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Effects of distraction and guided threat reappraisal on fear reduction during exposure-based treatments for specific fears

Jan H. Kamphuis*, Michael J. Telch

The University of Texas at Austin, Austin, TX, USA

Abstract

To test predictions derived from the emotional processing theory of fear reduction, claustrophobics ($N = 58$) were randomized to one of four exposure conditions: (a) exposure with guided threat reappraisal, (b) exposure with a cognitive load distracter task, (c) exposure with both guided threat reappraisal and cognitive load distracter task and (d) exposure *without* guided threat reappraisal or cognitive load distracter task. We hypothesized that self-guided in vivo exposure would lead to less fear reduction if performed simultaneously with a cognitive load distracter task that severely taxes information processing resources. In contrast, we hypothesized that focusing on core threats during exposure would enhance fear reduction. The main findings were largely consistent with predictions. The cognitive load task (regardless of focus of available attention) had a detrimental effect on fear reduction, while guided threat reappraisal (regardless of cognitive load) had a facilitative effect. The greatest level of fear reduction and the lowest level of return of fear were observed in the exposure condition involving guided threat reappraisal without cognitive load. Clinical implications and directions for future research are discussed.

The experimental search for effective fear reduction techniques dates back to Watson and Rayner's (1920) paper on Little Albert and Mary Cover Jones' writings (1924) on fear extinction in children. Evidence accumulated over several decades and numerous domains of situationally bound fear has demonstrated the potency of exposure-based

* Corresponding author. University of Amsterdam, Department of Clinical Psychology, Roetersstraat 15, 1018 WB Amsterdam, Netherlands.

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methods in the treatment of phobic disorders (Barlow, 1988; Marks, 1978; Rachman & Wilson, 1980). Nevertheless, considerable debate still exists regarding the mechanisms governing the reduction of pathological fear. Rachman (1980) proposed a theoretical account of fear reduction based on emotional processing. He defined emotional processing as the decline of emotional disturbance to the extent that other experiences and behaviors proceed without disruption and as a process that was dependent upon direct experiencing of the emotional disturbance. Signs of incomplete processing include return of fear and disturbing dreams.

Based on Rachman's emotional processing theory and Lang's bioinformational theory of fear (Lang, Melamed & Hart, 1970), Foa and Kozak (1986) outlined an emotional processing account of fear reduction that proposed two necessary conditions for emotional processing. First, the fear structure must be activated. The fear structure is construed as a set of propositions about the stimulus, the response (including the physical, behavioral and cognitive response systems) and interpretive information about the meaning of the stimulus and the response. Activation of the fear structure is believed to occur by providing information that matches a part of the network, as would an accelerated heart-rate match the response proposition of fear. Through generalization of activation, the other sections of the network become activated, particularly in the cohesive networks representative of specific phobias.

According to Foa and Kozak (1986), a second necessary condition for emotional processing to occur is that information incompatible with elements of the fear structure must be made available and cognitively processed. Incompatible information is believed to emerge as a result of the experience of short-term, within-session physiological habituation. That is, reduction of arousal results in a disassociation between the stimulus and response propositions. As a result of repeated exposures, the perception of harm from the stimulus is lowered, as is the negative valence associated with the stimulus. These cognitive changes accruing from repeated disconfirmatory experience result in less drive for preparatory arousal, in turn resulting in between-session habituation.

Accordingly, factors which inhibit initial fear activation, or which interfere with physiological habituation and cognitive change, should retard fear reduction. The factors identified by Foa and Kozak resemble the features suggested by Rachman (1980) as potentially interfering with complete emotional processing. These include personality factors and stimulus factors that could impede emotional processing, with the latter category including concentration on a separate task and excessively brief presentations of the stimulus. To date, systematic investigations of these factors have been few and have focused primarily on the role of distraction.

Several investigators have suggested that distraction may inhibit fear-reduction. Borkovec and Grayson (1980) first noted the importance of "functional exposure" for effective extinction of the fear response: "Objective presentation of stimuli does not guarantee functional exposure to those stimuli... events which interfere with or facilitate the participants' awareness and/or processing of that information (the feared stimuli) will critically influence the effect of those procedures on a targeted emotional behavior". Rachman (1980) identified distraction as an inhibitor of complete emotional processing and Foa and Kozak (1986) asserted that distraction interferes with the activation of fear by disrupting the match between aspects of the stimulus