

Effects of internal and external distraction and focus during exposure to blood-injury-injection stimuli

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Abstract

The present study examined the effects of attentional focus on fear reduction during exposure. Participants were randomly assigned to experimental conditions: exposure plus internal focus, exposure plus external focus, exposure plus internal distraction, exposure plus external distraction or exposure alone. Fifty blood-injury-injection fearful participants received 3 weekly exposure sessions. Participants in the distraction group reported the greatest fear reduction, with most notable reductions occurring for the external distraction condition. The distraction group also achieved a greater number of steps on a behavioral avoidance task at post-treatment, with the external distraction condition displaying greater approach behavior at follow-up. At follow-up the distraction group also displayed a greater increase in perceived control than the focusing group. Thus, distraction reduces fear within and between sessions and increases approach behavior in the longer-term, with exposure plus external distraction further facilitating this effect.

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1. Effects of internal and external distraction and focus during exposure to blood-injury-injection stimuli

Systematic exposure to feared stimuli is arguably the most central component in effective treatment for phobias (Andrews, Creamer, Crino, Hunt, Lampe, & Page, 2003; Foa & Kozak, 1986; Rachman, 1980). Thus, it is important for science-informed clinical practice that there exists a good theoretical understanding of the mechanisms underlying fear reduction caused by in vivo exposure and that moderating

variables are clearly articulated (Page & Stritzke, 2006). One influential theory has been Foa and Kozak's (1986) information processing model. Fear is conceptualized as a memory structure consisting of cognitive representations of the *stimulus* characteristics of the feared situation, the individual's *responses* in it, and aspects of its *meaning* for that individual. Phobic fear structures involve excessive response elements such as avoidance and physiological activity. Accordingly, when an individual is exposed to feared situations, representations of the feared stimulus in memory are restructured. Restructuring occurs as information incompatible with the contents of the fear structure is processed. The information processing model explicitly predicts that distraction during exposure may interfere with the individual's awareness, encoding, and processing of the stimulus. Although

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distraction may make the person less anxious when initially presented with the feared stimuli, it ultimately lessens the effectiveness of exposure. Generalized fear reduction is less likely because fear must be activated before the fear structure can be changed (Foa & Kozak, 1986).

In contrast, another class of theories affords the possibility for distraction to have a beneficial role in fear reduction. These theories include Bandura's (1977, 1988) self-efficacy model and Barlow's (1988) affective control model (ACM). Barlow (1988) claims that distraction strategies result in a sense that events or emotions will no longer proceed uncontrollably. In this way, fear reduction occurs as individuals increase their confidence and perceived sense of control in their ability to cope with a feared situation and master or accomplish a specific task. Distraction should therefore enhance the effectiveness of exposure by instilling a sense of control and increasing self-efficacy.

Despite these two theories leading to clear predictions about distraction, research examining the effects of distraction on fear reduction has been mixed. Some research suggests that distraction enhances outcomes while other studies finds that outcomes are reduced (Craske, Street, & Barlow, 1989; Craske, Bunt, Rapee, & Barlow, 1991a; Kamphuis & Telch, 2000; McGlynn, Rose, & Lazarte, 1994; Rose & McGlynn, 1997). For example, Grayson, Foa, and Steketee (1982, 1986) reported that distraction interfered with fear reduction when compared to focused exposure in the first study, but in the second study found greater fear reduction in the distraction condition. Likewise, Craske, Street, Jayaraman, and Barlow (1991b) found that participants in an attention-focusing condition reported a greater fear than those in the distraction condition. However, in a second study (Rodriguez & Craske, 1995) distraction was found to inhibit the exposure process. One response has been to identify moderating variables that may be producing the inconsistencies in the literature. Antony, McCabe, Leeuw, Sano, and Swinson (2001) suggested that coping styles may moderate outcomes, but they were unable to find any significant effects of distraction and coping style between monitors (individuals who seek threat-related information) and blunters (individuals who avoid threat-related information). Future research to identify moderators is needed, and this may shed light on the apparent inconsistencies.

However, one series of studies has exhibited consistency in both procedures and results. Penfold and Page (1999) used conversation as a distraction strategy during a single 10-min exposure trial. Conversation was selected because clinicians had identified

this as a distraction strategy that they found useful. Relatively brief exposure was selected because examination of the literature suggested that 10-min was sufficient for fear reduction to occur, but not long enough to permit so much fear reduction that group differences would be undetectable. Distraction enhanced within-session fear reduction relative to focusing, however, it was not clear from this research whether the beneficial effects of distraction could be found between exposure sessions and in the longer-term. That is, it would have been possible to conclude that within-session fear reduction occurred because the person was distracted from the feared stimulus and no lasting anxiety-reduction had been achieved. Therefore, Oliver and Page (2003) replicated and extended Penfold and Page's (1999) study in a number of ways. Firstly, participants received three 10-min weekly exposure sessions to examine the effects of within- and between-session fear reduction during in vivo exposure to blood-injection stimuli. All three 10-min exposure trials were identical in procedure and designed to replicate Penfold and Page's study. Secondly, one limitation with Penfold and Page's study was that they used a three-item scale to measure perceived control and only used the subjective units of distress (SUD) scores as an objective measure of fear reduction. As a result, a more valid and reliable measure of perceived control (Rapee, Craske, Brown, & Barlow, 1996) and fear reduction (Klorman, Weerts, Hastings, Melamed, & Lang, 1974) was used at pre-treatment, post-treatment and 1 month follow-up. Consistent with Penfold and Page, they found that participants in the exposure plus distraction condition displayed greater reductions in within-session fear than did the exposure plus focusing and exposure alone conditions. Furthermore, this pattern continued between-sessions, at post-treatment, and at 1-month follow-up. During the time between the final exposure session and follow-up, participants in the exposure plus distraction condition also reported greater increases in perceived control as self-efficacy theories would expect.

Johnstone and Page's (2004) research replicated the preceding two studies and extended them in a number of ways. First, to ascertain whether the benefits of distraction could be replicated with individuals with other types of phobias, spider-fearful participants was used. Secondly, a more sensitive behavioral avoidance task (BAT) was used than that of Penfold and Page (1999). Thirdly, physiological measures of heart rate, skin conductance and blood pressure were measured. Finally, the two coping styles of blunting and monitoring were measured and a new spider self-efficacy scale was administered. Although both groups

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