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Intolerance of uncertainty and social anxiety

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ABSTRACT

Research has shown that intolerance of uncertainty (IU) – the tendency to react negatively to situations that are uncertain – is involved in generalized anxiety disorder (GAD). There is uncertainty about the specificity of IU. Some studies have shown that IU is specific for GAD. Other studies have shown that IU is also involved in obsessive compulsive disorder (OCD). No studies have yet examined IU in social anxiety, although it is possible that IU plays a role in anxiety responses that can be experienced in social-evaluative situations. This study examined the relationship between IU and social anxiety among 126 adults. Findings revealed that IU explained a significant amount of variance in social anxiety severity when controlling for established cognitive correlates of social anxiety (e.g., fear of negative evaluation) and for neuroticism. Furthermore, it was found that IU was related with symptom levels of GAD, OCD, and social anxiety, but not depression, when controlling the shared variance among these symptoms.

1. Introduction

Anxiety disorders are among the most prevalent of all psychiatric disorders (Kessler, Berglund, Demler, Jin, & Walters, 2005). The recent decades have seen advancement of our understanding of the etiology of anxiety disorders. An important premise in theories about anxiety disorders is that they contain both common and unique components (Brown & Barlow, 2002; Mineka, Watson, & Clark, 1998). Specifically, theorists have proposed and research has confirmed that all anxiety disorders (as well as mood disorders) involve elevated levels of negative affectivity or neuroticism (Mineka et al., 1998), whereas specific cognitive factors are responsible for the development of specific anxiety disorders. Examples of such specific factors include anxiety sensitivity in panic disorder, fear of negative evaluation in social phobia, excessive responsibility beliefs in obsessive compulsive disorder (OCD), and intolerance of uncertainty in generalized anxiety disorder (GAD) (cf. Starcevic & Berle, 2006).

Identifying factors that are unique to specific anxiety disorders is important for understanding and treatment of these disorders. In recent years, there is growing interest in one of such specific factors, namely intolerance of uncertainty (IU). IU has been defined as "a cognitive bias that affects how a person perceives, interprets, and responds to uncertain situations on a cognitive, emotional, and behavioral level" (Dugas, Schwarzt, & Francis, 2004, p. 835). People high in IU experience the possible occurrence of future negative events as stressful, believe that uncertainty is negative, reflects badly on a person, and should be avoided, and have difficulties functioning well in uncertain situations (Buhr & Dugas, 2002).

In studies with non-clinical samples (e.g., Holaway, Heimberg, & Coles, 2006) and clinical samples (e.g., Dugas & Ladouceur, 2000) IU has consistently been found to be correlated with GAD. Nevertheless, studies examining specificity of IU to GAD have yielded mixed results (Starcevic & Berle, 2006). On the one hand, there is evidence that IU is a relatively unique component of GAD. For instance, studies have shown that high levels of IU distinguish patients with GAD from patients with panic disorder (Dugas, Marchand, & Ladouceur, 2005) and from a mixed group of patients with other anxiety disorders (Ladouceur et al., 1999). Moreover, IU has been found to be more strongly related with pathological worry – which is a key symptom of GAD – than with depression (Dugas et al., 2004). On the other hand, there are studies suggesting that IU is critical to both GAD and OCD. For instance, in a study among undergraduate students, Holaway et al. (2006) found that people with clinical significant levels of GAD and OCD reported higher levels of IU than controls, but did not differ significantly from each other in terms of IU levels (also see Steketee, Frost, & Cohen, 1998; Tolin, Abramowitz, Brigidi, & Foa, 2003).

To our knowledge, no studies have yet examined the relationship of IU with social anxiety. Yet, it is possible that IU contributes

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to the severity of social anxiety symptoms. People with elevated social anxiety experience a marked and persistent fear in social situations in which they are exposed to possible scrutiny by others (Hofmann & Barlow, 2002). Clearly, uncertainty, ambiguity, and unpredictable change are inherent to such social-evaluative situations. Thus, it seems plausible that *intolerance* of such uncertainty, ambiguity, and unpredictable change – in the form of finding that uncertainty is stressful, reflects badly on a person, and blocks constructive action (i.e., IU) – is associated with the *fear* (e.g., of being criticized), *avoidance* (e.g., of talking to strangers), and *physical discomfort* (e.g., blushing, trembling) that some people experience in such situations.

The present study, conducted in The Netherlands, addressed several interrelated issues, the overarching aim of which was to improve our understanding of the role of IU in social anxiety. Specifically, this study had two goals.

The first goal was to examine the degree to which IU was related to social anxiety severity, when taking into account a number of cognitive variables that have been found to be associated with social anxiety. Cognitive behavioral models of social anxiety have proposed (Clark & Wells, 1995; Rapee & Heimberg, 1997) and research has confirmed (Weeks et al., 2005) that *fear of negative evaluation* (FNE), defined as fear of being judged disparagingly, critically, or hostilely by others, is strongly linked with social anxiety. Furthermore, social anxiety has been found to be associated with *anxiety sensitivity* (Orsillo, Lilienfeld, & Heimberg, 1994), *low self-esteem* (Kocovski & Endler, 2000), various dimensions of *perfectionism* (Juster et al., 1996), and with *pathological worry* (Starcevic et al., 2007). Our first goal was to examine if IU explained variance in social anxiety severity, above and beyond the variance explained by these established cognitive correlates of social anxiety. Because we wished to examine the contribution of IU and the other cognitive correlates to the explained variance in social anxiety independent of *neuroticism*, this variable was controlled for as well.

The second goal of this study was to further our understanding of the generality vs. specificity of IU by examining the specificity of the relationship between IU and GAD, with regards to social anxiety. For comparative reasons, we also included measures of OCD and depression symptoms, expecting that IU would be related with symptom levels of GAD, social anxiety, and OCD, but not depression (Dugas et al., 2004), when controlling for the shared variance between symptoms.

2. Method

2.1. Participants and procedure

Data were available from 126 adults. Participants were originally recruited for a longitudinal study on coping with loss, primarily designed to examine the predictive effects of various types of coping behaviors on the development of complicated grief (Boelen and Van den Hout, 2008). All participants were recruited through an advertisement on an Internet-site that briefly explained aims of the study on grief and invited people to participate by filling in questionnaires. In total, 568 questionnaires were sent to people who expressed their interest in participation and 404 (71%) questionnaires were returned. Participants who had suffered a loss less than 5 months prior to completion of the initial questionnaires ($N = 121$) were invited to complete additional questionnaires for the study on grief. All remaining participants ($N = 283$) were invited to participate in the present study on IU. This invitation and the questionnaires for the current study were sent to them together with a brief written report on the outcomes of the grief study for which they were originally recruited. Of these 283 participants, 126 (44.5%) completed the battery of questionnaires for the current study. Participants did not receive any financial compensation in return for their participation.

On average, participants were 47.7 (S.D. = 11.7) years of age. Most (91.3%) were woman. With respect to educational level, one participant had finished primary school, 47.2% had finished high school, and 52.0% had been to college or university. Losses that participants had suffered all had occurred at least 18 months prior to participation in the present study.

2.2. Measures

The questionnaire package included a consent form, an information letter, and the following measures. Questionnaires were administered in the same order across participants.

2.2.1. Social Phobia Inventory (SPIN)

The SPIN is a 17-item questionnaire constructed by Connor et al. (2000). It was designed as a concise measure for the assessment of the fear, avoidance, and physiological symptoms that characterize social phobia. Respondents rate the presence of symptoms in the preceding week, on 4-point scales ranging from 0 (not at all) to 4 (extremely). Items are summed to form an overall social anxiety severity score. The measure has been found to have good psychometric properties (Connor et al., 2000). To construct the Dutch version, the first and second author translated the English version of the SPIN into Dutch. Then, an independent researcher who was fluent in Dutch and English and familiar with the concept of social anxiety checked if each question was properly translated. Discrepancies between both Dutch versions were then discussed and cleared to make sure that the Dutch translation resembled the original formulation as closely as possible. In the present sample, Cronbach's α of the SPIN was 0.93.

2.2.2. Intolerance of Uncertainty Scale (IUS)

The IUS is a 27-item measure of IU developed by Freeston, Rheaume, Letarte, Dugas, and Ladouceur (1994). It taps different aspects of IU such as the idea that uncertainty is unacceptable, reflects badly on a person, and interferes with active coping. Respondents rate the degree to which each of 27 items apply to them on 5-point scales ranging from 1 (not at all characteristic of me) to 5 (entirely characteristic of me). The original French version (Freeston et al., 1994) as well as the English version (Buhr & Dugas, 2002), and the Dutch version used in this study (De Bruin, Rassin, van der Heiden, & Muris, 2006) have demonstrated adequate psychometric properties. In the present sample, Cronbach's α was 0.95.

2.2.3. Brief Fear of Negative Evaluation Scale (BFNE)

The BFNE (Weeks et al., 2005) is a 12-item measure tapping the fear to be judged negatively by others. Respondents rate the extent to which items tapping this fear are characteristic of them on 5-point scales ranging from 0 (not at all characteristic of me) to 4 (extremely characteristic of me). The scale has been found to have adequate psychometric properties (Weeks et al., 2005). The Dutch version was obtained from Bögels (2004) and, in the present sample, had an α of 0.97.

2.2.4. Anxiety Sensitivity Index (ASI)

The ASI is a 16-item questionnaire developed by Peterson and Reiss (1992) designed to tap the tendency to fear anxiety-related bodily sensations. Respondents rate the extent to which they experienced fears represented in the items in the preceding week on 5-point scales ranging from 0 (very little) to 4 (very much). Both the English (Peterson & Reiss, 1992) and Dutch version (Vujanovic,