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The role of negative affectivity and negative reactivity to emotions in predicting outcomes in the unified protocol for the transdiagnostic treatment of emotional disorders

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ABSTRACT

The present study aimed to understand the contributions of both the trait tendency to experience negative emotions and how one relates to such experience in predicting symptom change during participation in the Unified Protocol (UP), a transdiagnostic treatment for emotional disorders. Data were derived from a randomized controlled trial comparing the UP to a waitlist control/delayed-treatment condition. First, effect sizes of pre- to post-treatment change for frequency of negative emotions and several variables measuring reactivity to emotional experience (emotional awareness and acceptance, fear of emotions, and anxiety sensitivity) were examined. Second, the relative contributions of change in negative emotions and emotional reactivity in predicting symptom (clinician-rated anxiety, depression, and severity of principal diagnosis) reductions were investigated. Results suggested that decreases in the frequency of negative emotions and reactivity to emotions following participation in the UP were both large in magnitude. Further, two emotional reactivity variables (fear of emotions and anxiety sensitivity) remained significantly related to symptom outcomes when controlling for negative emotions, and accounted for significant incremental variance in their prediction. These findings lend support to the notion that psychological health depends less on the frequency of negative emotions and more on how one relates to these emotions when they occur.

The Unified Protocol (UP) for Transdiagnostic Treatment of Emotional disorders is a cognitive-behavioral intervention recently developed to address anxiety, depression and related disorders (somatoform and dissociative disorders), or "emotional disorders" (Barlow et al., 2011). Development of the UP was initiated in response to high rates of comorbidity amongst emotional disorders (Wilamowska et al., 2010) and evidence that psychological treatments targeting a specific emotional disorder often lead to improvements in comorbid disorders (Brown, Antony, & Barlow, 1995; Tsao, Lewin, & Craske, 1998; Tsao, Mystkowski, & Zucker, 2002). Findings from recent research suggest that the various symptoms of emotional disorders are in fact manifestations of common underlying factors. Such underlying factors include prominently the core temperamental dimension of neuroticism, an enduring tendency to experience negative affect (Brown, Chorpita, & Barlow, 1998; Gershuny & Sher, 1998; Kasch, Rottenberg, Arnow, & Gotlib, 2002; Watson, Clark, & Carey, 1988). The overall aim of the UP is to address the factors that underlie all emotional disorders, such as neuroticism, rather than directly targeting disorder-specific symptoms (e.g. panic attacks in panic disorder, excessive worry in generalized anxiety disorder). Nevertheless, preliminary data have found that focusing on these common underlying factors indeed produces promising reductions in symptoms across emotional disorders (Ellard, Fairholme, Boisseau, Farchione, & Barlow, 2010; Farchione et al., in press).

Emotional disorders are characterized by a tendency to experience steep increases in affect in response to environmental stimuli and, subsequently, interpret these emotional experiences as harmful (Andrews, 1990, 1996; Brown & Barlow, 2009). The UP addresses heightened negative reactivity to emotions by identifying maladaptive responses to emotions and developing more effective strategies to manage these experiences (Ellard et al., 2010). Following motivational enhancement (module 1) and psychoeducation regarding the adaptive function of emotions (module 2), the five core treatment modules of the UP directly target negative reactions associated with the experience of emotions.

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First, several modules provide skills for relating to negative emotions as they occur, including: increasing present-focused awareness and acceptance of emotions (module 3), cognitive flexibility about the consequences of emotions (module 4), and attention to behaviors that may function to avoid emotions (module 5). Additionally, several modules facilitate the experience of emotions through interoceptive (module 6) and in vivo exposure exercises (module 7), giving patients the opportunity to practice tolerating emotions using the skills acquired during earlier modules. The central tenet across all modules is the cultivation of reduced negative reactivity to emotions by providing patients with skills to effectively manage and regulate negative emotions as they occur. These strategies were distilled from decades of research on effective cognitive and behavioral treatments for anxiety and mood disorders (see Barlow, 2002) and more recent findings on adaptive emotion regulation (e.g., Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Gross, 1998).

The consequences of experiencing strong negative reactions to one's emotions are well delineated. For example, individuals who deem their emotional responses as unacceptable or inappropriate are more likely to suffer from emotional disorders (Campbell-Sills et al., 2006; Mennin, Heimberg, Turk, & Fresco, 2005). Relatedly, there appear to be maladaptive consequences associated with behavioral manifestations of negative appraisals regarding emotions, such as attempts to change or push away negative emotions. For example, deliberately trying to conceal emotions from others has been associated with less adaptive functioning and reduced well-being (Gross & John, 2003), and suppression of emotion-eliciting thoughts has demonstrated paradoxical consequences known as rebound effects, in which the suppressed thoughts return with greater frequency or intensity (Abramowitz, Tolin, & Street, 2001; Wegner, Schneider, Carter, & White, 1987). In fact, thought suppression has been associated with depression, generalized anxiety disorder, obsessive compulsive disorder, and post-traumatic stress disorder (Purdon, 1999). Further, behaviors such as self-harm, substance abuse, and binge eating, have also been conceptualized as maladaptive negative reactions to emotions with the goal of pushing away this experience (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). In contrast, acknowledging, understanding, and accepting the full range of internal experience (without attempts to change or reduce it) is thought to be important for symptom reduction (Hayes, Follette, & Linehan, 2004). A hypothesized mechanism through which decreased negative reactivity may lead to improvements in psychological functioning is decreased emotional avoidance. Sustained awareness of distressing emotions (with associated thoughts, sensations, and behaviors) in the absence of any dire consequences and without escape or avoidance, teaches individuals new and less negative associations with emotions, allowing them to pursue goal-directed behavior even when distressed (Bouton, Mineka, & Barlow, 2001; Craske & Barlow, 2007; Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006).

Given that the UP is posited to address neuroticism, thought to be a stable dimension of personality (Costa & McCrae, 1992), by decreasing reactivity to emotional experience, it is important to clarify what is changing as a function of treatment: the frequency with which patients experience negative emotions, or how they relate to negative emotions when these experiences occur. Additionally, in light of the promising reductions in anxiety and mood disorder symptoms seen as a function of UP participation (Ellard et al., 2010; Farchione et al., under review), it is important to assess whether these outcomes are associated with decreases in trait negative affect or rather increases in the ability to tolerate negative affect when it occurs. This issue has received little empirical attention; however, there is some support for the notion that responding adaptively to negative emotions is more important for psychological health than the frequency with which these experiences occur. Cross-sectional research has revealed that how individuals respond to negative emotions predicts psychological symptoms over and above the contributions of having such experiences (Sauer & Baer, 2009), and that responses to mood shifts in daily life (rather than the moods themselves) have significant impact on the occurrence of depressive symptoms (Segal, Willimans, & Teasdale, 2002). Despite being a central tenet of cognitive-behavioral therapy, the extent to which reductions in psychological symptoms are a function of the frequency of negative emotions or how they are managed has not been studied in the context of a treatment outcome study.

The present study aimed to understand the contributions of both the trait tendency to experience negative emotions and how one relates to such experience in predicting reductions in symptoms during participation in the UP. The first goal of this study was to compare the effect sizes of pre- to post-treatment change in frequency of negative emotions and several variables measuring reactivity to emotional experience (emotional awareness and acceptance, fear of emotions, and anxiety sensitivity). It was expected, given that the tendency to experience negative emotions is considered a stable personality characteristic, that the magnitude of change in emotional reactivity would be greater than change in the frequency of negative emotions. The second goal of this study was to assess whether becoming less reactive to one's emotions as a function of participating in the UP is related to symptom change independently of the contributions of the tendency to experience negative affect. It was hypothesized that decreased reactivity toward emotions would account for additional variance in predicting pre- to post-treatment symptom reductions, beyond that of levels of negative affect.

It is important to emphasize that the constructs of fear of emotions, anxiety sensitivity, and emotional awareness/acceptance are related, yet distinct markers of reactivity to emotion. Thus, it is useful to clarify the meaning of each construct in the present study. Fear of emotions refers to the negative reaction to emotions that occurs based on the belief that the experience of emotions is long-lasting and emotions will spiral out of control. Anxiety sensitivity refers to a fear of bodily sensations related to anxiety due to a belief that symptoms are likely to have harmful consequences (Reiss, Peterson, Gursky, & McNally, 1986). Finally, emotional awareness/acceptance refers to the tendency to notice and willingly experience the full range of emotional experience when it occurs; this construct represents the reverse of negative reactivity to emotions.

Method

Participants

Participants were recruited from a pool of individuals seeking treatment at the Center for Anxiety and Related Disorders at Boston University (CARD). Inclusion criteria included: a principal (most interfering and severe) diagnosis of any anxiety disorder, assessed using the Anxiety Disorders Interview Schedule for *DSM-IV* – Lifetime Version (ADIS-IV-L; Di Nardo, Brown, & Barlow, 1994; see description below); age 18 years or older; fluency in English; ability to attend all treatment sessions and assessments; and ability to provide informed consent. Participants were excluded from participation if they endorsed current suicidal risk necessitating a higher level of care, received a current *DSM-IV* diagnosis of bipolar disorder, schizophrenia, schizoaffective disorder, organic mental disorder, and/or current or recent (within 3 months) history of substance abuse or dependence (with the exception of nicotine, marijuana, and caffeine). Additionally, participants were excluded if they had recently (within the past 5 years) completed a reasonable