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## Does threatening imagery sensitize distress during contaminant exposure?

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### Abstract

Prominent models of fear focus on the role of cognition in the development and maintenance of maladaptive responses. Little research, however, has evaluated the impact of cognition on distress reduction. The current study uses an experimental design to examine the effect of different types of imagery (moving harm, static harm, and safety) on reduction of distress associated with a contaminating stimulus in a normal university sample. Results indicate that use of moving harm imagery sensitizes distress during a 30-min exposure, whereas static harm and safety imagery reduce distress. These findings demonstrate that cognitive factors can moderate affective response during exposure. Clinical implications for the treatment of anxiety disorders are discussed.

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### Introduction

Exposure to contaminants is unavoidable in the modern world. Daily routine requires people to use public restrooms, ride public transportation, interact with sick coworkers, and breath polluted air. Given this ubiquitous exposure to contaminants, why do some people experience intense lingering feelings of fear or disgust that can manifest as obsessive–compulsive disorder (OCD), while others experience only brief discomfort (if any)? Recent theories have posited that cognitive

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factors explain the development and maintenance of fear over time (Freeston, Rhéaume, & Ladouceur, 1996; Riskind, 1997; Salkovskis, 1985). In light of these theories, this study examines the influence of threatening imagery on distress reduction associated with a contaminating stimulus.

Contamination concerns are prevalent among adults (Rozin, Haidt, & McCauley, 1993), perhaps representing a blend of emotions including both fear and disgust (Woody & Teachman, 2000). Cognitive theorists generally agree that a fear response is associated with an appraisal of a stimulus as threatening or dangerous. Woody and Teachman proposed that appraisals relevant to disgust may overlap with appraisals related to fear in their shared assessments of danger. They further postulated that overlapping fear and disgust appraisals regarding threat of contamination could explain the role of disgust in anxiety disorders such as OCD and phobias.

Davey and his colleagues have argued that evolutionary pressure has shaped a disgust response toward certain animals in order to prevent the transmission of disease through revulsion-motivated avoidance (Davey, 1992; Matchett & Davey, 1991; Webb & Davey, 1992). Research by Rozin's group, however, has shown that the perception of contamination threat does not necessarily correspond to objective danger. People respond with disgust and avoidance to a variety of situations that do not objectively have the power to make them ill, even though fear of disease is the usual motivation people ascribe to their avoidance of such a situation (Rozin, Markwith, & Nemeroff, 1992).

### *Cognitive theories*

Recent theorists have proposed that threat appraisals play a causal role in evoking anxiety related to various stimuli (Beck & Emery, 1985; Freeston et al., 1996; Lazarus, 1966; Riskind, 1997). Both the cognitive model of OCD (Freeston et al., 1996) and the theory of looming vulnerability (Riskind, 1997) explicitly implicate threat appraisals in contamination-related distress. Freeston et al. (1996) articulated five categories of faulty beliefs in OCD: overestimating the importance of thoughts, needing to seek a perfect state, excessive responsibility, overestimating the probability and severity of negative outcomes, and believing that anxiety is unacceptable or dangerous. Overestimation of the probability and severity of negative outcomes (e.g., disease) and the need for a perfect state (e.g., of cleanliness) seem particularly relevant to contamination concerns, although beliefs in all these categories are highly correlated in OCD samples (Obsessive Compulsive Cognitions Working Group; OCCWG, 2003).

Riskind (1997) argues for the importance of a different type of appraisal; he postulates that the construal of danger as rapidly evolving and advancing is a central cognitive component of threat. Riskind claims that this "looming vulnerability" elicits anxiety, sensitizes individuals to threat cues, biases cognitive processing, and impedes fear reduction. This model sees danger appraisal as a dynamic and constantly changing process, rather than a static snapshot of threat. The construct of looming vulnerability is distinguished from the cognitive factor of imminence (i.e., perceived proximity), as a stimulus can be far away while rapidly approaching, or nearby but stationary. The key factor producing fear in this model is the degree to which the stimulus is appraised as looming. With each moment that the stimulus advances, it becomes more dangerous, and the individual feels more threatened and perceives greater risk of losing control over the situation and emotional response. The looming vulnerability model adds specificity to traditional cognitive

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