



# Short-term pain for long-term gain: The role of experiential avoidance in the relation between anxiety sensitivity and emotional distress



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## ABSTRACT

Research has provided evidence of an interactive effect between anxiety sensitivity (AS) and experiential avoidance (EA) in predicting both anxiety and posttraumatic stress (PTS) symptomatology. Additionally, theory suggests that EA alleviates distress in the short-term, but exacerbates it in the long-term. The present cross-sectional study was developed to replicate the noted findings and examine the interaction (EA  $\times$  AS) in the context of an emotionally evocative task. It was predicted that, among high AS participants, high EA would (a) reduce the likelihood of experiencing short-term increases in negative affect following the task, and (b) increase the likelihood of anxiety and PTS symptomatology. Undergraduate participants ( $N=199$ ) completed a battery of self-report questionnaires and an emotionally evocative task. As predicted, positive associations were observed between AS and both anxiety and PTS symptoms, but only among high EA participants. Additionally, AS only predicted increases in negative affect following the emotionally evocative task for those with lower levels of EA, thus providing empirical evidence of the affect regulatory function of EA among those who fear anxiety-related bodily sensations. These findings help to elucidate the motives for the use of avoidance among those high in AS. Conceptual and clinical implications are discussed.

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## 1. Introduction

Anxiety Sensitivity (AS) – a fear of anxiety-related bodily sensations due to beliefs that such sensations will have adverse social, psychological, and physical outcomes (Reiss & McNally, 1985) – has been implicated in a wide array of negative outcomes and appears to be especially important for understanding the pathogenesis of anxiety pathology. Cross-sectional research has consistently shown positive associations between anxiety sensitivity and panic, generalized anxiety disorder, posttraumatic stress disorder (PTSD), social phobia, obsessive compulsive disorder, as well as a host of other maladaptive outcomes (for a review see Naragon-Gainey, 2010). Interestingly, among anxiety pathology, posttraumatic stress (PTS) symptomatology appears to be associated with the highest levels of AS (Taylor, Koch, & McNally, 1992). In fact, AS has been shown to be an even stronger predictor of PTSD than trauma-related beliefs (Fedoroff, Taylor, Asmundson, & Koch, 2000). Thus, AS may be a particularly important individual difference factor for understanding the pathogenesis of PTS symptomatology.

Although evidence from a plethora of cross-sectional studies, as well as a number of prospective studies (e.g., Ginsburg & Drake, 2002; Hayward et al., 2000; Schmidt, Lerew, & Jackson, 1997), has consistently shown a positive association between AS and anxiety-related symptomatology, recent research suggests the possibility that AS may only be a vulnerability factor for the development of anxiety and PTS symptomatology among those who are unwilling to experience emotional distress (Bardeen, Fergus, & Orcutt, 2013; Bardeen, Tull, Stevens, & Gratz, 2014; Kashdan, Zvolensky, & McLeish, 2008). For example, nonacceptance of one's inner experience has been shown to moderate the relation between AS and anxiety, such that the positive linear association between AS and anxiety symptoms is significantly stronger for those with a greater unwillingness to experience emotional distress (Kashdan et al., 2008) and those with greater experiential avoidance (EA; i.e., an unwillingness to stay in contact with unwanted inner experiences [Hayes, Wilson, Gifford, Follette, & Strosahl, 1996]; Bardeen et al., 2013). Similarly, Bardeen, Tull, et al. (2014) found that emotional avoidance moderated the relation between AS and PTSD, such that higher AS was predictive of a PTSD diagnosis, but only among those who were unwilling to experience emotional distress. That is, for those with higher levels of AS and lower levels emotional avoidance, AS was not associated with a PTSD diagnosis. Importantly, the described moderation effect has been observed prospectively

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in relation to anxiety. Specifically, AS, measured at an initial assessment session, was shown to predict anxiety symptoms at a one month follow-up session, but only among those with relatively higher levels of EA (Bardeen, Fergus, et al., 2014). Taken together, results suggest that the described interaction effect may be transdiagnostic in nature, at least in relation to anxiety symptomatology. Additionally, they highlight the importance of accounting for EA when examining AS in relation to maladaptive outcomes.

Given that EA makes it more likely that one with relatively higher levels of AS will experience anxiety and PTS symptomatology, one has to wonder, why exactly the cognitive and behavioral repertoire associated with EA would be maintained among those higher in AS. In other words, how is it reinforcing, or what purpose does it serve? A behavioral conceptualization of this phenomena would suggest that the avoidance of unwanted inner experiences alleviates distress in the short-term, but paradoxically exacerbates distress in the long-term (Hayes et al., 1996). Indeed, it seems intuitive that one would seek immediate relief, through both cognitive and behavioral avoidance, from experiencing bodily sensations to which one is highly averse. In contrast, it may be far more difficult for individuals experiencing highly aversive bodily sensations to see the value in approaching, or allowing oneself to experience, such sensations. Abundant research supports the proposition that the inflexible use of EA may lead to a wide variety of maladaptive outcomes (Chawla & Ostafin, 2007). For example, high levels of EA measured prior to a traumatic event predicts increased PTS symptoms in the acute aftermath of the event and eight months later (Kumpula, Orcutt, Bardeen, & Varkovitzky, 2011). In the short-term, attempts to avoid aversive bodily sensations associated with a traumatic event may initially decrease the frequency and severity of trauma-related distress, thus serving to reinforce the likelihood that one will engage in experientially avoidant behavior. In the long-term, the chronic use of avoidance likely interferes with one's ability to disconfirm faulty appraisals of threat, which would serve to extinguish maladaptive fear responses (Foa & Kozak, 1986). Moreover, as described by Dymond, Dunsmoor, Vervliet, Roche, and Hermans (in press), experientially avoidant behavior in response to fear reactions likely increases fear generalization (e.g., fear responses established by a sensory stimuli are elicited by other sensory stimuli that are perceptually similar), thus increasing one's level of distress and functional impairment. For example, triggering of the fight-or-flight response, initially elicited by the sound of gun fire during a traumatic event, may eventually be elicited by a host of loud noises (e.g., a door slamming, fireworks). In this manner, EA not only maintains anxiety-related distress, but may also exacerbate it.

Based on this conceptualization, as well as the research described above, one might predict that, among individuals with relatively higher AS, those with higher EA would experience less short-term increases in distress in the face of an emotionally evocative situation, but relatively worse long-term psychological outcomes in comparison to those with lower EA. Following this rationale, the purpose of the present study was two-fold. First, the present study was designed to replicate the noted interaction effects showing strong positive associations between AS and both anxiety and PTS symptoms, but only among participants with relatively higher EA. In combination with the noted temporal evidence of these effects, findings that support our hypothesis will further strengthen the assertion that individuals with relatively higher AS and higher EA are at greater risk for long-term anxiety-related symptomatology in comparison to those with higher AS and relatively lower EA. Second, the noted interaction effect was examined in the context of an emotionally evocative task. It was hypothesized that there would be a significant positive association between AS and post-task negative affect when accounting for pre-task negative affect, but only among those with relatively lower levels of EA.

That is, high EA was expected to (a) protect individuals with high AS from experiencing short-term increases in negative affect following the emotionally evocative task, and (b) paradoxically increase the likelihood of long-term anxiety and PTS symptomatology.

As described, AS has been conceptualized as the fear of anxiety-related bodily sensations due to beliefs that such sensations will have adverse social, psychological, and physical outcomes, and some evidence supports this three factor model (i.e., social [fear that anxiety reactions will lead to social rejection], cognitive [fear of mental incapacitation due to cognitive symptoms of anxiety], physical [fear of physical incapacitation due to physical symptoms of anxiety]; Taylor et al., 2007). Consistent with this three factor model, a post-hoc analysis will be conducted for each of the hypothesized interactive effects that reaches statistical significance to examine the degree to which each of these lower-order AS dimensions accounts for the observed interactive effects. Given the exploratory nature of these analyses, no a priori hypotheses were made.

## 2. Method

### 2.1. Participants and procedure

For this Institutional Review Board approved study, the sample consisted of 199 (106 males; 93 females) undergraduate students recruited from an introductory psychology mass testing pool at a mid-sized U.S. University. Students were required to be at least 18 years of age and fluent in English to participate. The present study was part of a larger study examining threat-related attentional biases. During one experimental session, participants completed informed consent and then spent the remainder of the session completing measures and an emotionally evocative task in the following order: (1) a battery of self-report questionnaires, including measures of anxiety, AS, EA, PTS symptoms, and trauma history, (2) a pre-task self-report measure of negative affect (T1 NA), (3) an emotionally evocative task (i.e., modified dot-probe task), and (4) a post-task self-report measure of negative affect (T2 NA). Only those participants who reported experiencing a potentially traumatic event (i.e., Criterion A1; DSM-IV-TR: APA, 2000) completed a measure of PTS symptoms ( $n = 176$ : 92 males; 84 females). Therefore, any reference hereafter to the PTSD Checklist-Stressor Specific Version (PCL-S; Weathers, Huska, & Keane, 1991) or PTS symptoms is specific to this subsample. Upon study completion, participants were debriefed and given credit for their introductory psychology course.

The full sample ( $N = 199$ ) had an average age of 20.5 years ( $SD = 3.8$ ) and 55% self-identified as White, 23% as Black, 11% as Asian, 1% as American Indian or Alaska Native, 9% endorsed "other", while 1% preferred not to respond. Additionally, 11% of the sample reported being of Hispanic ethnicity. The subsample ( $n = 176$ ) of participants who completed the PCL-S (Weathers et al., 1991) had an almost identical demographic profile ( $M$  age = 20.5 years [ $SD = 3.8$ ]; 55% White, 25% Black, 10% Asian, 1% American Indian or Alaska Native, 8% "other", 1% preferred not to respond, and 11% Hispanic).

### 2.2. Equipment

Self-report measures and an emotionally evocative task were presented on a Dell Dimension 8300 desktop computer with a 19-inch monitor. Participants were seated approximately 50 cm from the computer monitor for the emotionally evocative task. Self-report measures were presented using SSI Web software (Orme, 2005), and DirectRT software (version 2004.1; Jarvis, 2004) was used to present the emotionally evocative task.

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