Safety behaviors and judgmental biases in social anxiety disorder

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A R T I C L E  I N F O

Article history:
Received 5 August 2009
Received in revised form 20 October 2009
Accepted 12 November 2009

Keywords:
Safety behaviors
Social anxiety disorder
Social judgments
Judgmental biases

A B S T R A C T

Two experiments were conducted to examine the link between safety behaviors and social judgments in social anxiety disorder (SAD). Safety behaviors were manipulated in the context of a controlled laboratory-based social interaction, and subsequent effects of the manipulation on the social judgments of socially anxious participants (N = 50, Study 1) and individuals meeting diagnostic criteria for generalized SAD (N = 80, Study 2) were examined. Participants were randomly assigned to either a safety behavior reduction plus exposure condition (SB + EXP) or a graduated exposure (EXP) control condition, and then took part in a conversation with a trained experimental confederate. Results revealed across both studies that participants in the SB + EXP group were less negative and more accurate in judgments of their performance following safety behavior reduction relative to EXP participants. Study 2 also demonstrated that participants in the SB + EXP group displayed lower judgments about the likelihood of negative outcomes in a subsequent social event compared to controls. Moreover, reduction in safety behaviors mediated change in participant self-judgments and future social predictions. The current findings are consistent with cognitive theories of anxiety, and support the causal role of safety behaviors in the persistence of negative social judgments in SAD.

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Individuals with Social Anxiety Disorder (SAD) tend to make overly-negative judgments about themselves and social events (e.g., Alden & Wallace, 1995; Foa, Franklin, Perry, & Herbert, 1996; Rapee & Lim, 1992; see Hirsch & Clark, 2004 for a review). Cognitive theorists propose that these judgmental biases perpetuate social anxiety and avoidance (e.g., Clark, 2001; Clark & Wells, 1995; Hofmann, 2007; Rapee & Heimberg, 1997). In support of that reasoning, reductions in judgmental biases have been found to mediate symptom improvement in patients with SAD (Foa et al., 1996; Hofmann, 2004; Smits, Rosenfield, McDonald, & Telch, 2006; Taylor & Alden, 2008). Identifying the factors that maintain judgmental biases is therefore of potential value in validating theoretical models and enhancing treatments for SAD.

According to cognitive writers, one such contributing factor is reliance on safety (subtle avoidance) behaviors (e.g., Clark & Wells, 1995; Rapee & Heimberg, 1997). Safety behaviors are covert and overt actions adopted by the individual to prevent feared outcomes and maintain a sense of safety. Instead, these actions are hypothesized to impede assimilation of accurate information about social events, the end result of which is to maintain judgmental biases and therefore, social anxiety. Despite their theoretical prominence, relatively little research has examined the causal link between safety behaviors and the maintenance of judgmental biases in SAD populations. Here, we report two studies that used controlled laboratory methods to evaluate whether safety behaviors displayed the hypothesized causal relationship with judgmental biases in an ecologically valid social situation.

Cognitive theorists propose that SAD is maintained through a chain of cognitive-emotional processes that involve negative judgments prior to and during social events. According to these models, socially anxious individuals make negative predictions about the likely outcomes of social events (e.g., Clark & Wells, 1995; Hofmann, 2007; Rapee & Heimberg, 1997). These predictions are hypothesized to produce anticipatory anxiety and lead to selective processing of threat-related cues. The increased salience of threat information skews interpretations of the event so that these individuals make overly-negative judgments about their performance and others’ reactions to them. These biased interpretations then contribute to negative predictions for subsequent events, thereby establishing a self-perpetuating cycle that maintains social fear and avoidance (Clark & Wells, 1995; Rapee & Heimberg, 1997). In support of this perspective, individuals with SAD have been shown to overestimate the likelihood and cost of negative social outcomes (e.g., Foa et al., 1996; Gilboa-Schechtman, Franklin, & Foa, 2000;
Wilson & Rapee, 2005). Following social events, they tend to overestimate how anxious they appeared and underestimate others’ responses to them (e.g., Alden & Wallace, 1995; Rapee & Lim, 1992; Stopa & Clark, 1993; Taylor & Alden, 2005; see Hirsch & Clark, 2004 for a review). Moreover, such judgmental biases tend to persist even in the face of evidence to the contrary, i.e., positive social outcomes (e.g., Wallace & Alden, 1997).

Cognitive writers speculate that reliance on safety behaviors maintains judgmental biases by preventing assimilation of threat-inconsistent information, either because attention and cognitive resources are preferentially allocated to safety behavior execution instead of the event itself (e.g., Rapee & Heimberg, 1997; Sloan & Telch, 2002) or because the individual believes that the actions prevented the feared outcome (e.g., Salkovskis, 1991). While the construct of safety behaviors is a key aspect of cognitive SAD models, empirical studies are sparse. McManus et al. (2008) found that socially anxious individuals reported using a larger number of safety behaviors, more frequently, and in a greater variety of situations than individuals low in social anxiety (see also Cumming et al., 2009). Moreover, these individuals perceived their safety behaviors to be beneficial in reducing the likelihood of negative social outcomes. In addition, several studies found that socially anxious individuals relied more on self-protective behaviors in response to social threat (Alden & Bieling, 1998; DePaulo, Epstein, & LeMay, 1990).

Four studies experimentally manipulated safety behaviors. Using a case-controlled experimental design with eight SAD patients, Wells et al. (1995) found that encouraging patients to reduce safety behaviors during exposure to idiosyncratic feared situations significantly reduced patients’ belief that their feared outcome had occurred compared to exposure alone. Kim (2005) replicated those findings in students with SAD and, in addition, demonstrated that the effectiveness of eliminating safety behaviors was enhanced by a rationale highlighting prediction disconfirmation. These studies suggest that safety behaviors may contribute to the maintenance of idiosyncratic fear-relevant beliefs (e.g., Clark & Wells, 1995; Salkovskis, 1991). McManus et al. (2008) compared the judgments of participants high in social anxiety during a conversation with a stranger under two conditions; when they were instructed to focus on themselves and to engage in a list of safety behaviors commonly reported by individuals with SAD versus when they were instructed to focus externally and not use any of the scripted safety behaviors. Results revealed that participants were more likely to overestimate their visible anxiety when instructed to self-focus and engage in the safety behaviors. Comparable findings were obtained by McManus et al. (2009) who used a similar experimental procedure in the context of a cognitive therapy program for patients with SAD. Because the manipulation in these studies combined instructions about focus of attention with adopting safety behaviors, however, the unique effect of safety behaviors on self-judgments was not clear.

Although the results of extant studies are consistent with the hypothesis that safety behaviors are associated with dysfunctional beliefs and negative judgments, no research has manipulated the idiosyncratic safety behaviors of SAD patients and examined corresponding effects on biases in social judgments and predictions. In addition, empirical support for the causal status of safety behaviors is weakened by failure to assess whether experimental manipulations reduced safety behaviors as intended (see Kim, 2005 for an exception). Thus, it remains unclear whether safety behaviors per se were responsible for the observed cognitive changes. Finally, cognitive theories of SAD argue that safety behaviors can elicit negative social responses from others (e.g., Alden & Taylor, 2004; Clark, 2001; Clark & Wells, 1995). These findings underscore the importance of controlling for differences in the behavioral responses of others that may arise from differential safety behavior use. Because previous research has not always maintained control over the social environment, identifying the source of safety behavior effects on social judgments is obscured. All in all, confidence in the proposed causal link between safety behaviors and the maintenance of judgmental biases would strengthened by research that firmly establishes the effects of experimental manipulations of idiosyncratic safety behaviors in a controlled social environment.

### Overview of current research

Two studies were conducted to examine the effect of safety behaviors on the social judgments of socially anxious students (Study 1) and individuals meeting diagnostic criteria for generalized SAD (Study 2) during controlled laboratory-based social interactions. We focused our investigation on judgments of anxiety-related behavior, as this reflects a core concern of people with SAD (American Psychiatric Association, 2000). Participants were randomly assigned to either a safety behavior reduction plus exposure condition (SB + EXP) or a graduated exposure (EXP) control condition, and then took part in a conversation with a trained experimental confederate. To isolate the cognitive effects of the safety behavior manipulation, we carefully scripted the social cues displayed by confederates, included an objective assessment of confederates’ and participants’ behavioral performance, and directly measured changes in participant safety behaviors and social judgments. Consistent with cognitive models suggesting that safety behaviors are causally linked to the maintenance of judgmental biases (e.g., Clark, 2001; Clark & Wells, 1995; Sloan & Telch, 2002), we predicted that participants in the SB + EXP group would be less negative and more accurate in their judgments following the experimental manipulation compared to participants in the EXP group.

### Study 1

#### Method

**Participants**

Participants were 50 undergraduate psychology students (33 females, 17 males) selected on the basis of their scores on the Fear of Negative Evaluation Scale (FNE; Watson & Friend, 1969). The FNE is a commonly used 30-item true-false screening inventory that assesses apprehension about social-evaluative situations, a central feature of SAD. Previous work has established that the FNE displays excellent internal consistency (Cronbach’s α = .94–.98), good one-month test–retest reliability (r range = .78–.94), and correlates well other indices of social anxiety and avoidance (e.g., Friend & Gilbert, 1973; Watson & Friend, 1969). To be eligible for the study, participants were required to score 17 or higher on the FNE, a well-established cut-off associated with high levels of social anxiety in previous research (e.g., Hirsch, Meynen, & Clark, 2004; McManus et al., 2008). Additionally, given that the experimental design required participants to hold a brief conversation with an unknown experimental assistant, individuals were required to complete a self-report version of the Anxiety Disorders Interview Schedule – IV (ADIS-IV; Brown, Di Nardo, & Barlow, 1994), and to report at least mild levels of anxiety when speaking with unfamiliar participants. A total of 234 students (31.4%) scored above the high social anxiety cut-off (≥17), which is consistent with earlier research (e.g., Harvey, Clark, Ehlers, & Rapee, 2000).
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