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Combined Audience and Video Feedback With Cognitive Review Improves State Anxiety and Self-Perceptions During Speech Tasks in Socially Anxious Individuals

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This study investigated the effects of combined audience feedback with video feedback plus cognitive preparation, and cognitive review (enabling deeper processing of feedback) on state anxiety and self-perceptions including perception of performance and perceived probability of negative evaluation in socially anxious individuals during a speech performance. One hundred and forty socially anxious students were randomly assigned to four conditions: Cognitive Preparation + Video Feedback + Audience Feedback + Cognitive Review (CP+VF+AF+CR), Cognitive Preparation + Video Feedback + Cognitive Review (CP+VF+CR), Cognitive Preparation + Video Feedback only (CP+VF), and Control. They were asked to deliver two impromptu speeches that were evaluated by confederates. Participants' levels of anxiety and self-perceptions pertaining to the speech task were assessed before and after feedback, and after the second speech. Compared to participants in the other conditions, participants in the CP+VF+AF+CR condition reported a significant decrease in their state anxiety and perceived probability of negative evaluation scores, and a significant increase in their positive perception of speech performance from before to after the feedback. These effects generalized to the second speech. Our results suggest that adding audience feedback to video feedback plus cognitive preparation and cognitive review may improve the effects of existing video feedback procedures in reducing anxiety symptoms and distorted self-representations in socially anxious individuals.

Keywords: video feedback; audience feedback; state anxiety; perceived probability of negative evaluation; perception of performance

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SOCIAL ANXIETY DISORDER (SAD) is characterized by a persistent fear of social situations whereby negative evaluation by others may occur, resulting in cognitive, behavioral, and physical symptoms of anxiety (American Psychiatric Association [APA], 2013). Cognitive models of SAD (Clark & Wells, 1995; Rapee & Heimberg, 1997) have posited that biased self-imagery, alongside self-focused attention and safety behaviors, is a key maintaining factor in social fears. Research has shown that socially phobic individuals report experiencing spontaneous, recurrent negative self-imagery prior to or during anxiety-provoking social situations in comparison to non-clinical groups (e.g., Hackmann, Clark, & McManus, 2000; Hackmann, Surawy, & Clark, 1998). The distorted self-images involve an *observer's perspective* (Hackmann et al., 1998) and are discrepant from what is truly visible to others (Rapee & Lim, 1992), leading to underestimations of performance, overestimations of anxiety symptom visibility, and large discrepancies between self and objective-observer

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perceptions of performance (Hirsch, Clark, Mathews, & Williams, 2003; Hirsch, Meynen & Clark, 2004; Makkar & Grisham, 2011). To target distorted self-imagery, video feedback can usefully provide a more objective source of information about one's social performance, and has been incorporated into cognitive therapy for SAD (Clark et al., 2006; McEvoy & Saulsman, 2014).

Video feedback (VF) is a process that provides individuals with the opportunity to view a video playback of their social performance following a task such as public speaking. Observing video recordings of their social performance provides socially anxious individuals with information that is incompatible with their biased self-perception (Clark, 2001; Rapee & Hayman, 1996). Harvey, Clark, Ehlers, and Rapee (2000) suggested that including cognitive preparation before the video feedback can emphasize objective viewing of the video and maximize the difference between distorted self-imagery and video evidence. Cognitive preparation guides participants to first imagine and predict in detail what they will see in the video, and then instructs them to focus on how they *appear* rather than how they *feel* while watching the video. It encourages participants to view the videotape of their performance in an objective manner and has been found to enhance the therapeutic effects of video feedback as it led to greater improvements in participants' self-evaluations of performance in comparison to video feedback alone or an exposure control (Kim, Lundh, & Harvey, 2002; Rodebaugh, 2004; Rodebaugh, Heimberg, Schultz, & Blackmore, 2010). Nevertheless, the impact of video feedback with cognitive preparation (CP + VF) on participants' levels of anxiety has been mixed. While some studies have shown that CP + VF is effective in reducing anticipatory anxiety (Rodebaugh et al., 2010), others have found no significant change in state anxiety (i.e., anxiety experienced during speech tasks) ratings when compared to an exposure control (e.g., Orr & Moscovitch, 2010; Rodebaugh, 2004; Smits, Powers, Buxkamper, & Telch, 2006).

Orr and Moscovitch (2010) argued that the failure to reduce subjective anxiety may stem in part from the absence of a post-video feedback cognitive review, which allows individuals to engage in deeper processing and encoding of the feedback. They investigated whether the addition of a cognitive review process would enhance self-perceptions and reduce anxiety levels of socially anxious individuals. High socially anxious participants were randomly assigned to one of three conditions: exposure only (Control), CP + VF, or video feedback with cognitive preparation followed by a cognitive review (CP + VF + CR). The cognitive review involved two steps. First, participants worked through their perceived performance ratings with the experimenter and compared the items they rated more positively from pre- to post-video feedback. Second, participants answered four questions (e.g., "What have you learned from this feedback?") designed to allow them to analyze the feedback, and to incorporate it into their global sense of selves. The researchers found that the two experimental groups (i.e., CP + VF and CP + VF + CR) did not differ significantly from one another on any of the dependent measures. Participants assigned to the CP + VF + CR condition but not the CP + VF group did demonstrate significant improvements in self-perception of performance following the cognitive review, relative to the Control (Cohen's *d*s: 0.83 and 1.14, respectively). However, there was no significant difference between these two groups on their level of anxiety during the speech performance.

To achieve reductions in anxiety, some researchers (Hirsch & Clark, 2007; Rapee & Hayman, 1996) have suggested that video feedback may need to be combined with other forms of feedback, such as input from a therapist or a group of audience members. In line with these suggestions, Smits et al. (2006) investigated the effects of providing video feedback of audience reactions to socially anxious participants following a speech performance task. Participants were instructed to focus on the facial expressions and specific reactions of the audience rather than remembering how they felt during the speech. Contrary to the authors' expectations, video feedback of the audience's facial expressions did not lead to reductions in anxiety, and changes in anxiety levels were delayed in comparison to that of an exposure group. These results led the authors to suggest that socially anxious individuals might interpret the ambiguous, nonverbal feedback (i.e., the audience's facial expressions) in a negative manner because of their biased information processing. Thus, more explicit verbal feedback from an audience that highlights the saliency of the disconfirming evidence related to the socially anxious individuals' performance may be needed to increase its effectiveness. In a similar manner, Hirsch and Clark (2007) highlighted possible beneficial effects of audience feedback through a comparison of the objective ratings made by independent observers with the individuals' self-ratings to assist them to understand the discrepancy in the perceived noticeability of their anxiety symptoms.

Taken together, although video feedback with cognitive preparation and cognitive review does help participants to view their performance more positively, and decrease their anticipatory anxiety to perform in future social situations, to date, the effect of these techniques on state anxiety during social tasks has not been demonstrated (e.g., Orr & Moscovitch, 2010; Rodebaugh, 2004). It is yet to be determined whether

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