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Safety behaviour does not necessarily interfere with exposure therapy

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ABSTRACT

There has been much recent controversy regarding whether or not the use of safety and other neutralizing behaviour interferes with exposure-based therapy. The aim of this study was to examine the role of safety behaviour in the treatment of specific phobia. Sixty-two snake-fearful participants were randomized to a 45-min exposure session with or without the use of safety gear, such as gloves and goggles. During the treatment, participants in the safety behaviour group were able to achieve a significantly closer initial distance of approach to the snake compared to controls. When tested post-treatment without any safety gear, both groups demonstrated comparable treatment gains involving significant reductions in fearful cognitions and subjective anxiety, as well as significant improvements in distance of approach. Results suggest that reliance on safety behaviour during exposure therapy for anxiety disorders may not interfere with treatment outcome.

Introduction

With lifetime prevalence rates of up to 28.8%, anxiety disorders as a group are the most common of all mental disorders (Kessler et al., 2005). The current treatment of choice for most, if not all, anxiety disorders is cognitive-behavioural therapy (Otto, Smits, & Reese, 2004), and one of its components, exposure therapy, has made impressive achievements in reducing anxious symptomatology (Deacon & Abramowitz, 2004). Following the extensive success of this treatment method, which involves exposing patients to feared stimuli, contemporary studies have focused, in part, on examining the relationship between participants' fear responses and treatment outcomes. In particular, the often observed use of safety behaviour by anxious patients has attracted both theoretical consideration and empirical examination in the context of exposure-based interventions; additional investigation is required to further our understanding and aid both in the development and refinement of effective treatments for anxiety disorders.

Safety behaviour embodies an extensive range of idiosyncratic strategies commonly used by anxious individuals to avert or cope with a perceived threat (Salkovskis, Clark, & Gelder, 1996). It may consist of overt actions, thoughts (covert safety behaviour), and/or the use of comforting or protective objects (e.g., carrying a cellphone, paper bag, etc. to cope with possible panic). Current cognitive-behavioural models stress that this type of behaviour is important in the maintenance of fear and anxiety, and treatment paradigms thus typically include emphasis on reducing and/or eliminating it.

Salkovskis (1991) proposed that safety behaviour functions to maintain fear by enabling the avoidance of feared outcomes in anxiety-provoking situations. For instance, patients with social phobia may grip a glass tightly in order to prevent embarrassment that may result from spilling its contents. Doing so, however, may prevent them from learning about the improbability of spilling their drink even if they do not take precaution (Clark & Wells, 1995), and from obtaining evidence that, should the dreaded event actually occur, they may be well able to cope with it. Hence, by relying on safety behaviour, anxious individuals might be unable to obtain disconfirmatory evidence related to their unrealistic beliefs. Indeed, they might conclude that their own actions (i.e., the safety behaviour itself) prevent feared outcomes, leading them to reinterpret harmless, possibly fear-disconfirming experiences as threatening. In the context of exposure treatments, such strategies might thus inhibit the process of adaptive cognitive change.

A number of studies have supported the hypothesis that safety behaviour is important in the maintenance of fear and anxiety, thereby interfering with the benefits of exposure therapy (e.g., Salkovskis et al., 1999; Sloan & Telch, 2002). Findings generally demonstrate that use of safety behaviour during exposure leads to lesser reductions in fear and catastrophic beliefs relative to conditions in which participants are asked to eliminate their safety strategies and/or to focus on cognitive reappraisals. Kim (2005) compared three exposure paradigms for social anxiety to evaluate the effects of decreased safety behaviour. Participants were

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randomly assigned to exposure with decreased safety behaviour either under a cognitive or an extinction rationale, or to exposure with no change in safety behaviour. Results showed significantly greater reductions in anxiety and beliefs in feared outcomes for participants who decreased safety behaviour under the cognitive rationale versus those who did so under the extinction rationale or those who maintained their coping strategies. The last group experienced the least amount of pre- to post-intervention change. Disconfirmation of negative automatic thoughts is likely a crucial element in the effectiveness of reduced safety behaviour during exposure.

Cognitive change, however, may also result from behaviour therapy alone, as this form of treatment can be used to test the validity of patients' beliefs and to introduce reappraisal of feared stimuli through systematic exposure (Bouchard et al., 1996). Many treatment outcome studies have shown that exposure-based behavioural interventions are sufficient for creating cognitive change, particularly for social anxiety disorder, obsessive-compulsive disorder, and panic disorder (for a review, see Deacon & Abramowitz, 2004). Thus, cognitive interventions are not always necessary to directly disconfirm negative automatic thoughts or dysfunctional beliefs (e.g., Marks et al., 1993; Öst, Westling, & Hellstrbm, 1993).

In addition to research on the role of safety behaviour in anxiety, recent discussion has centered on the distinction between safety behaviour and adaptive coping strategies (Thwaites & Freeston, 2005), the latter which are also aimed at reducing anxiety but are *not* intended to avoid catastrophic outcomes. Despite this theoretical distinction, it is often difficult to differentiate the two in clinical practice, as differences between them can only be determined after evaluating a patient's intention for their use, their perceived function in a specific context, and the resultant cognitive impact. It is also possible for the same behaviour to function both as a safety mechanism and a coping strategy, depending on the feared consequences. For instance, a component of some treatments for panic disorder, breathing control, may be perceived by some patients as a form of immediate relief from their symptoms, leading them to fear dire consequences should they fail at correcting their breathing (Craske & Barlow, 2001). This often vague clinical distinction between safety behaviour and coping strategies speaks strongly of the need for greater understanding of possible positive and negative consequences of safety behaviour in anxiety disorders. Indeed, the necessity for clarification in this area is further emphasized by research demonstrating that merely the perceived availability of safety aids, and not necessarily their use, has a negative effect on fear reduction (Powers, Smits, & Telch, 2004).

At present, there is some evidence to suggest that safety behaviour is detrimental to the long-term reduction of anxiety, although it is far from conclusive. For example, although avoidance has long been thought to reinforce anxiety (Mowrer, 1939, 1960), others have found contrary evidence when incorporating avoidance into exposure-based treatments. Rachman, Craske, Tallman, and Solymon (1986), in a replication of a previous study with similar results (de Silva & Rachman, 1984), compared two 8-session exposure treatments for agoraphobia that varied as a function of escape behaviour. One group of participants was exposed progressively to fear-evoking situations in a standard manner, whereas participants in the escape-exposure group were not only exposed progressively but also instructed to escape if/when their fear reached a pre-set level; they returned to the exposure once their fear dropped below a specified point. Both groups achieved equal and significant improvements on all measures of agoraphobia, which were still evident at a 3-month follow-up. Escape safety behaviour was not followed by increases in fear or in estimates of danger; instead, it led to greater perceived control and less fear during treatment.

Related theory and research also suggest that it is possible in some circumstances for safety behaviour to promote adaptive cognitive change. Rachman's (1983) safety-signal theory posits that pairing safety cues (e.g., a safe person or place) with feared stimuli during exposure exercises might increase motivation and facilitate long-term declines in fear and avoidance. Sartory, Master, and Rachman (1989), for example, compared the effectiveness of safety-signal therapy versus conventional therapist-assisted exposure for agoraphobia. Safety-signal therapy yielded a small but significant advantage over therapist-assisted exposure, with participants in the former group reporting fewer panic symptoms and being more likely to enter previously avoided situations. Whereas the therapist-assisted group experienced partial relapse between sessions, those in the safety-signal group reported between-session gains. This study was the first to show that moving *toward* safety, rather than away from it, can reduce avoidance behaviour and may even be more effective at doing so than conventional exposure paradigms.

In further support of the fear-reducing impact of safety cues during exposure, it has been shown that panic patients who underwent a CO_2-inhalation procedure in the presence of a safe person reported less subjective anxiety, physiological arousal, and fewer catastrophic cognitions than those who did so without a safe person (Carter, Hollon, Carson, & Shelton, 1995). Importantly, both groups attained comparable post-exposure gains. Misattribution of safety was not apparent in this paradigm, and cognitive change was not hindered by reliance on safety behaviour. It has also been shown that panic patients who are provided with safety information are less likely to experience a heightened fear response during biological challenges (Schmidt & Telch, 1994). By contrast to the major tenants of the widely cited emotional processing theory of fear (Foa & Kozak, 1986), this research suggests that reductions in fear activation during exposure do not detract from therapeutic gains. This is of considerable importance given the marked dropout and refusal rates reported with this treatment method, which are likely attributable, in part, to the high threat and fear anticipation associated with exposure.

Finally, although rarely cited in the current safety behaviour literature, earlier work by Bandura, Jeffery, and Wright (1974) proposed that improvements in exposure therapy may be facilitated with the use of 'response induction aids'. In a study of exposure therapy with snake phobics, the authors offered minimal, moderate, or high use of such aids (e.g., gloves) when participants were unable to perform an exposure exercise after it was modeled to them. Once the desired behaviour was achieved, the protective supports were withdrawn. Participants who relied on moderate or high levels of induction procedures benefited from substantially greater fear reduction than those who were minimally aided. Outcome measures included change in approach behaviour and in fear of snakes; thus the extent to which participants' catastrophic beliefs were modified is unknown, although the authors suggested that the eventual fading of induction aids ensured that they did not misattribute their success to external sources.

The use of safety behaviour by anxious individuals clearly has important implications for exposure-based treatments. However, theory and research to date have produced arguments that call for both its inclusion in and complete elimination from treatment protocols, emphasizing the need for more research to clarify the nature of its function during exposure interventions for specific disorders. In the present study, we aimed to further the investigation of the role of safety behaviour in the treatment of anxiety disorders using a paradigm of exposure therapy for snake fears. Safety aids might be helpful in exposure treatment of specific phobia, where patients must increase their proximity to the feared stimulus in order to disconfirm their unfounded beliefs about its danger. In the current study, 62 snake-fearful participants were