

Social Phobia: The Role of In-Situation Safety Behaviors in Maintaining Anxiety and Negative Beliefs

ADRIAN WELLS

DAVID M. CLARK

PAUL SALKOVSKIS

JOHN LUDGATE

ANN HACKMANN

MICHAEL GELDER

University of Oxford

One of the puzzles surrounding social phobia is that patients with this problem are often exposed to phobic situations without showing a marked reduction in their fears. It is possible that individuals with social phobia engage in behaviors in the feared situation that are intended to avert feared catastrophes but that also prevent disconfirmation of their fears. This hypothesis was tested in a single case series of eight socially phobic patients. All patients received one session of exposure alone and one session of exposure plus decrease in "safety" behaviors in a counterbalanced within-subject design. Exposure plus decreased safety behaviors was significantly better than exposure alone in reducing within-situation anxiety and belief in the feared catastrophe. Other factors that may moderate exposure effects are also discussed.

Exposure is an effective treatment for social phobia. However, the improvements obtained with exposure alone are relatively modest (Butler, Cullington, Munby, Amies, & Gelder, 1984; Mattick & Peters, 1988), and in everyday life individuals with social phobia are repeatedly exposed to social situations without marked reductions in anxiety. From a cognitive perspective, these observations can be explained by supposing that several mechanisms prevent exposure from providing patients with unambiguous disconfirmation of their fears. Candidate mechanisms include: attentional bias for fear congruent information (Hope, Rapee, Heimberg, & Dombek, 1990; Mathews & MacLeod,

This research was supported by grants from the Medical Research Council of the United Kingdom and the Wellcome Trust. Correspondence concerning this article should be addressed to Adrian Wells, Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford, OX3 7JX, U.K.

1986), enhanced awareness of fear congruent information (Ehlers, 1993), self-focused attention (Hartman, 1983; Wells, 1990), beliefs that lead to discounting of positive experiences (Beck, Emery, & Greenberg, 1985), and in-situation safety behaviors (Clark, 1989; Salkovskis, 1988; 1991). The present study focuses on in-situation safety behaviors.

Salkovskis (1991) argues that in-situation safety behaviors play an important role in the maintenance of anxiety because they prevent phobic people from experiencing an unambiguous disconfirmation of their unrealistic beliefs about feared catastrophes. When safety behaviors are used the phobic individual tends to attribute the nonoccurrence of feared catastrophes to the implementation of the safety behavior. In addition to this, it is likely that some safety behaviors also directly exacerbate feared bodily sensations, and negatively influence the response of others in social encounters. For example, an individual with social phobia who attempts to control shaking by stiffening arm muscles and gripping objects tightly is likely to amplify tremor and impede freedom of movement, perhaps reinforcing belief in loss of control or paralysis. Similarly, the phobic person who speaks little in social encounters for fear of getting words wrong and evoking negative evaluation is less likely to receive positive feedback from others.

The in-situation safety behaviors analysis has important implications for the treatment of social phobia. It implies that exposure to feared situations will have diminished effectiveness if the socially phobic individual continues to execute safety behaviors during the exposure task. In addition, it implies that exposure should be more effective if patients are encouraged to drop their safety behaviors when in the feared situation, and this maneuver is presented within a framework that emphasizes its informational value. The present study investigated these implications by comparing the effects on anxiety and negative belief of one session of exposure with no change in safety behaviors versus one session of exposure plus decrease in safety behaviors. Each condition was accompanied by a different, appropriate rationale, and exposure duration was equated in the two conditions. It was predicted that exposure plus decrease in safety behaviors would be more effective than exposure with no change in safety behaviors.

Method

Subjects

Eight patients (five female) meeting DSM-III-R (APA, 1987) criteria for social phobia as operationalized by the Structured Clinical Interview for DSM-III-R (Spitzer, Williams, & Gibbons, 1987) were selected for the study. (Although diagnostic reliability data are unavailable, SCID interviews were all conducted by A. W., who had received training in the use of the instrument and had four years subsequent experience.) Patients' ages ranged from 24 to 53 years. None met criteria for avoidant personality disorder. Problem duration was at least 18 months, and in most cases was several years. All patients were screened for concurrent Axis I disorders. Patients meeting criteria for major depression were excluded from the study. Three of the patients reported

panic attacks but did not meet criteria for panic disorder as their panics were entirely situational. All the patients had identifiable fears and related in-situation safety behaviors.

Procedure

Following diagnostic screening and identification of specific beliefs and associated safety behaviors linked to a defined social situation, patients were given practice in rating beliefs and anxiety on 0 to 100 visual analogue scales. On the belief scale, 0 was labelled "Don't believe the thought at all" and 100 was labelled "Completely convinced the thought is true." On the anxiety scale, 0 was labelled "Not at all anxious" and 100 was labelled "The most anxious I have ever been." Each patient received both experimental conditions. For five of the patients, the neutral condition (exposure plus no decrease in safety behaviors) was given first, followed by the decreased safety behaviors condition. For the other three patients this sequence was reversed. It was our original intention to test equal numbers of subjects in each sequence and this plan was executed for the first six patients. However, random allocation within these six produced a slight inequality in initial anxiety levels between the two sequences, and the remaining two patients were allocated in such a way as to remove this difference. All patients were exposed to the same situation in both conditions. Patients were asked to select situations at the top of their hierarchy. In all but one case, exposure duration was 5 minutes. For case 1, an integral part of the threat associated with social situations was the duration of the exposure, and it was necessary to use 10 minute exposures to make the situation sufficiently threatening. In six out of eight cases, the feared situation was reconstructed in the clinic setting. In two cases, the experiment was conducted outside the clinic.

The rationales presented for the contrasting exposure conditions were as follows: (Patients' idiosyncratic fears and behaviors were used for the sections in brackets).

Decrease Condition:

"We need to explore why you remain anxious in the situation. You have said that you believe you will (*feared outcome*) in the situation, and you have prevented this from happening by (*safety behaviors*). Because you have done this you have not really discovered whether (*feared outcome*) can really happen. In order to overcome your anxiety, you have to go into the situation and allow yourself to discover that your fears are not true. To do this you should try not to do the things which you normally do to prevent (*feared outcome*). For example, when you are in the situation, do nothing to save yourself, do not (*safety behaviors*). After staying in the situation this way you will become more confident and prove to yourself that (*feared outcome*) cannot happen."

Neutral Condition:

"Although you have been in situations like this before, you have tended not to stay in the situation for a planned period of time. The important thing is to stay in (*anxiety provoking situation*) for set period of time no matter what

happens to your anxiety. This is a good way of reducing your anxiety. It works like getting into a bath of cold water: when you first get in it feels unpleasant, but after a while it feels better. When you stay in (*anxiety provoking situation*) for a set period you will find that your anxiety decreases.”

The decrease condition was presented in conjunction with an idiosyncratic vicious circle model of the patient's social anxiety which illustrated the role of beliefs and safety behaviors in problem maintenance. Immediately after the presentation of each rationale, credibility was assessed by asking patients to rate on a 0 to 100 scale the extent to which they thought the forthcoming brief exposure would be helpful in overcoming their fear of social situations. Outcome was assessed in two ways: First, by a behavior test administered 5 to 15 minutes before and after each experimental exposure session. Second, by a retrospective 0 to 100 rating of treatment effectiveness that the patient made immediately after each of the experimental exposure sessions. For all except case 1, the behavior test consisted of 5 minutes exposure to the situation used in the experimental conditions with patients being told to behave in their usual way. Specifically they were asked to do what they would normally do to help them cope with the situation. Anxiety and belief ratings were taken at 1 minute, 3 minutes, and at the end of the test. For case 1, the behavior test lasted 10 minutes and several additional ratings were taken.

Results

The patients' main fears and associated safety behaviors are shown in Table 1. Four patients were concerned with symptoms of shaking and interpreted these as a sign of “loss of control,” two patients were concerned with “talking funny,” one was concerned with “vomiting” and the other with “collapsing.” A wide range of in-situation safety behaviors were elicited, and patients' belief in the feared outcomes ranged from 50 to 100% just before exposures to the feared situation on the first occasion.

Figure 1 shows for each patient the mean anxiety and belief ratings for the pre- and postexperimental session behavior tests. The decrease condition produced greater decrements in anxiety and belief than the neutral condition for seven out of eight patients. Wilcoxon *T*-tests were used to compare behavior test pre- to postchange scores for each patient. The decrease condition produced significantly greater reductions in anxiety and in belief than the neutral condition ($T = 3.0, p < .05$ for anxiety; $T = 1.0, p < .05$ for belief). Patients' retrospective ratings of the effectiveness of the two conditions also showed that the decrease condition was more effective than the neutral condition (for decrease condition: $M = 60.0, SD = 14.1$; for neutral condition: $M = 42.5, SD = 15.8; p < .05$). In addition to differing in effectiveness, the decrease and neutral conditions also differed in initial credibility (for decrease condition: $M = 61.3, SD = 16.7$; for neutral condition: $M = 52.5, SD = 20.5; p < .05$). However, it seems unlikely that this entirely explains the greater effectiveness of the decrease condition as three patients (S5, S6, and S4 in Figure 1) rated the two conditions as equally credible, but all three showed greater improvements in the decrease condition.

TABLE 1
MAIN FEARS AND ASSOCIATED SAFETY BEHAVIORS FOR EACH PATIENT

Situation	Main symptoms	Fear	Behaviors
P1. Talking to a group of strangers	Blank mind Feeling hot Unreality	I'll babble/talk funny	Speak quickly, take deep breaths, rehearse sentences in mind, fiddle with hands, sit on edge of chair, speak clearly, focus on voice, avoid eye contact
P2. Administering chalice in church	Shaking "Paralysis"	I'll lose control	Take slow breaths, grip objects tightly, focus on hands, move slowly, use small chalice (in church), try to hold arms still.
P3. Drinking in front of others	Shaking	I'll go to pieces; lose control	Use both hands, grip tightly, move slowly, leave saucer on table, distract self, sit down, use a mug, try to relax.
P4. Reading to a group	Shaking Quivering voice	I'll shake uncontrollably and "clam up"	Avoid touching the book, turn page slowly, breathe slowly, sit upright, distraction, stand still, focus on the book, keep body rigid.
P5. Making tea at work	Shaking	I'll lose control	Use both hands, grip tightly, avoid cups & saucers, move mouth towards cup rather than cup towards mouth, leave saucer on table, focus on hands, move slowly.
P6. Walking in crowded shops	Unsteadiness Wobbly legs Weakness	I'll collapse; people will stare	Hold onto/lean on things, take deep breaths, sing to self, use distraction, look for an exit, sit down, crouch down, stiffen legs, walk close to walls, avoid looking at others.
P7. Eating in public	Butterflies in stomach Tight stomach Light-headedness	I'll vomit	Eat little, nibble food, think of other things, look for exit, drink water, swallow more, sing to self.
P8. Making conversation	Difficulty swallowing Blank mind	I'll freeze up; not be able to talk	Try not to think of self, monitor own thoughts, talk less, think in one sentence ahead, avoid talking about self, avoid eye contact, talk quickly, fiddle with fingers.

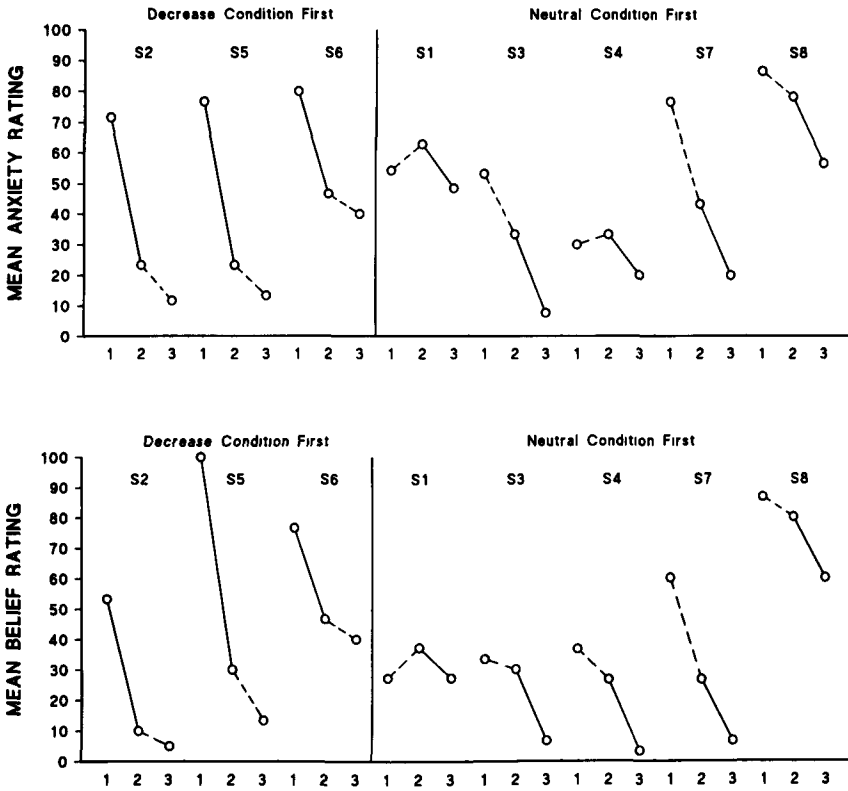


FIG. 1. Mean anxiety and belief ratings during pre- and postbehavior tests for each patient. (1 = before condition one; 2 = after condition one/ before condition two; 3 = after condition two).

Discussion

The results of this initial study were as predicted. One session of exposure with decreased safety behaviors and appropriate information-processing rationale was significantly more effective than exposure of equivalent duration with no change in safety behaviors and an extinction rationale. For most patients, both types of exposure produced decrements in anxiety and belief. However, the mean decrement was greater in the decrease condition. In addition, although all patients showed improvements in anxiety after the decrease condition, two patients actually showed an increase in anxiety after the neutral condition.

Clinically, these results suggest that it is important to include in-situation safety behaviors in case conceptualizations, and to modify them in the course of treatment. In particular, exposure exercises are likely to be more effective if the in-situation safety behaviors that patients believe prevent feared catas-

trophes are identified, and patients are encouraged to drop these behaviors in an explicit attempt to provide themselves with unambiguous disconfirmation of their negative beliefs.

Producing a cognitive shift in which the patient actively searches for disconfirming evidence may be particularly important in social phobia. Stopa and Clark (1993) recently reported a content analysis of thought sampling data from a task involving a conversation with a stranger. Individuals with social phobia reported more negative self-evaluative thoughts than did control subjects, but did not report more thoughts explicitly mentioning evaluation by the other person. Although there are several possible explanations for this result, it is consistent with the idea (Clark & Wells, *in press*) that much of the evidence for the negative beliefs of individuals with social phobia comes from their own impression of how they appear to others, rather than from observation of others' responses. In particular, individuals with social phobia appear to assume erroneously that the way they feel is the way they are perceived (see McEwan & Devins, 1983 for a demonstration of this error). Instructions to monitor other people when in a social situation and other attention reorientation strategies may help overcome this problem and facilitate anxiety reduction (see Wells & Matthews, 1994, for an extended discussion of the role of attention in exposure).

When designing exposure exercises modeled on the decrease safety behaviors condition used in this study, it is important to focus on the implications of feared outcomes. Many of the outcomes that social phobics fear (e.g., hands shaking, pausing while talking, and getting occasional words wrong) can happen but are not problematic in themselves. They are only a threat because phobics infer they will lead to a catastrophe, such as being humiliated or rejected. In such instances the decrease safety behaviors condition focused on disconfirmation of the feared catastrophe.

Stopa and Clark (1993) demonstrated that in some feared situations individuals with social phobia behave in a less friendly and outgoing fashion than do nonphobic people. We suspect that one reason for this is that they are engaging in safety behaviors that others perceive negatively. Cognitive behavioral treatment programs often involve teaching individuals with social phobia conversational skills and other social coping strategies to improve their social behavior. Although these strategies can be helpful, it is important to ensure that they do not become additional safety behaviors. This is most easily determined by assessing the function of the strategy. For example, asking other people about themselves is a good way of promoting conversation, but it would be problematic if phobic individuals mainly used it as a way of preventing themselves from becoming the focus of attention.

Effective exposure requires the selection of a situation that activates the patients' fears. Our experience in this study indicated that for individuals with social phobia this selection process requires particular care. Small differences in the features of a situation can be sufficient to prevent fear activation. Such differences include the number and type of people in a situation (e.g., strangers or acquaintances) and the type of bodily sensations that patients are experiencing. Patients often reported that in real-life situations on some occa-

sions they would experience anxiety, yet at other times they would not. This could also be due to small differences in the features of the situation.

Once a suitable exposure situation has been identified, we would suggest the following guidelines for maximizing the effectiveness of the exposure assignment: (1) patients' feared catastrophes and their perceived likelihood should be assessed; (2) safety behaviors that are rationally linked to these feared catastrophes should be identified; (3) a cognitive set focusing on active disconfirmation of negative beliefs should be established; (4) safety behaviors should be eliminated or reversed during exposure; and (5) the outcome of the assignment should be discussed in information-processing terms. In particular, the therapist should ask whether the feared catastrophe happened. If it did not, what is the patients' explanation? Is the nonoccurrence just attributed to residual safety behavior or has the exercise produced a more profound change in belief?

References

- American Psychiatric Association (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev.). Washington, D.C.: APA.
- Beck, A. T., Emery, G., & Greenberg, R. L. (1985). *Anxiety disorders and phobias: A cognitive perspective*. New York: Guilford Press.
- Butler, G., Cullington, A., Munby, M., Amies, P., & Gelder, M. (1984). Exposure and anxiety management in the treatment of social phobia. *Journal of Consulting and Clinical Psychology, 52*, 642-650.
- Clark, D. M. (1989). Anxiety states: Panic and generalized anxiety. In K. Hawton, P. M. Salkovskis, J. Kirk, & D. M. Clark (Eds.), *Cognitive behavior therapy for psychiatric problems: A practical guide* (pp. 52-96). Oxford, UK: Oxford University Press.
- Clark, D. M., & Wells, A. (in press). A cognitive model of social phobia. In M. Liebowitz, D. A. Hope, F. Schneier, & R. G. Heimberg (Eds.), *Social phobia: Diagnosis, assessment and treatment*. New York: Guilford Press.
- Ehlers, A. (1993). Interoception and panic disorder. *Advances in Behaviour Research and Therapy, 15*, 3-22.
- Hartman, L. M. (1983). A metacognitive model of social anxiety: Implications for treatment. *Clinical Psychology Review, 3*, 435-456.
- Hope, D. A., Rapee, R. M., Heimberg, R. G., & Dombeck, M. J. (1990). Representations of the self in social phobia: Vulnerability to social threat. *Cognitive Therapy and Research, 14*, 177-189.
- Mathews, A., & MacLeod, C. (1986). Discrimination of threat cues without awareness in anxiety states. *Journal of Abnormal Psychology, 95*, 131-138.
- Mattick, R. P., & Peters, L. (1988). Treatment of severe social phobia: Effects of guided exposure with and without cognitive restructuring. *Journal of Consulting and Clinical Psychology, 56*, 251-260.
- McEwan, K. L., & Devins, G. M. (1993). Is increased arousal in social anxiety noticed by others? *Journal of Abnormal Psychology, 92*, 417-421.
- Salkovskis, P. M. (1988). Phenomenology, assessment and the cognitive model of panic. In S. Rachman & J. Maser (Eds.), *Panic: Psychological perspectives* (pp. 111-136). Hillsdale, NJ: Erlbaum.
- Salkovskis, P. M. (1991). The importance of behaviour in the maintenance of anxiety and panic: A cognitive account. *Behavioural Psychotherapy, 19*, 6-19.

- Spitzer, R. L., Williams, J. B. W., & Gibbons, M. S. W. (1987). *Instruction manual for the Structured Clinical Interview for DSM-III-R (SCID, 4/1/87 Revision)*. New York: Biometrics Research Department, New York State Psychiatric Institute.
- Stopa, L., & Clark, D. M. (1993). Cognitive processes in social phobia. *Behaviour Research and Therapy, 31*, 255-267.
- Wells, A. (1990). Panic disorder in association with relaxation induced anxiety: An attentional training approach to treatment. *Behavior Therapy, 21*, 273-280.
- Wells, A., & Matthews, G. (1994). *Attention and emotion: A clinical perspective*. Hove, UK: Lawrence Erlbaum.

RECEIVED: September 20, 1993

ACCEPTED: April 26, 1994