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# Anxiety control and metacognitive beliefs mediate the relationship between inflated responsibility and obsessive compulsive symptoms



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## ABSTRACT

Research has indicated that beliefs about inflated responsibility, beliefs about perceived control over anxiety-related events and reactions (anxiety control) and metacognitive beliefs about the need to control thoughts are associated with obsessive compulsive symptoms. In the current study we tested a mediation model of the interactions between these variables in predicting obsessive compulsive symptoms. Thirty-seven individuals with obsessive compulsive disorder and 31 controls completed the following self-report instruments: the Responsibility Attitude Scale, the Anxiety Control Scale, the Beliefs about Need to Control Thoughts sub-scale of the Metacognitions Questionnaire 30, and the Padua Inventory. Mann-Whitney *U* tests revealed that participants in the clinical group scored significantly higher than those in the non-clinical group on all variables. In the mediation model we found that the relationship between beliefs about inflated responsibility and obsessive compulsive symptoms was fully mediated by anxiety control and beliefs about the need to control thoughts. These findings provide support for the significant role played by beliefs about control in predicting the severity of obsessive compulsive symptoms.

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## 1. Introduction

One of the pillars of the cognitive model of obsessive compulsive disorder (OCD) assumes that intrusive ideas of contamination, guilt and other typically obsessive doubts are catastrophically misinterpreted as intrinsically “true” (Frost and Steketee, 1997). For individuals affected with OCD, thinking about contamination automatically means being contaminated. Given that non clinical individuals also experience mental intrusions and do not interpret them catastrophically, such misinterpretations are pivotal for the

development of the OCD (Rachman and de Silva, 1978; Salkovskis, 1985). In turn, catastrophic misinterpretations often lead to an intense use of thought-control strategies that paradoxically increase the frequency of intrusions ultimately resulting in fully developed OCD symptomatology (Clark and Purdon, 1993; de Silva and Rachman, 1992; Salkovskis, 1985).

An individual's inflated sense of responsibility (Salkovskis, 1985), described as a person's tendency to believe that they may be pivotally responsible for causing or failing to prevent harm to themselves or others, has been identified as one of the key beliefs driving obsessive misinterpretations of intrusive thoughts. Indeed the inflated sense of responsibility has been linked to the development of patterns of response that include attempts to neutralise the mental and fearful intrusions of “un-responsibility” (interpreted as moral equivalents of carrying out un-responsible actions) and reduce the distress caused by them (Rachman, 1997; Shafran et al., 1996; Salkovskis et al., 2000). From a broader cognitive viewpoint, individuals with OCD hold the belief that harm is always preventable and people are morally responsible when they fail to prevent harm.

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Adrian Wells (2000) has argued that a different set of beliefs from beliefs about inflated responsibility may be crucial in understanding the development of maladaptive response patterns in OCD. He argues that metacognitive beliefs about need to control thoughts (e.g. “I need to control my thoughts at all times”) give rise to an ‘inflation’ of the importance of the occurrence of intrusions which may be misinterpreted as indicating loss of self-control and lead to invoke rituals as a means of achieving, albeit temporarily, a degree of mental control.

Recent studies have shown that beliefs about the need to control thoughts do contribute to obsessional symptoms independently of beliefs about inflated responsibility, perfectionism and other types of anxious disturbance (Myers and Wells, 2005; Myers et al., 2008). Beliefs about the need to control thoughts are metacognitive due to the fact that they can be considered beliefs about intrusions. They represent a core element in the metacognitive model of OCD (Fisher and Wells, 2008).

It is noteworthy that the construct of beliefs about the need to control thoughts described in the metacognitive model of OCD has parallels with the broader construct of beliefs about perceived control over anxiety-related events and reactions, defined as ‘anxiety control’ (Rapee et al., 1996). Anxiety control distinguishes external and internal distinction stimuli to be controlled: external threat such as difficult or scary situations and internal anxiety reactions such as heart palpitations and feelings of panic. Anxiety control has been shown to be relevant across a range of anxiety disorders (Rapee et al., 1996; Ruggiero et al., 2012).

No research, to date, has explored the relative contribution of anxiety control and beliefs about the need to control thoughts in predicting obsessive compulsive symptoms. We set about investigating this by: (1) exploring whether beliefs about inflated responsibility, anxiety control and beliefs about the need to control thoughts would differ between clinical and non-clinical participants; and (2) testing a model, in the combined participant samples, in which beliefs about inflated responsibility would predict anxiety control and beliefs about the need to control thoughts, which in turn would predict obsessive compulsive symptoms.

The above model is theoretically plausible because beliefs about inflated responsibility imply (but do not account for explicitly) the need to control both mental states and external actions. Indeed, it has already been argued that beliefs about inflated responsibility may be too general a construct to be considered as a basis for understanding the specific cognitive ‘control’ factors leading to obsessive-compulsive symptoms (Myers and Wells, 2005). In other words, the effect of inflated responsibility may be transmitted to obsessive-compulsive symptoms but through more specific constructs directly related to anxiety control and beliefs about the need to control thoughts. This view is in line with the recent and growing focus on transdiagnostic conceptualisations of emotional distress in which perceived control plays a core and mediating role in predicting anxiety symptoms (Boisseau et al., 2010; Hayes, 2002; Wells, 2000).

## 2. Methods

### 2.1. Participants

Two groups of participants were recruited to the study. The clinical group comprised of 36 participants (22 females; mean age  $34.08 \pm 9.92$  years) meeting diagnostic criteria for OCD (Diagnostic and Statistical Manual of Mental Disorders, 4th ed., text rev.; American Psychiatric Association, 2000). Additional criteria for inclusion in the study were a minimum age of 18 years, and adequate written language abilities. The sample was recruited from a population that was undergoing initial assessment for cognitive therapy delivered in the clinical centre of the Cognitive Psychotherapy School directed by the first author. The diagnosis of OCD was made using the Italian version of SCID-I (First et al., 1997; Mazzi et al., 2000).

Diagnostic interviews were conducted by psychologists trained in cognitive therapy and in delivering psychometric assessments, including the SCID.

Average illness duration was  $4.81 \pm 1.28$  years with the sample consisting of 12 checkers, 11 doubters, 4 sinners, and 9 washers. Twenty nine participants were taking a selective serotonin reuptake inhibitor, i.e. fluoxetine 40–80 mg, fluvoxamine 250–300 mg or sertraline 100–150 mg. Ten participants showed comorbidity with dysthymia, 16 with social phobia, and 7 with general anxiety disorder. All participants were Caucasian. Eleven had obtained graduate or post-graduate education at University and worked, while 8 were students on a higher education course. The remaining 17 participants had specialist qualifications and worked. Nineteen participants were married or had a relationship and children, 12 were married or had a relationship without children, and 5 were single.

Thirty-one participants (23 females; mean age  $38.68 \pm 14.25$  years) without OCD were recruited as control participants matching gender, age, ethnicity, education. Fifteen participants were students in post-graduate higher education while 16 were recruited from a population of qualified nurses in a General Psychiatry Department in Milan, Italy. Sixteen were married or had a relationship with children, 11 were married or had a relationship without children, and four were single. The SCID-I was used to verify that the control participants did not meet criteria for OCD or any other clinical disorder.

### 2.2. Self-report Instruments

The Padua Inventory (PI; Sanavio, 1988) is a 39-item self-report instrument to assess obsessions and compulsions. We used the revised version produced by Washington State University (PI-WSUR; Burns et al., 1996). Statements included regard fear of contamination (e.g., “I avoid using public toilets because I am afraid if disease and contamination”), checking (e.g., “I have to do things several times before I think they are properly done”) and impulses/thoughts about harm (e.g., “At certain moments, I am tempted to tear off my clothes in public”). Responses are required on a five-point scale ranging from zero (“not at all”) to four (“very much”) according to the degree of disturbance caused by the thought or behaviour. The PI-WSUR is more focused on obsessive symptoms than previous version of the PI and reduces the overlap with other measures of anxiety. In addition, it has shown to possess good internal consistency and test-retest reliability as well as the ability to discriminate between OCD and non-OCD individuals (Burns et al., 1996). In the current sample, the internal consistency was  $\alpha = 0.95$ . Although the PI includes several subscales regarding specific OCD symptoms, we preferred to focus on the total score in order to have only one outcome variable and reduce the possibility of Type I error in view of the moderate sample sizes employed. We used the Italian versions of the instrument prepared by Sanavio himself (Sanavio, personal communication, 2013).

The Responsibility Attitude Scale (RAS; Salkovskis et al., 2000) is a 26-item self-report instrument, designed to assess an inflated sense of responsibility and guilty feelings (e.g., “I often feel responsible for things which go wrong” or “I must protect others from harm”). Each item is rated on seven-point scale according to how much the subject agrees or disagrees with specific statements. In a validation study by Salkovskis et al. (2000) the total score demonstrated strong internal consistency and high test-retest reliability and a significant correlation with OCD diagnosis (Salkovskis et al., 2000). In the current sample, the internal consistency was  $\alpha = 0.94$ . We used the Italian translation by Mancini et al. (2001).

The Anxiety Control Questionnaire – Revised (ACQ-R; Brown et al., 2004) is a 15-item shortened revision of a self-report instrument of the perceived control over anxiety-related events and reactions. The original Anxiety Control Questionnaire (ACQ; Rapee et al., 1996) comprises 30 items and assesses the perception of control over emotional reactions (e.g., “My emotions seem to have a life of their own”) and external threats (e.g., “I am usually able to avoid threat quite easily”). This self-report instrument attributes lower scores to individuals with lower perceptions of control and provides a total score based on two or three subscales, depending on different studies. Participants respond on a six-point Likert Scale. The 15-item shortened and revised ACQ was based on additional studies in a large clinical sample and confirmed a higher-order model of perceived control corresponding to a single second-order factor that subsumes the two or three subscales. This has shown good internal consistency and high test-retest reliability (Brown et al., 2004). Therefore, we restricted our analysis to the ACQ-R total score because the psychometric properties of the total score are better than those of the subscales (Zebb and Moore, 1999). The total score has demonstrated strong internal consistency and high test-retest reliability as well as the ability to discriminate between anxious and non-anxious individuals (Rapee et al., 1996). For the Italian sample, an Italian translation of the scale was developed by author G. M. R. The Italian version of the ACQ-R was then back-translated into English by a native English speaker who was not familiar with the self-report instrument. The original authors of the ACQ compared the original version and the back-translated version of ACQ-R and did not find meaningful differences (Ronald Rapee, personal communication, 2009). In the current sample, the internal consistency was  $\alpha = 0.65$ .

Metacognitions Questionnaire 30 - Beliefs about the Need to Control Thoughts (MCQ-30-BNCT). ‘Beliefs about the need to control thoughts’ is a subscale of the Metacognitions Questionnaire-30 (MCQ-30; Wells and Cartwright-Hatton, 2004)

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