Associations between emotional avoidance, anxiety sensitivity, and reactions to an observational fear challenge procedure

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Research has shown that emotional avoidance and anxiety sensitivity are associated with more self-reported fear and distress in response to laboratory fear challenge procedures. The present study aimed to expand upon this work and examined how emotional avoidance and anxiety sensitivity are related to emotional and physiological responses to an observational fear challenge procedure. To accomplish this aim, a carefully screened, non-clinical sample (N = 43) was administered the Acceptance and Action Questionnaire (AAQ), a measure of emotional avoidance, and the Anxiety Sensitivity Index (ASI). Participants then engaged in an observational fear challenge paradigm. During the fear challenge, participants watched mock panic attacks while emotional (e.g., fear and panic) and skin conductance levels were assessed. Consistent with expectation, emotional avoidance and anxiety sensitivity were positively associated with more self-reported fear and more severe panic symptoms to the challenge procedure. However, anxiety sensitivity was more highly associated with self-reported fear and panic symptoms in response to the challenge procedure than emotional avoidance. Emotional avoidance and anxiety sensitivity were not associated with levels of physiological arousal to the observational fear challenge procedure. Discussion focuses on the interplay between emotional avoidance, anxiety sensitivity, and the development of vicarious fear responses and how these constructs may contribute to the pathogenesis of anxiety disorders.

Introduction

Emotional avoidance, or an inflexible tendency to avoid or escape unpleasant private events and the cues or contexts that may evoke them, has been posited as a central pathological dimension underlying several forms of psychopathology (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996), including all anxiety disorders (Eifert & Forsyth, 2005; Forsyth, Eifert, & Barrios, 2006; Orsillo & Roemer, 2005; Roemer, Salters, Raffa, & Orsillo, 2005; Tull, Gratz, Salters, & Roemer, 2004). According to this framework, the form and frequency of thoughts and feelings associated with anxiety states are not problematic in and of themselves. Rather, it is the rigid, inflexible attempts to down regulate these events (e.g., using forms of avoidance, suppression, or escape) that drive anxiety-related pathology and functional impairment (Forsyth et al., 2006). This view has figured prominently in several newer acceptance and mindfulness-based behavior therapies (Eifert & Forsyth, 2005; Forsyth & Eifert, 2008; Hayes, Strosahl, & Wilson, 1999; Orsillo & Roemer, 2005; Roemer & Orsillo, 2007), wherein the treatment targets focus on undermining the struggle with unpleasant private events while facilitating goal-directed action in the service of living well.

Over the past several years, there has been a wellspring of research interest in emotional avoidance (see Hayes, Luoma, Bond, Masuda, & Lillis, 2006), following initial speculation that this predisposition may denote a risk factor for the development and maintenance of a wide range of psychopathology (Blackledge & Hayes, 2001; Hayes & Wilson, 1993, 1994; Hayes et al., 1996). Greater tendencies toward emotional avoidance are characteristic of clinically anxious samples (Roemer, Litz, Orsillo, & Wagner, 2001). In addition, emotional avoidance is associated with more anxiety and fear in healthy individuals (Hayes et al., 2004). These studies suggest that emotional avoidance may constitute a psychological vulnerability that contributes to the development and maintenance of anxiety-related pathology (Eifert & Forsyth, 2005; Hayes et al., 1999).

Emotional avoidance is often associated with another prominent anxiety-related factor, anxiety sensitivity. Anxiety sensitivity is defined as the fear of anxiety-related symptoms (Reiss & McNally,
Individuals high in anxiety sensitivity hold the belief that anxiety symptoms or sensations will cause negative consequences, including unwanted psychological, social, or physical outcomes (Bernstein & Zvolensky, 2007). Anxiety sensitivity is postulated to be a “trait-like” dispositional construct associated with the development of anxiety disorders, particularly panic disorder (Bernstein & Zvolensky, 2007; McNally, 2002). Higher levels of anxiety sensitivity are observed in individuals with anxiety disorders compared to healthy individuals (Cox, Borger, & Enns, 1999; Taylor & Cox, 1998), and elevated levels of anxiety sensitivity are prospectively associated with panic attacks (Ehlers, 1995; Harrington, Schmidt, & Telch, 1996; Schmidt, Lerew, & Jackson, 1999), anxiety symptoms (Schmidt, Mitchell, & Richey, 2008), and anxiety disorders (Schmidt, Zvolensky, & Maner, 2006).

As anxiety sensitivity is the fear or intolerance of anxiety-related symptoms and sensations, particularly interoceptive cues of anxiety, and emotional avoidance is the tendency to avoid or escape aversive emotions (e.g., anxiety), there may be significant overlap between the concepts of anxiety sensitivity and emotional avoidance. Indeed, several studies show significant associations between emotional avoidance and anxiety sensitivity in healthy individuals (Kashdan, Barrios, Forsyth, & Steger, 2006; Stewart, Zvolensky, & Eifert, 2002, Zvolensky & Forsyth, 2002) and in a substance use sample (Forsyth, Parker, & Finlay, 2003). Support for this relationship also comes from a recent study, showing that fear of bodily sensations associated with panic attacks was positively associated with emotional avoidance in a sample of individuals with a history of uncued panic attacks (Tull, Rodman, & Roemer, 2008). Thus, both emotional avoidance and anxiety sensitivity are likely important, related constructs that underlie the pathogenesis of anxiety disorders.

The use of laboratory fear challenge paradigms can be used to assess the phenomenology and pathogenesis of anxiety disorders, and also to evaluate the role of individual difference factors, such as emotional avoidance and anxiety sensitivity, in the development of fear and anxiety-related symptoms. These investigations, in individuals without a history of psychopathology, can elucidate pathways to the development of disordered processes, without the confounding influence of current psychological symptoms (Forsyth & Zvolensky, 2002). Indeed, emotional avoidance and anxiety sensitivity have been associated with self-reported fear and distress in response to laboratory fear challenge procedures. For instance, individuals higher in emotional avoidance are more likely to endorse more fear and panic symptoms than their less avoidant counterparts after undergoing panicogenic biological challenge procedures (i.e., inhalations of carbon dioxide-enriched air; Feldner, Zvolensky, Eifert, & Spira, 2003; Karekla, Forsyth, & Kelly, 2004; Spira, Zvolensky, Eifert, & Feldner, 2004). These studies have shown that individuals who report more avoidance-oriented coping or higher levels of emotional avoidance are more likely to report more anxiety and physical symptoms in response to these fear challenge procedures.

Although individuals with higher levels of emotional avoidance tend to report more anxiety and fear-related symptoms to fear challenge procedures, results regarding physiological responses to emotion-elicitng experiences are mixed. Studies have shown no significant differences in physiological responding to fear and challenge procedures (Feldner et al., 2003; Karekla, Forsyth, & Kelly, 2004; Spira et al., 2004), whereas another study has shown that individuals high in emotional avoidance show attenuated physiological responses to emotion-eliciting films (Sloan, 2004). Thus, it is still largely unclear how individual differences in levels of emotional avoidance may affect physiological responses, and whether this factor affects underlying biological responses to emotional experiences.

Similarly, anxiety sensitivity is associated with greater fear and panic responses to laboratory challenge procedures. Higher levels of anxiety sensitivity are associated with anxious responses and bodily sensations in healthy controls in response to CO2 laboratory challenges (Eke & McNally, 1996; Feldner, Zvolensky, Stickle, Bonn-Miller, & Leen-Feldner, 2006; McNally & Eke, 1996). Furthermore, levels of anxiety sensitivity are associated with the occurrence of panic symptoms in individuals with panic disorder in response to a CO2 challenge (Perna, Romano, Caldirola, Cucchi, & Bellodi, 2003). Although higher levels of anxiety sensitivity have been associated with greater physiological reactivity to challenge procedures (Gregor & Zvolensky, 2008; Stewart & Pihl, 1994), several other studies have found no relationship between anxiety sensitivity and physiological responses (Conrod, 2006; Stewart, Buffett-Jerrott, & Kokaram, 2001; Sturges, Goetsch, Rodley, & Whittal, 1998; Zvolensky & Eifert, 2000). Thus, similar to emotional avoidance, it is unclear if anxiety sensitivity underlies greater physiological reactivity in response to fear-evoking events.

One class of fear challenge procedures, observational (or vicarious) fear challenge paradigms, have been widely used to investigate the processes involved in the pathogenesis of anxiety disorders (Green & Osborne, 1985; Kelly & Forsyth, 2007a, 2007b; Mineka & Cook, 1993). The development of fear responses via observation typically involves the observation of another person’s fear display, which provokes a fear reaction in the observer (Mineka & Cook, 1993; Rachman, 1977). The development of fear via the observation of others’ fear responses has been implicated as one of several key pathways in the development of anxiety pathology, including panic disorder and phobias (Bouton, Mineka, & Barlow, 2001; Kelly & Forsyth, 2007a, 2007b; Mineka & Zinbarg, 2006; Rapee, 2002).

Although the literature shows that the observation of fear responses is an important pathway in the origins of fearful and phobic behavior, no studies to date have examined the relationships between observed fear responses, emotional avoidance, and anxiety sensitivity. Since both emotional avoidance and anxiety sensitivity are thought to contribute to the development of anxiety disorders, it would be of benefit to evaluate how these constructs are associated with responses to experimentally controlled observational fear challenge procedures known to induce panic and anxiety symptoms. The aim of the present study was to evaluate whether the frequency and severity of panic-related symptoms and both subjective and physiological responding to an observational fear challenge procedure could be partially explained by the individual differences in emotional avoidance and anxiety sensitivity. We also explored the relative contributions of emotional avoidance and anxiety sensitivity to fear challenge responses. We anticipated that emotional avoidance and anxiety sensitivity would be positively associated with fear and panic symptoms to the fear challenge procedure. Consistent with most research on emotional avoidance, anxiety sensitivity, and physiological responses to fear challenge paradigms (Conrod, 2006; Feldner et al., 2003; Karekla et al., 2004; Spira et al., 2004; Stewart et al., 2001; Sturges et al., 1998; Zvolensky & Eifert, 2000) it was expected that no significant associations would be observed between emotional avoidance or anxiety sensitivity and physiological reactivity in response to the fear challenge procedure. This research, conducted with a sample of individuals without a history of psychopathology, may contribute to our knowledge of how vicarious learning processes interface with potential experiential risk factors in the development of anxiety disorders.

**Method**

**Participants**

Forty-three female undergraduate volunteers (M = 19.05 years, SD = 2.65) at the University at Albany, State University of New York,
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