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What Kind of Attention Is Necessary for Fear Reduction? An Empirical Test of the Emotional Processing Model

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Attention to feared stimuli is believed to facilitate the process of exposure-based fear reduction. However, researchers have disagreed about the importance of cognitive focus during exposure and empirical investigations have yielded inconsistent results. This study was an attempt to clarify the role of visual and cognitive attention to feared stimuli during exposure. Seventy-two spider-fearful participants focused visually on either a fear-relevant or irrelevant stimulus, while also focusing cognitively on either of these stimuli during a brief exposure session. Participants who processed fear-relevant information visually and cognitively showed the most efficient and greatest reduction on behavioral approach task ratings than the other three groups, whose patterns of reduction were highly similar. The group that focused on fear-relevant information in both modalities also reported a significantly greater degree of perceived fear reduction than the other three groups.

Exposure, both in vivo and imaginal, has been shown to be effective for the treatment of panic disorder, agoraphobia, generalized anxiety, obsessive-compulsive disorder, social phobia, and specific phobias (Barlow, 1988; Chambless et al., 1996). However, very little is known about what constitutes the underlying mechanisms of exposure (e.g., Thyer, Baum, & Reid, 1988; Zinbarg, 1993).

A series of studies on the effects of attention versus distraction during exposure has led to questions regarding the role of cognition: Specifically,

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what role do mental processes such as attention play in the reduction of fear during exposure? Moreover, where should attention be focused in order to achieve optimal fear reduction? These questions have important clinical significance because researchers have suggested that the natural tendency of phobic individuals undergoing exposure may be to engage in cognitive distraction to minimize anxiety. Treatment techniques may even include instructions for cognitive distraction, such as requesting that the patient imagine something pleasant or relaxing while confronting a feared stimulus (e.g., Beck & Emery, 1985).

Though cognition and attention have not always been considered important factors in fear reduction models (e.g., Wolpe's reciprocal inhibition model), a more contemporary model that takes an information-processing perspective to explain fear reduction is the emotional processing (EP) model (Foa & Kozak, 1986; Rachman, 1980). According to the EP model, two conditions need to be met for fear reduction to occur. First, the fear network must be activated through presentation of fear-inducing material (meaning that exposure is an integral part of the process); and second, new incompatible information must be incorporated into the network by the fearful individual.

According to Foa and Kozak (1986), interference with the subject's awareness of the fear-inducing stimulus would lead to a decline in EP by preventing the elicitation of adequate levels of fear during exposure, preventing the learning of new corrective information, precluding the assimilation of such information into the fear network, or some combination thereof. These arguments provide a sound theoretical basis for the assumption that focused attention during exposure should enhance fear reduction, whereas distraction should impede fear reduction. However, the experimental literature examining the effects of attention versus distraction during exposure is far from clear (e.g., Antony, Leeuw, Ing, & Swinson, 1998; Arntz & Lavy, 1993; Craske, Street, & Barlow, 1989; Craske, Street, Jayaraman, & Barlow, 1991; Grayson, Foa, & Steketee, 1982, 1986; Rodriguez & Craske, 1995; Suls & Fletcher, 1985; Van den Bergh, Eelen, & Baeyens, 1989). It is possible that the inconsistent results found across these studies could be due to methodological problems, such as exceedingly brief or lengthy exposure sessions, reliance on retrospective self-reports of fear, poorly controlled exposures completed in the absence of objective observers, lack of proper control groups, use of reactive behavioral assessment tasks, and distraction conditions in which fear cues remain available to participants (for a further critique of this literature, see Rodriguez & Craske, 1993).

The current study addressed several questions regarding the mechanisms of exposure-based fear reduction and attempted to improve upon past methodologies. The EP model suggests that the more fear-relevant information processed during exposure, the greater the subsequent reduction in fear; thus, both visual and cognitive focus on a feared stimulus might provide the optimal condition for fear reduction to occur. Following this logic, it was predicted that both visual and cognitive focus on a feared stimulus (live taran-