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Fear and disgust propensity in spider phobic distress☆

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Abstract

Three studies examined associations between spider phobic distress and two individual difference characteristics, disgust propensity (sensitivity to disgust elicitation) and fear propensity (sensitivity to fear elicitation). Although the relative contributions of trait anxiety and disgust propensity have been examined, researchers have yet to compare the parallel constructs of disgust and fear propensity. Two studies examined associations cross-sectionally, and a third longitudinal study examined associations of fear and disgust propensity with changes in distress and avoidance over time. In the first cross-sectional study, animal and non-animal fear propensity were independently associated with spider distress and disgust propensity was not. In the other two studies, animal fear propensity and animal disgust propensity were independently related to spider distress and non-animal scores were not. Fear propensity, but not disgust propensity, was predictive of decreased avoidance over time. The results suggest that disgust and fear propensity independently contribute to spider distress vulnerability.

Keywords: Spider phobia; Disgust; Fear; Animal; Trait; Personality

Anxiety researchers have been paying increasing attention to a wide variety of emotional processes and dispositions (e.g., McNally, 2002). For example, phobia researchers have devoted a fair bit of attention to the potential role of disgust, especially in animal phobias. Matchett and Davey (1991) proposed that animal phobias arise out of a disease-avoidance process in which animals associated with dirt or contamination are considered disgusting and are avoided.

There is a growing body of evidence for a dispositional mechanism of disgust responding among spider phobics. In line with van Overveld, de Jong, Peters, Cavanagh, & Davey (2006), we will refer to trait proneness to experience disgust as disgust propensity, which they distinguish from discomfort with the experience of disgust (which they refer to as disgust sensitivity). Relationships between spider phobic distress and disgust propensity have been demonstrated using Rozin, Fallon, & Mandell's (1984) food-related questionnaire (e.g., Davey, Forster, & Mayhew, 1993; de Jong, Andrea, & Muris, 1997) and using the Disgust Scale (DS; Haidt, McCauley, & Rozin, 1994), a broader measure of disgust propensity (e.g., de Jong & Merckelbach, 1998; Muris, Merckelbach, Schmidt, & Tierney, 1999; Tolin, Lohr, Sawchuk, & Lee, 1997; Vernon & Berenbaum, 2002). Further, van Overveld et al. (2006) have developed a new questionnaire measure to simultaneously assess disgust propensity and disgust sensitivity. They found evidence that both are associated with spider fear.

Although we believe that disgust plays an important role in individuals' responses to spiders, we hypothe-

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sized that the disposition to experience fear would also be central. Spider phobia researchers have yet to examine the contribution of fear propensity in a way that parallels the examination of disgust propensity. Trait measures of anxiety (e.g., Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) tap frequency of anxiety signs and symptoms and anxiety sensitivity measures examine discomfort with these signs and symptoms (Taylor, Koch, & McNally, 1992), whereas fear propensity refers to fear of external cues that are not themselves aspects of anxiety (e.g., hearing sirens, seeing a fight, riding in a crowded elevator). Individuals with high fear propensity would be expected to react to many cues with high levels of fear. Therefore, to examine whether responses to spiders are associated with fear propensity, one would need to measure fear propensity using an instrument such as the Fear Survey Schedule (FSS-III; Wolpe & Lang, 1964; Wolpe & Lang, 1977), which includes a large number of items in six broad domains of fear-eliciting stimuli and situations. Due to the length of the FSS-III, we developed the Fear Scale (FS) to be a brief updated measure of the construct of fear propensity to parallel the DS. One of the central goals of the present research was to examine whether fear propensity, as measured by the FS, is associated with responses to spiders.

In addition to examining the degree to which disgust and fear propensity are associated with responses to spiders, the present research examined five additional issues. The first additional issue we examined was whether disgust and fear propensity are associated with spider distress independently of one another. There has been much debate about the relative contributions of disgust and fear to spider phobic distress and avoidance and some seemingly mixed findings have emerged (de Jong & Muris, 2002; Olatunji, 2006; Thorpe & Salkovskis, 1998). For example, Olatunji (2006) found that both disgust proneness and trait anxiety seem to make independent contributions to reported state disgust and fear of spiders. In contrast, de Jong and Merckelbach (1998) found that only animal disgust proneness but not trait anxiety contributed independently to spider phobic distress scores among women. Because both fear and disgust have repeatedly been found to be associated with psychopathology in general (Olatunji & Sawchuk, 2005) and spider distress in particular (e.g., Olatunji, 2006; Tolin et al., 1997), we hypothesized that both fear and disgust propensity would be associated with spider distress, even after taking the other into account.

Although findings on disgust propensity and trait anxiety make important contributions to our understanding of responses to spiders, they are difficult to interpret for two reasons. First, phobia researchers have typically compared the role of disgust propensity with trait anxiety, the frequency of the signs and symptoms of anxiety, rather than comparing disgust propensity with fear propensity, as we have done. Comparing the same emotional dispositional constructs, disgust propensity and fear propensity, would allow for a more precise estimate of their independence. Further, by using measures of disgust and fear propensity that are similar in item format, instructions, and rating scale, any differences in their contribution to spider phobic distress would not be attributable to method variance. Second, researchers have used several different dependent variables, such as self-reported spider distress or state emotional responses to spiders, which makes it difficult to compare results across studies.

A second additional issue examined by the present research was the contributions of disgust and fear propensity to spider avoidance as well as distress. Avoidance of spider-contaminated food is assumed to be motivated by disgust (Mulkens, de Jong, & Merckelbach, 1996). In fact, there is evidence that disgust motivates avoidance among spider fearful and non-fearful individuals during approach tasks (Woody, McLean, & Klassen, 2005; Woody & Tolin, 2002). Woody et al. (2005) found that reported disgust during a spider approach task, but not fear, was related to behavioral avoidance. Because of the possibility that disgust and fear propensity may be differentially associated with spider distress and spider avoidance, we measured both.

Third, the present research examined animal and non-animal disgust and fear propensity separately. de Jong and Merckelbach (1998) examined associations between scores on a spider phobia questionnaire, a trait anxiety scale, and the eight scales of the DS. Although spider fear was significantly correlated with trait anxiety and the DS animal and death scales, in a regression analysis the animal DS scale was the only significant predictor variable. Comparing the contributions of parallel measures, such as animal disgust propensity with animal fear propensity, as well as comparing broad non-animal emotion propensity measures (all items except animal items), would provide a more complete picture of spider distress.

Fourth, the present research examined whether animal and non-animal disgust and fear propensity are still associated with spider distress and/or avoidance when taking other major personality variables into account. For example, there is evidence that animal phobias are associated with neuroticism (Watson,