

Attention focusing versus distraction during exposure in dental phobia

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Received 10 April 2007; received in revised form 2 July 2007; accepted 17 July 2007

Abstract

A survey of the discrepant findings regarding the effects of attention focusing and distraction on exposure suggested that subjective measures of anxiety and avoidance respond better to the latter condition, and heart rate (HR) reaction responds to the former. To test this hypothesis, 63 dental phobics were recruited who had not visited a dentist for a mean of 6.6 (1.5–25) years. Participants received a 1-h exposure session with either attention focusing or distraction. Subjective anxiety and HR to phobia-related pictures were assessed before and after the treatment session and again after 1 week. Avoidance was recorded in terms of adherence to the dental treatment schedule in the following 6 months. Contrary to expectation, state anxiety showed a greater decrease in the attention focusing than the distraction condition after 1 week. Both treatment conditions were similarly effective with regard to HR and avoidance. HR habituated in both groups after exposure and 73% of followed-up patients adhered to the dental treatment schedule. Comparison of the present with previous results suggests that the differences between attentional conditions tend to be more pronounced during shorter exposure sessions than were employed in the present study.

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Keywords: Specific phobia; Exposure; Distraction; Attention focusing; Dental phobia; Heart rate

Introduction

Specific phobias are strong, irrational fear responses to situations or objects, and phobics typically react with flight or avoidance when confronted with the phobic stimulus. Prolonged exposure to the phobic stimulus has long been found to be the most effective treatment method of this disorder, but some questions remain as to the mode of exposure. Among the problems still to be resolved is that of the attentional focus during exposure treatment: Need phobics attend the phobia-related material or is its presence just as efficacious in reducing anxiety if phobics are distracted?

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In the original model of emotional processing by Foa and Kozak (1986), attention focusing is essential for fear reduction. According to this model, exposure activates the prototype of the fear reaction, which consists of a neuronal network that contains all aspects of stimulus properties, and emotional, physiological and behavioural fear responses including cognitive appraisal. This fear structure is stored in memory and recalled on exposure to any of its elements. Exposure introduces corrective, incompatible information leading to an uncoupling of the elements. According to this model, attention focusing, which promotes sensory encoding of the presented phobic stimuli, is necessary for the full activation of the fear structure. In contrast, distraction strategies prevent encoding of the relevant stimulus elements and inhibit activation of the fear structure and thereby also emotional processing. Incomplete emotional processing is thought to result in partial relapse, also termed return of fear (e.g. Sartory, Rachman, & Grey, 1982).

Alternatively, Bandura's model (1983) of fear reduction stresses the importance of self-efficacy, i.e., the individual's conviction to be able to cope with a situation. Accordingly, it is the perceived lack of self-efficacy that induces fear during potentially aversive situations (Bandura, 1988). Behavioural mastery of fear-inducing situations is considered to enhance perceived self-efficacy. Coping strategies aimed at mastery have been found to be highly effective in combination with exposure and to improve self-efficacy (Jones & Menzies, 2000). According to this model, fear reduction results from enhancement of self-efficacy. Distraction from phobic stimuli would be considered a coping strategy as it allows the phobic individual to master the situation with less anxiety than would otherwise have been the case. The experience of being relatively free from anxiety in the presence of the phobic stimulus improves perceived self-efficacy and contributes to fear reduction.

As shown in Table 1, results of the condition of attention focusing and distraction during exposure treatment are inconsistent. In a first such study in obsessive-compulsive patients (Grayson, Foa, & Steketee, 1982), one group was asked to attend to the anxiety-inducing material and the other group was also asked to pick it up while playing a video game with the therapist during the treatment session. Both groups showed a similar extent of reduction in subjective discomfort at the end of the session but the attention group evidenced a more marked reduction in heart rate (HR). The distraction group experienced return of fear at the following session, whereas the attention group's fear reduction remained stable across sessions. In a subsequent study, Grayson, Foa, and Steketee (1986) failed to replicate the follow-up result but confirmed the greater HR

Table 1
Comparisons between attention focusing (A) and distraction (D) during exposure

Authors (year)	Participants (st. — student sample)	Design, procedure	Measures	Results
Grayson et al. (1982)	OCD	A, D; 90 min, FU	SUD, HR	HR: A > D FU: SUD: A > D
Grayson et al (1986)	OCD	A, D; 90 min, FU	SUD, HR	SUD: D > A HR: A > D
Craske, Street, and Barlow (1989)	PD with agoraphobia	A, D; 11 S, FU	SUD, BAT	No diff.
Craske et al. (1991)	Animal phobics (st.)	Ex., A, D; 6 min	SUD, HR,	SUD: D > A
Rodriguez and Craske (1995)	Animal phobics (st.)	D, no D × hi/ lo intens. ex.; 15 min	SUD, HR, BAT	SUD: hi ex: no D > D
Penfold and Page (1999)	Blood injury phobics (st.)	A, D; ex.; 10 min	SUD, BAT	SUD: D > A, ex.
Kamphuis and Telch (2000)	Claustrophobics (st.)	A, D, AD, ex.; 6 × 5 min	SUD, HR, BAT	SUD: A > D
Mohlman and Zinbarg (2000)	Animal phobics	A, D; 7 × 3 min	SUD, HR, BAT	SUD: A > D
Antony, McCabe, Leeuw, Sano, and Swinson (2001)	Animal phobics	D, ex.; 30 min	SUD, HR, BAT	No diff.
Oliver and Page (2003)	Blood injury phobics (st.)	A, D, ex.; 3 × 10 min weekly, FU	SUD	D > A, ex. FU: D > A, ex.
Johnstone and Page (2004)	Animal phobics (st.)	A, D; 3 × 10 min weekly, FU	SUD, HR, BAT	SUD + BAT: D > A HR: A > D

Abbreviations: OCD: obsessional compulsive patients; S: sessions; SUD: subjective units of discomfort; HR: heart rate; PD: panic disorder; ex.: exposure alone; hi/lo intens.: high/low intensity; BAT: behavioural avoidance test.

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