachman (1997, 1998) and others (Salkovskis, 1985) highlighted the role that 'thoughts about thoughts' play in engendering and maintaining obsessive compulsive symptoms (OCS). For example, the classic cognitive behavioral theory of OCD outlines a relationship between catastrophic misinterpretations of thoughts (i.e., a metacognition) and the exacerbation of intrusive thoughts, as well as a greater likelihood that individuals will resort to rituals as a coping strategy. Research has furthermore demonstrated that metacognitions (e.g., belief that thoughts need to be controlled) will act synergistically with other, non-metacognitive cognitions (e.g., inflated responsibility, perfectionism) important in the etiology of OCD.

With respect to the more specific metacognitive model proposed by Wells (1997, 1996), higher levels of metacognitions have been associated with OCS in both non-clinical (Cohen & Calamari, 2004; Gwilliam, Wells, & Cartwright-Hatton, 2004; Irak & Tosun, 2008; Myers, Fisher, & Wells, 2008; Myers & Wells, 2005) and clinical samples (Exner et al., 2009; Hermans et al., 2008; Janeck, Calamari, Riemann, & Heffelfinger, 2003; Solem, Myers, Fisher, Vogel, & Wells, 2010). In particular, OCD patients appear to endorse particular metacognitions, including higher levels of negative beliefs about worry (e.g., surrounding the danger and uncontrollability of thoughts) and the need to control thoughts, as well as lower levels of cognitive confidence (Cucchi et al., 2012; Hermans et al., 2008; Moritz et al., 2010; Myers & Wells, 2005). Thought-fusion beliefs, beliefs about the need to perform rituals, and beliefs about criteria for terminating rituals have additionally been emphasized with respect to OCS (Solem et al., 2010). Importantly, metacognitions have been shown to change during the course of therapy for OCD and are predictive of post-treatment OCD symptom scores (Solem, Haland, Vogel, Hansen, & Wells, 2009).

One key question that remains unanswered within this literature is whether the various metacognitions are uniquely or independently associated with the different types of OCS. Although the cardinal features of OCD are remarkably consistent world-wide (Weissman et al., 1994), the actual symptoms are strikingly diverse and heterogeneous. Over the past 20 years there has been a shift to consider the factorial structure of OCS, and there is now a growing consensus that OCD as a syndrome should be viewed as a multi-dimensional phenomenon that includes concerns about washing/contamination, obsessions, checking, symmetry/ordering, and hoarding (Mataix-Cols, Rosario-Campos, & Leckman, 2005). Importantly, emerging research indicates that these groupings exhibit clinically meaningful differences with regard to etiology, neurobiology, comorbidity patterns, and treatment response (Miguel et al., 2005). To date, only one investigation focused on the relationship between metacognitions and OCD has considered the relevance of these OCS dimensions. Solem et al. (2010) examined basic correlations between the subscales of the Obsessive Compulsive Inventory Revised (OCIR) and different metacognitions; however, they did not control for the overlap between the different OCS. In other words, the specificity of relationships has not yet been examined.

Also relevant to the discussion of symptom dimensions is the fact that while hoarding symptoms can sometimes genuinely represent a facet of OCD (e.g., saving due to magical ideation with the intent to prevent harm), a larger proportion of saving behaviors actually reflect a discrete condition (Mataix-Cols et al., 2010). Hoarding Disorder differs from OCD in a number of ways, including cognitive processes, treatment response patterns, and key phenomenological features (Pertusa, Frost, & Mataix-Cols, 2010). For example, symptoms associated with Hoarding Disorder tend to not be experienced as intrusive, are not repetitive in nature, are frequently egosyntonic, and are not linked with a specific ritual. These distinctions point to the importance of examining hoarding symptoms separately from the OCS dimensions. From a measurement perspective, traditional assessment instruments for OCD (e.g., OCIR) are not as appropriate for measuring hoarding behaviors, compared to more newly developed symptom scales that capture the core Hoarding Disorder features of difficulty discarding, acquiring, and clutter (Mataix-Cols et al., 2010). With respect to the relationship between hoarding and metacognitions, no study to-date has considered this relationship outside of the context of OCS measures.

The overarching aim of the current investigation was to clarify the relationship between the various metacognitions, the primary OCS dimensions, and hoarding symptoms, relying on the gold-standard self-report measures for metacognitions (the Metacognitions Questionnaire (MCQ); Wells & Cartwright-Hatton, 2004) and hoarding (the Saving Inventory Revised (SIR); Frost, Steketee, & Grisham, 2004). Our first aim was to examine basic correlations between OCS, hoarding and metacognitions. We hypothesized that in line with past research (Solem et al., 2010), the five metacognitions would all be significantly associated with the OCS dimensions and hoarding. Our second aim was to consider the specificity of these associations, controlling for any shared variance between the different OCS dimensions and hoarding symptoms, as well as general mood and anxiety symptoms. Our third aim was to shed more light on the relationship between hoarding symptoms, hoarding-specific cognitions, and metacognitions. We set out to examine the relationship between the MCQ and the Saving Cognitions Inventory (SCI; Steketee, Frost, & Kyrios, 2003), a measure of common cognitions linked with saving and acquiring tendencies. Furthermore, we sought to explore the relative contribution of these different hoarding-cognitions and metacognitions to hoarding symptoms. Despite the lack of research in this domain and the exploratory nature of these analyses, we hypothesized that the SCI subscales would be significantly related to the MCQ subscales, and that cognitive confidence would predict hoarding symptoms above and beyond traditional hoarding cognitions. The latter hypothesis was based on the findings that Hoarding Disorder is associated with core information processing deficits (Timpano, Shaw, Yang, & Cek, in press), and the tenet of the S-REF model that cognitive functioning processes are driven by beliefs about cognition, which sometimes underlie and/or reinforce actual dysfunctional processing.

2. Methods

2.1. Participants

The sample consisted of 160 young adults at a large university in Germany. Ages ranged from 19 to 28 ($M=21.54$, $SD=2.0$), and 81% were female. This sample was deemed suitable for the current investigation given that both OCS and hoarding symptoms are dimensionally distributed (Olatunji, Williams, Haslam, Abramowitz, & Tolin, 2008; Timpano et al., 2013), and both types of symptoms