

Safety Crutches (Safety-Seeking Behaviors, Safety Objects) **Summary of Research**

Year of Study	Institution	Citation for the Study
Summary of Results of the Study		

1

1999	University of Oxford	Salkovskis P M, Clark D M, et. al. (1999). An experimental investigation of the role of safety-seeking behaviours in the maintenance of panic disorder with agoraphobia. <i>Behaviour Research and Therapy</i> , 37(1999), 559-574.
18 patients with panic disorder and agoraphobia participated in this study. Each patient did 3 challenging exposure activities: 1) a 5-minute behavioral challenge test, individualized for each patient 2) a 15-minute experimental session, consisting of a challenging walk 3) the next day, repetition of the individualized, 5-minute behavioral challenge test During the 15-minute experimental session, half of the patients were instructed to continue using their safety-seeking behaviors. The other half were instructed to stop their safety-seeking behaviors. The patients who had stopped their safety-seeking behaviours during the experimental session showed a significantly greater decrease in anxiety and catastrophic beliefs compared to those who had maintained safety-seeking behaviour.		

2

2006	Kings College London	Salkovskis P M, Clark D M, et. al. (2006). Belief disconfirmation versus habituation approaches to situational exposure in panic disorder with agoraphobia: A pilot study. <i>Behaviour Research and Therapy</i> , 45(2006), 877-885.
16 patients with panic disorder and agoraphobia participated in the study. Each underwent an evaluation and then two 90-minute sessions of challenging <i>in vivo</i> exposures with a therapist. Patients were randomly assigned to one of two groups. In the first group, patients maintained their safety-seeking behaviors; in the second group, patients dropped their safety-seeking behaviors. Patients in the second group showed significantly greater improvements in anxiety, panic and situational avoidance. They also completed significantly more steps in a standardized behavioural walk, during which they experienced significantly less anxiety.		

3

1996	University of Oxford	Salkovskis P M, Clark D M, Gelder M G (1996). Cognition—Behaviour Links in the Persistence of Panic. <i>Behaviour Research and Therapy</i> , 34(5/6), 453-458.
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147 patients with panic disorder participated in this study. The cognitive theory of panic disorder proposes that panic attacks occur as a result of an enduring tendency to misinterpret bodily sensations as a sign of imminent catastrophe such as a heart attack. The persistence of such catastrophic cognitions is in part due to the tendency of patients to avoid and/or escape situations where panic occurs.

In this study, it is proposed that within-situation safety seeking behaviours have the effect of maintaining catastrophic cognitions in the face of repeated panics during which the feared catastrophe does not occur.

The association between catastrophic cognitions and within-situation safety behaviours matched the pattern predicted from the cognitive theory in over 90% of the cases.

4

2006	Florida State University	Schmidt NB et.al. (2006). Differential effects of safety in extinction of anxious responding to a CO ₂ challenge in patients with panic disorder. <i>Journal of Abnormal Psychology</i> , 115(2), 341-50.
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31 patients with panic disorder participated in the study, which involved two exposures to a 35% CO₂ challenge, a harmless but potent anxiety trigger for those with panic disorder. Each exposure consisted of fully exhaling, then fully inhaling the 35% CO₂ and holding for 5 seconds. After a rest period of about five minutes, there was a second identical exposure.

Participants were randomly assigned to one of three conditions:

- (a) safety information only (accurate information regarding the benign effects of the CO₂ challenge)
- (b) safety information plus a safety object during the first exposure (the presence of an anti-anxiety pill, available to take “if needed”)
- (c) no safety information (the control group)

Between the first and second exposures, those in the “safety information only” condition showed a significant reduction in anxiety. However, those in the “safety information plus safety object” group – with an anti-anxiety pill present during the first exposure – did not show a reduction in anxiety during the second exposure. Findings suggest that, during exposure, accurate safety information facilitates reduction of anxiety, but only in the absence of safety objects.

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2012	University of Messina, Italy	Gangemi A et.al. (2012). Behavior as information: "If I avoid, then there must be a danger." <i>Journal of Behavior Therapy and Experimental Psychiatry</i> , 43(4), 1032-8.
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Participants included three groups of individuals with anxiety disorders (22 with panic disorder, 31 with obsessive-compulsive disorder, and 17 with social phobia) and 31 non-clinical controls. In the study, participants rated the danger perceived in scripts in which information about objective safety vs. objective danger, and safety behavior vs. no-safety behavior were systematically varied.

For those with anxiety disorder, the presence of safety behaviors in the scripts significantly increased the perception of danger.

6

2002	University of Texas at Austin	Sloan T, Telch M (2002). The effects of safety-seeking behavior and guided threat reappraisal on fear reduction during exposure: an experimental investigation. <i>Behaviour Research and Therapy</i> , 40(3), 235-51.
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46 people with marked claustrophobic fear participated in the study, during which each subject was exposed to a claustrophobic challenge (confinement in a "claustrophobia chamber") for a total of 30 minutes (six, 5-minute exposure trials with approximately 10 minutes between each trial).

The participants were randomized to one of three groups. During the exposure, subjects were encouraged to use the following strategies:

- (A) guided threat focus and reappraisal
- (B) safety-behavior utilization, or
- (C) exposure only control.

Group A: Participants were informed of the efficacy of eliminating unrealistic fears by focusing on their specific perceived threat(s) and providing evidence contrary to the threat. Participants were not provided access to the safety strategies available to the participants in Group B. Upon exiting the chamber, participants were asked about the extent that they were able to focus on the threat and the relevant information to test the validity of the threat. Immediately prior to the next exposure trial, participants were reminded to continue to focus on their perceived threat during the trial and to look for evidence that would weaken their belief in the threat.

Group B: Participants received a treatment rationale emphasizing that claustrophobic fear is fuelled by concerns about lack of fresh air or of being trapped. Participants were told that in order to assist them in overcoming their fear, several safety strategies would be made available to them. These included: (a) opening a small window in the chamber to allow access to fresh air; (b) standing near the exit door of the chamber in order to allow quick escape; (c) checking the latch of the exit door to insure that the door was unlocked; and (d) talking with the experimenter through an intercom. Instructions made explicit that these safety strategies were optional but could be used if the participant felt the need. Immediately prior to the next exposure trial, participants were reminded of the specific safety behaviors available to assist them in overcoming their fear.

Group B showed significantly more fear at post-treatment and at 2-week follow-up compared to Group A.

7

2004	University of Texas at Austin	Powers M, Smits J, Telch M (2004). Disentangling the Effects of Safety-Behavior Utilization and Safety-Behavior Availability During Exposure-Based Treatment: A Placebo-Controlled Trial. <i>Journal of Consulting and Clinical Psychology</i> , 72(3), 448-454.
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The primary aim of this study was to further investigate the deleterious effects of safety-seeking behaviors on fear reduction by disentangling the effects of perceived availability of threat-relevant safety behaviors during treatment versus their actual use.

72 participants with marked claustrophobic fear were randomly assigned to 1 of 5 conditions:

- (a) exposure only (EO)
- (b) exposure with safety-behavior availability (SBA)
- (c) exposure with safety-behavior utilization (SBU)
- (d) credible placebo treatment (PL), or
- (e) wait list (WL)

The exposure consisted of six, 5-minute exposure trials in a claustrophobic chamber with approximately 10 minutes between each trial.

High end-state functioning rates at posttreatment were as follows: EO = 94%, SBA = 45%, SBU = 44%, PL = 25%, and WL = 0%. Findings suggest that it is the perception of the availability of safety aids as opposed to their actual use that exerts a disruptive effect on fear reduction.

8

2008	University of Texas at Austin	Telch M, Powers M, Smits J, Whitley D, Bystritsky A (2008). The Effect of Attributional Processes Concerning Medication Taking on Return of Fear. <i>Journal of Consulting and Clinical Psychology</i> , 76(3), 478-490.
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95 participants with marked claustrophobic fear were randomly allocated to:

- a waitlist condition
- a psychological placebo condition
- a 1-session exposure-based treatment, or
- the same exposure treatment + an inactive pill.

For those receiving the exposure + inactive pill, participants were further randomly assigned to 1 of 3 instructional sets immediately following treatment completion and posttreatment assessment:

- (1) The pill was described as a sedating herb that likely made exposure treatment easier
- (2) the pill was described as a stimulating herb that likely made exposure treatment more difficult or
- (3) the pill was described as a placebo that had no effect on exposure treatment.

One week later, participants returned to assess their claustrophobic fear. "Return of fear" rates for the 3 conditions were 39%, 0%, and 0%, respectively. In other words, when participants attributed improvements to a sedating pill, the effectiveness of the exposure treatment was substantially reduced.

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2000	Dalhousie University, Halifax, Canada	Stewart S, Westra H, Thompson C, Conrad B (2000). Effects of Naturalistic Benzodiazepine Use on Selective Attention to Threat Cues Among Anxiety Disorder Patients. <i>Cognitive Therapy and Research</i> , 24(2000), 67-85.
Use of benzodiazepine medication, particularly on an “as needed” basis, acts as a “safety crutch”. 50 patients with anxiety disorder participated in this study. 25 used benzodiazepine medication to manage their anxiety; 25 did not use any medication. The benzodiazepine users demonstrated significantly greater selective attention to threat than the medication nonusers, particularly in the case of physical threat stimuli. Among the benzodiazepine users, the greater the “as needed” use of the medication, the greater the selective attention to threat.		

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2009	University of New South Wales, Australia	Lovibond, P et.al. (2009). Safety behaviours preserve threat beliefs: Protection from extinction of human fear conditioning by an avoidance response. <i>Behaviour Research and Therapy</i> , 47(8), 716-20.
65 non-clinical individuals participated in a laboratory study which demonstrated the role of safety behaviors in preventing the reduction and extinction of fear. Neutral stimuli was paired with electric shock. Participants were also trained to make a button-press response (the safety behavior) to avoid shock. A target fear stimulus was then extinguished by presenting it without shock. The experimental group was given the opportunity to make the button-press (safety behavior) response during the extinction phase, whereas the control group was not. After completion of the extinction phase, the fear stimulus was presented without the button-press response available. The control group showed normal extinction of both shock expectancy ratings and skin conductance responses, but the experimental group – which had the safety behavior available – showed “protection from extinction”: they continued to give high expectancy ratings and strong skin conductance responses. We interpret this effect as analogous to the role of within-situation safety behaviours in preserving threat beliefs during exposure therapy for anxiety disorders.		

2015	University of Northern Carolina at Chapel Hill	Blakey S, Deacon B (2015). <i>If a Safety Aid is Present, There Must be Danger: The Paradoxical Effects of Hand Sanitizer during a Contamination Exposure Task. Journal of Experimental Psychopathology</i> , 6(3), 264-277.
Individuals may interpret their own anxiety or safety-seeking behaviors as indicators of threat. Another potential source of danger information is the mere availability of safety aids in the environment. Although assumed to be helpful, safety aids might paradoxically elicit, rather than alleviate, anxiety. 71 participants engaged in a contamination-related behavioral avoidance task in the presence or absence of a hand sanitizer dispenser. Participants higher in trait contamination aversion and in the presence of the hand sanitizer endorsed greater inferences of danger, hypervigilance, anxiety, disgust, and avoidance.		