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Disgust, anxiety and fainting symptoms associated with blood-injection-injury fears: a structural model

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Abstract

The present study examines the structural relations between disgust sensitivity, anxiety symptoms, blood-injection-injury (BII) fears, and fainting symptoms associated with BII fears in 259 nonclinical participants. Results revealed that both disgust and BII fear were independent predictors of fainting symptoms. However, structural equation modeling revealed that the relation between disgust sensitivity and fainting was reduced to negative and non-significance when the path from BII fear to fainting was also introduced. Subsequent analysis indicated that the relation between disgust sensitivity and fainting symptoms was fully mediated by BII fear. It was also found that animal reminder disgust was related to fainting symptoms whereas core disgust was not. However, the relation between animal reminder disgust and fainting was also fully mediated by BII fear. Furthermore, anxiety symptoms did not add directly to the structural model predicting fainting associated with BII fears. Implications of these findings for better understanding the interaction of the emotional mechanisms that mediate fainting responses in BII phobia are discussed.

Keywords: Blood-injection-injury phobia; Disgust sensitivity; Anxiety symptoms; Fainting

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Blood-injection-injury (BII) phobia is characterized by extreme aversion to the sight of blood, injections, wounds, and medically related stimuli that affects approximately 3.0% of the general population (Fredrikson, Annas, Fischer, & Wik, 1996). Associated phobic avoidance and delay in seeking medical care can exacerbate existing medical conditions and often may result in serious health consequences (Kleinknecht & Lenz, 1989). Unlike other phobic disorders, BII phobia is uniquely characterized by dizziness and/or fainting during exposure to phobic relevant stimuli (Connolly, Hallam, & Marks, 1976; Page, 1994), occurring in approximately 75% of reported cases (Kleinknecht & Lenz, 1989; Marks, 1988).

Two of the three BII phobic typologies proposed by Page (1994) have implicated the role of exposure-induced fainting. The ''fearful-fainter'' subtype is described as a biphasic physiological process, characterized by initial activation of the sympathetic nervous system, rapidly followed by acute parasympathetic activity (Öst, Sterner, & Lindahl, 1984; Thyer & Curtis, 1985; Vögele, Coles, Wardle, & Steptoe, 2003). The dramatic shift from a state of increased blood pressure and heart rate to hypoactive cardiovascular activity may predispose individuals to sensations of dizziness and fainting. Likewise, the ''non-fearful-fainter'' subtype represents those phobic individuals who experience relatively no initial sympathetic nervous system arousal, but do succumb to dizziness and fainting secondary to a strong, parasympathetic response. The third type, ''fearful non-fainter'' report experiencing fear but do not report a fainting history. Certain authors have argued that those individuals who are prone to fainting may be biologically predisposed (e.g., Page & Martin, 1998). In one study investigating the familial concordance of fainting experiences among adult participants and their parents, approximately 65% of participants with a fainting history had at least one parent reporting similar fainting episodes, in contrast to 40% of subjects without fainting experiences having at least one parent endorsing prior syncope (Kleinknecht & Lenz, 1989).

The nosological classification of BII phobia as a specific phobia subtype has been questioned secondary to the unique fainting response and the tendency for individuals to report aversion, rather than fear or dread, upon exposure (Rachman, 1990). Autonomic nervous system correlates of the fear response (i.e., fight or flight) appear present during the initial phase of the biphasic response. Phobic individuals tend not to fear blood/injuries per se, but rather may become fearful of the consequences of being exposed to such stimuli (i.e., embarrassment over fainting in public; intolerance of dizziness and fainting sensations). Whether it is due to feared consequences or general negative affectivity, BII phobics with a history of fainting experiences generally report higher overall levels of fear than those BII phobics without a fainting history (Kleinknecht, 1987, 1988).

The emotion of disgust has become logically implicated in the vasovagal syncope response. Physiologically, disgust is typically associated with parasympathetic activity (Levenson, 1992; but see Christie & Friedman, 2004) and reductions in diastolic blood pressure leading to fainting sensations (Page, 2003). Several studies have reported higher self-reported fear and disgust among analogue BII phobics in comparison to analogue spider phobics and nonphobic