A demonstration of the efficacy of two of the components of cognitive therapy for social phobia

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Social phobia is a common and disabling condition, which in the absence of treatment typically follows a chronic and unremitting course (Bruce et al., 2005; Kessler, Berglund, et al., 2005; Kessler, Chiu, Demler, & Walters, 2005) and is associated with marked social and occupational handicap (Stein & Kean, 2000). Considerable progress has been made in developing effective treatments for social phobia. Within psychological approaches, the best-validated treatments are behavioral and cognitive-behavioral. Five meta-analytic reviews have summarized studies comparing behavioral and cognitive-behavioral conditions with various control conditions and concluded that both are effective treatments for social phobia (Chambless & Hope, 1996; Fedoroff & Taylor, 2001; Feske & Chambless, 1995; Gould, Buckminster, Pollack, Otto, & Yap, 1997; Taylor, 1996). Furthermore, individual studies have reported excellent maintenance of gains after the end of psychological treatment (e.g., Heimberg, Salzman, Holt, & Blendell, 1993; Liebowitz et al., 1999).

Although cognitive-behavioral treatments have been shown to be effective in social phobia, these treatments consist of a complex set of procedures and it is not clear which procedures are responsible for the good outcome. It is important to evaluate efficacy of individual treatment components independently of the overall treatment program for two reasons. First, while cognitive-behavioral therapies have been shown to be effective in social phobia, there remains room for improvement. All trials of cognitive-behavioral treatments have found that a proportion of patients remain symptomatic at the end of treatment and fail to reach an optimal level of functioning. Hence, evaluating individual treatment components may help to show how the efficacy of the treatment could be improved. A second reason for evaluating efficacy of individual treatment components is to make treatments as cost-effective as possible by eliminating any unnecessary procedures. Evaluations of individual treatment components may help identify which procedures should be included and which may be omitted from briefer, more cost-effective, versions of the treatment.

The aim of the present study is to evaluate the effects of two of the components used in Clark et al.’s (2003, 2006) version of cognitive-behavioral therapy.
of cognitive therapy for social phobia. Four randomized controlled trials have shown this cognitive therapy protocol to be effective in treating social phobia (Clark et al., 2003, 2006; Mortberg, Clark, Sundin, & Wistvedt, 2007; Stangier, Heidenreich, Peitz, Lauterbach, & Clark, 2003). The treatment involves carrying out a series of maneuvers in a given order. In the first session, the therapist and patient collaboratively derive a personal version of Clark and Wells’ (1995) model of the maintenance of social phobia using the patient’s own thoughts, images, anxiety symptoms, safety behaviors and attentional strategies. The following two sessions involve behavioral experiments that aim to demonstrate to the patient specific aspects of the model. It is the effects of these behavioral experiments that are the focus of investigation in the present study.

The first behavioral experiment, which is termed the “self-focused attention and safety behaviors experiment,” is usually carried out in the second treatment session and aims to demonstrate to patients the dysfunctional nature of the self-focused, evaluative attention and the safety behaviors that they normally engage in. This particular behavioral experiment involves two enactments of a difficult social task. During one enactment patients focus evaluative attention on themselves and use their safety behaviors. During the other enactment, they are encouraged to focus externally and non-evaluatively while dropping their safety behaviors. Afterwards, self-ratings of anxiety and performance are reviewed in order for the patient to draw conclusions about the effects of self-focus and safety behaviors in social situations.

The second behavioral experiment is the “video feedback experiment,” which is usually carried out in the third treatment session. This experiment involves showing patients the video of the enactments from the first experiment in order to evaluate whether their impressions of their own performance are excessively negative. More specifically, patients were asked to watch a video recording of the two enactments that they engaged in during the previous session (the self-focus and safety behaviors experiment), and to make ratings of how they expect to appear on the video and to compare these ratings with how they actually appeared. These ratings are reviewed by the patient and therapist in order to draw conclusions about the accuracy of their self-impression and thus demonstrate this component of the cognitive model of social phobia.

Previous research has shown that both the self-focus and safety behaviors experiment (McManus, Sacadura, & Clark, 2008) and the video feedback experiment can produce therapeutic effects in analogue populations (Harvey, Clark, Ehlers, & Rapee, 2000; Kim, Lundh, & Harvey, 2002) but their specific effects have not been evaluated in a clinical group. The present paper investigates whether the experiments have their intended effects in terms of:

(i) demonstrating to the patient that self-focused attention, safety behaviors, and excessively negative self-impressions serve to maintain social anxiety and,

(ii) reducing patients’ symptoms of social anxiety in the following week.

A common way of identifying whether a treatment procedure contributes to the overall effectiveness of a treatment program is to compare the effectiveness of the complete program with or without that particular procedure. This design, which was successfully used to decompose systematic desensitization (Teasdale, 1977), is most appropriate for treatments in which several components are delivered in parallel (e.g., exposure with and without cognitive restructuring) but cannot easily be applied to treatments, such as cognitive therapy for social phobia, that comprise specific maneuvers that are implemented in sequence rather than in parallel. For the treatment procedures evaluated in this study, it is not possible to remove them from the full treatment program and then evaluate its impact without them as subsequent procedures in the treatment program explicitly build on the lessons that patients learn during these two procedures. We therefore adopted an alternative approach in which the short-term effects of the target procedures are evaluated before additional procedures have been implemented. This strategy has previously been successfully employed to evaluate components of other cognitive-behavioral treatment programs (Fennell & Teasdale, 1984; Salkovskis, Clark, Hackmann, Wells, & Gelder, 1999; Salkovskis, Thorpe, Wahl, Wroe, & Forrester, 2003).

1. Method

1.1. Participants

Participants were 34 patients receiving cognitive therapy for social phobia either as part of the randomized controlled treatment trial (n = 20) reported in Clark et al. (2006) or, if they were not suitable for inclusion in the trial, as part of the routine clinical service at the Centre for Anxiety Disorders and Trauma at the Maudsley Hospital in London (n = 14). All participants received individual cognitive therapy following the protocol outlined in Clark et al. (2006). Any patients who were taking psychotropic medication had been maintained on a stable dose of medication for at least two months prior to beginning cognitive therapy.

All participants met Diagnostic and Statistical Manual for Mental Disorders-IV (DSM-IV; American Psychiatric Association, 1994) criteria for social phobia. Fifty percent of participants also met DSM-IV criteria for avoidant personality disorder and 52.9% were currently taking psychotropic medication. Diagnostic interviews used a combination of the Anxiety Disorders Interview Schedule (ADIS; Brown, Di Nardo, & Barlow, 1994) for DSM-IV and the Structured Clinical Interview for DSM-IV; Axis-I (SCID-I; First, Spitzer, Gibbon, & Williams, 1995) and Axis II disorders (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997). Clinical psychologists who had received extensive training in the ADIS and SCID conducted the interviews. Interviewer reliability was good (Kappa = .93) for the diagnosis of social phobia and moderate (Kappa = .74) for the diagnosis of avoidant personality disorder.

Participants’ mean age was years 31.3 years. 44.1% were female, 61.8% were working full-time, and 29.4% were married or cohabiting. All participants completed the following standardized measures at intake: the Liebowitz Social Anxiety Scale, Self-Report Version (LSAS-SR; Fresco et al., 2001), the Social Phobia Scale (SPS; Mattick & Clarke, 1998), the Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998), the Social Phobia and Anxiety Inventory-Social Phobia (SPAI; Turner, Beidel, Dancu, & Stanley, 1989), Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979) and Beck Anxiety Inventory (BAI: Beck, Epstein, Brown, & Steer, 1988). Means and (standard deviations) were as follows: SPS 30.9 (14.9); SIAS 41.2 (18.7); SPS 77.1 (28.1); BDI 11.7 (9.41) and BAI 15.18 (8.53).

1.2. Measures

1.2.1. Standardized measure of social anxiety

Participants completed the Social Phobia Weekly Summary Scale (SPWSS; Clark et al., 2003), prior to each treatment session throughout therapy. The SPWSS has good internal consistency (Cronbach’s α’ = .81) and has been shown to be sensitive to the effects of treatment (Clark et al., 2003, 2006; Mortberg et al., 2007). The SPWSS consists of 0–8 ratings of social anxiety, social
avoidance, self-focused versus externally focused attention, anticipatory processing and post-event rumination.

In addition to the SPWSS participants made ratings of the relevant variables on visual analogue scales, described below.

1.3. Design

For the self-focused attention and safety behaviors experiment the order of the 'with' and 'without' self-focus and safety behaviors conditions was counterbalanced across participants. The dependent variables were ratings of anxiety and self-perception that participants made during the behavioral experiments, and their scores on standardized measures of social anxiety at the start of the treatment session in which the behavioral experiment occurred and one week later, prior to the start of the next treatment session.

In the video feedback experiment participants viewed the videos of their role-plays in the self-focus and safety behaviors experiment in the order in which they were carried out. The order of viewing the 'with' and 'without' self-focus and safety behaviors videos was therefore counterbalanced across participants. The dependent variables were patients' ratings of their appearance during the role-plays taken before and after watching the videos and their scores on standardized measures of social anxiety prior to the treatment session and one week later, prior to the start of the next treatment session.

Of the 17 participants who had the 'with' self-focus and safety behaviors condition first, 11 were male and six were female. In the reverse order there were eight male and nine female participants. Participants in the two orders did not differ in age, gender, or in their scores on measures of anxiety, social anxiety, or depression.

1.4. Procedure

The study was carried out as part of participants' weekly cognitive therapy sessions. For the self-focused attention and safety behaviors experiment participants were asked to engage in a social situation that would make them moderately (around 50 on a 0–100 scale) anxious. This situation usually involved having a conversation with a stranger (another staff member in the clinic) but if the participant felt that that situation was not sufficiently anxiety provoking, or was excessively anxiety provoking, then the task was adapted to create a situation that would make the participant moderately anxious (e.g., give short talk to an audience of three, or have a video-taped conversation with their own therapist). In the 'with' self-focus and safety behaviors condition participants were asked to focus on themselves, monitor how they thought they were coming across and to use their idiosyncratic safety behaviors. In the 'without' condition they were asked to focus externally, on the conversation partner and the content of the conversation, not monitor how they think they are coming across, and to refrain from using safety behaviors.

Prior to taking part in the 'with' and 'without' self-focus and safety behaviors role-plays participants' social fears were identified by reviewing the idiosyncratic formulation of their social phobia that had been drawn out in the previous session (session 1) and their questionnaire responses. Participants were then asked to make predictions about what could go wrong during in press the social task and to rate how likely they thought this was to happen (from 0 'not at all likely' to 100 'extremely likely'). Participants' fears typically involved predicting that they would show symptoms of anxiety (e.g., blush, tremble, stutter, appear unacceptably anxious) and/or that they would come across badly (be revealed as boring, appear stupid, or run out of things to say). After specific social fears had been elicited, the relevant safety behaviors were identified by asking participants what they would normally do to try to prevent their feared outcomes from happening, from being noticed by others, and/or from leading to negative evaluation by others. Referring to the participant's questionnaire responses and the idiosyncratic formulation of their social anxiety often helped to identify further safety behaviors. Self-focused, evaluative attention was also identified as part of the participant's idiosyncratic formulation and for the purposes of this experiment participants were asked to either focus on themselves and monitor how they were coming across as they normally would when they were socially anxious ('with' self-focus condition), or to focus on the topic of the conversation and their conversation partner ('without' self-focus condition).

After each of the role-plays participants were asked to rate: how much they thought that their social fears came true ('how much did [patient's idiosyncratic fear] happen from 0 'not at all' to 100 'as much as possible'?'); how anxious they felt during the conversation ('how anxious did you feel from 0 'not at all' to 100 'totally'?'); how anxious they thought they appeared ('how anxious do you think that you appeared from 0 'not at all' to 100 'totally'?'); how well they think they performed ('how well do you think you performed from 0 'very badly' to 100 'very well''); and whether they experienced an image of how they came across (yes or no). As a manipulation check, participants were also asked to rate how much they used safety behaviors ('how much did you use the safety behaviors [patient's idiosyncratic examples] from 0 'didn't do any safety behaviors, any of the time' to 100 'did all my of safety behaviors, all of the time'?') and how self-focused they were ('how internally or externally focused were you from –3 'totally self-focused' to +3 'totally focused on external situation/other people'?').

After patients completed the 'with' and 'without' self-focus and safety behaviors role-plays their therapist reviewed their ratings with them and drew their attention to any differences in their ratings of the two conversations. The aim of the self-focus and safety behaviors experiment is to demonstrate the unhelpful effects of self-focus and safety behaviors on social anxiety and perceived performance. Once this point has been established, participants were asked to practice shifting to an external, non-evaluative focus of attention and dropping their safety behaviors as a homework assignment. In the following session (session 3), the video feedback experiment was carried out. Participants were asked to watch the video recordings of the two role-plays from the self-focus and safety behaviors experiment.

In order to maximize the therapeutic gains of watching the videos, participants were asked to use the cognitive preparation strategies identified by Harvey et al. (2000) as enhancing the therapeutic effects of video feedback: (1) to predict in detail what they would see on the video, (2) to form a detailed image of how they expected to appear on the video and (3) to evaluate their appearance on the video as they would evaluate a stranger. The overall aim of the video feedback experiment was to correct participants' distorted negative self-impressions thereby increasing their confidence about how they appear to others and thus reducing their social anxiety. This was achieved by asking participants to be as specific as possible about their negative self-impression (e.g., Exactly how red do you think you will appear from 0 'not at all red' to 100 'as red as possible'? How bad will the shaking be from 0 'no shaking at all' to 100 'shaking as severely as possible'? Exactly what will it look like? How long will it last?) then using video feedback to correct any distortion (e.g., pausing the video to compare how red the participant actually appeared with the shade they specified in advance). Because the video feedback occurred in the context of a cognitive therapy session, the way in which it was carried out varied according to the patient's
individual needs. For example, if watching the video once did not completely correct the patient’s distorted self-impression, therapist and patient may view the video again stopping at crucial points to identify whether particular feared outcomes really occurred. For example, after viewing the video once, a patient said that he paused for a very long time (5 s) during the conversation but viewing the video a second time revealed that his longest pause was barely longer than a second. The impressions of the other person(s) involved in the interaction may also be sought to supplement video feedback. If so, the other person(s) are asked to first write down their general impression of the patient and then to rate the extent to which they observed the particular things that the patient was afraid might happen (e.g., blush, sweat, boring, etc.). (It is important to note that the other person(s) are not informed of the patient’s concerns in advance so that they are not primed to look for those issues).

In reviewing the contents of the video participants are asked to compare both (i) what they expected to see with what they actually saw and (ii) any differences between the ‘with’ and ‘without’ self-focus and safety behaviors role-plays. These comparisons help to demonstrate to patients that their impressions of their behavior are excessively negative and that self-focused attention and safety behaviors are unhelpful.

2. Results

2.1. Self-focus and safety behaviors experiment

2.1.1. Manipulation check

In order to determine whether the self-focused attention and safety behaviors experiment was successful in manipulating the use of self-focus and safety behaviors, ratings of these two variables were compared in the ‘with’ and ‘without’ role-plays. Analyses of variance were used with order (‘with’ self-focus and safety behaviors first versus ‘without’ self-focus and safety behaviors first) as the between-subjects factor. The within-subjects factor was the condition (‘with’ versus ‘without’). For self-focus ratings there was a main effect of condition ($F(2, 33) = 62.30, p < .001$). Participants rated themselves as more self-focused in the ‘with’ condition than in the ‘without’ condition: mean (S.D.), $-1.23 (1.09)$ versus $42 (1.11)$. There were no significant effects order or of the interaction between condition and order. The same analysis was conducted for safety behavior ratings. There was a significant main effect of condition ($F(2, 33) = 42.61, p < .001$), with participants reporting that they used safety behaviors more in the ‘with’ condition than in the ‘without’ condition: mean (S.D.), $65.59 (18.53)$ versus $38.50 (20.25)$. There were no significant effects of order or of the interaction between condition and order. Hence, we can conclude that the manipulation was successful.

2.1.2. Experimental hypotheses

To investigate whether the self-focus and safety behaviors experiment had its predicted effects in terms of demonstrating to participants the unhelpful effects of self-focus and safety behaviors, participants’ ratings of social fears, anxiety, perception of anxious appearance and of overall performance, were compared in the ‘with’ and ‘without’ conditions (see Table 1).

For ratings of social fears, anxiety, anxious appearance, and performance, there were significant effects of condition but no significant effects of order, nor any significant interactions between order and condition. Compared to the ‘without’ self-focus and safety behaviors condition, participants in the ‘with’ self-focus and safety behaviors condition believed that their feared social outcomes had happened more, they felt more anxious, they rated themselves as looking more anxious and they rated their overall performance as poorer.

To determine the proportion of patients for whom the experiment worked, a composite rating was calculated for each condition. The composite rating was the mean of: the mean social fear ratings, the anxiety rating, the rating of anxious appearance, and the reverse of the overall performance rating. The rating of overall performance was reverse scored so that higher numbers indicated a more negative experience on all the variables. The experiment was considered to have been successful in demonstrating the adverse effects of self-focus and safety behaviors if the composite rating for the ‘with’ condition was more negative than the composite rating for the ‘without’ condition. Ninety-four percent of participants ($n = 32$) rated their experience during the ‘with’ self-focus and safety behaviors role-play more negatively than their experience during the ‘without’ role-play. The mean composite rating for the ‘with’ condition was $56.93 (16.52)$ and for the ‘without’ condition $37.55 (18.97)$, where a score of 100 would indicate that the participant felt as anxious as possible, believed they appeared as anxious as possible, believed their social fears totally, and perceived their performance to be as poor as possible.

Clark and Wells’ (1995) cognitive model implies that patients with social phobia are more likely to experience negative observer perspective images of how they appear to others when they are in a self-focused attention and self-monitoring mode. To examine this suggestion, we compared the frequency with which participants experienced spontaneously occurring self-images in the ‘with’ and ‘without’ self-focus and safety behaviors conditions using a Wilcoxon signed ranks test. There were no data on spontaneous images for 10 people, as this question was at the discretion of the therapist and only used when the therapist perceived it to be relevant to demonstrating the points in the self-focus and safety behaviors experiment. For the remaining 24 participants, $20 (83\%)$ reported experiencing an image of how they thought they were coming across during the ‘with’ self-focus and safety behaviors condition. In the ‘without’ condition only $13 (54\%$) participants reported experiencing an image. This difference is significant ($z = 2.64, p = .008$).

2.1.3. Summary of results from the self-focused attention and safety behaviors experiment

When focusing on themselves and carrying out their safety behaviors, as compared to when less self-focused or less engaged in their safety behaviors, participants with social phobia believed their social fears to have occurred more, felt more anxious, believed that they appeared more anxious, perceived their overall performance to be poorer, and were more likely to have a
spontaneously occurring image of themselves. The self-focus and safety behaviors experiment was successful in demonstrating the unhelpful effects of these variables in 94% of participants.

2.2. Video feedback experiment

The aim of the video feedback experiment is to demonstrate to patients that they come across better than their self-impression. To see if this aim was achieved dependent t-tests were used to compare participants' ratings of what they anticipated they would see on the video with their ratings after viewing and discussing the video. Results are shown in Table 2.

Following video feedback participants concluded that they came across as less anxious than they had predicted, that their social fears occurred less than they had predicted, and that their overall performance was better than they had predicted it would be. This pattern of results was observed in both the 'with' and 'without' conditions.

To compare the self-impression correcting effects of watching the 'with' and 'without' videos, distortion scores were calculated by subtracting participants' ratings after video feedback from their ratings before video feedback. Dependent t-tests were used to compare these difference scores in the 'with' and 'without' self-focus and safety behaviors conditions (see Table 3).

Participants showed greater improvements in their ratings of how much their social fears had occurred, and in their ratings of overall performance, in the 'with' condition than in the 'without' condition. Although the mean reduction in the rating of anxious appearance was also higher in the 'with' condition than in the 'without' condition, this difference failed to reach significance (p = .09). The greater improvement in self-impression that was produced by video feedback in the 'with' self-focus and safety behaviors condition may be due to the fact that spontaneously occurring negative self-images were particularly common in that condition and video feedback may be a particularly good way of disconfirming such images.

To determine the proportion of patients for whom the video feedback experiment worked, a composite score was calculated. The composite score was the mean of the ratings of anxious appearance, social fear beliefs and overall performance. Rating of overall performance was reversed so that higher ratings indicated a more negative appearance/performance on all variables. For 94% of participants (n = 32) their ratings after video feedback were less negative than before viewing the video. The mean (S.D.) composite score after video feedback was 29.95 (14.36) compared to 51.65 (15.88) prior to watching the video, where a rating of 100 would indicate that the participant believed themselves to look as anxious as possible, their social fears to have occurred as much as possible, and their performance to be as poor as possible.

2.2.1. Summary of results from the video feedback experiment

The video feedback experiment was successful in demonstrating that participants' impressions of how they were coming across were excessively negative, both to the group as a whole, and to 32 of the 34 (94%) participants. For most variables, participants' impressions of how they were coming across were even more excessively negative in the 'with' condition than in the 'without' condition.

2.3. Impact on social anxiety

In order to look at the impact of the two behavioral experiments on social anxiety, we compared participants' scores on the SPWSS at the start of the session in which a behavioral experiment occurred with their scores approximately one week later, at the start of the next session. Table 4 and Fig. 1 show the mean SPWSS

Table 2
Comparison of participants’ ratings of what they predicted that they would see with what they actually saw on the video.

<table>
<thead>
<tr>
<th>Measure</th>
<th>n</th>
<th>Predicted mean (S.D.)</th>
<th>After viewing mean (S.D.)</th>
<th>t</th>
</tr>
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<tbody>
<tr>
<td>With self-focus and safety behaviors video</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appeared anxious (0–100)</td>
<td>34</td>
<td>60.91 (21.41)</td>
<td>33.76 (23.77)</td>
<td>5.86</td>
</tr>
<tr>
<td>Mean social fear belief (0–100)</td>
<td>34</td>
<td>55.72 (19.32)</td>
<td>25.26 (16.88)</td>
<td>9.01</td>
</tr>
<tr>
<td>Performance (0–100)</td>
<td>32</td>
<td>36.45 (17.66)</td>
<td>54.67 (20.04)</td>
<td>−5.01</td>
</tr>
<tr>
<td>Without self-focus and safety behaviors video</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appeared anxious (0–100)</td>
<td>32</td>
<td>41.29 (25.82)</td>
<td>24.19 (19.45)</td>
<td>4.42</td>
</tr>
<tr>
<td>Mean social fear belief (0–100)</td>
<td>32</td>
<td>38.19 (20.88)</td>
<td>17.37 (14.85)</td>
<td>7.21</td>
</tr>
<tr>
<td>Performance (0–100)</td>
<td>31</td>
<td>53.83 (18.41)</td>
<td>64.67 (19.12)</td>
<td>−3.90</td>
</tr>
</tbody>
</table>

* p < .001.

Table 3
A comparison of the distortion scores for ratings of anxiety, social fears, and overall performance for watching the ‘with’ and ‘without’ videos.

<table>
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<tr>
<th></th>
<th>n</th>
<th>‘With’ self-focus and safety behaviors video</th>
<th>‘Without’ self-focus and safety behaviors video</th>
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</thead>
<tbody>
<tr>
<td>Distortion in rating of anxious appearance</td>
<td>32</td>
<td>24.87 (24.82)</td>
<td>17.10 (21.56)</td>
<td>1.76</td>
</tr>
<tr>
<td>Distortion in rating of social fears</td>
<td>32</td>
<td>30.14 (19.30)</td>
<td>20.81 (16.10)</td>
<td>2.59</td>
</tr>
<tr>
<td>Distortion in rating of performance</td>
<td>30</td>
<td>−17.41 (17.76)</td>
<td>−11.03 (15.43)</td>
<td>−2.25</td>
</tr>
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</table>

* p < .05.

Table 4
Means and standard deviations of participants’ scores on the SPWSS at the start of session 1 (immediately prior to session drawing out the model), session 2 (immediately prior to self-focus and safety behaviors experiment), session 3 (one week after self-focus and safety behaviors experiment, immediately prior to video feedback), and session 4 (one week after video feedback).

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<tbody>
<tr>
<td>SPWSS</td>
<td>4.69* (1.19)</td>
<td>4.89* (1.21)</td>
<td>4.58* (1.32)</td>
<td>4.00* (1.27)</td>
<td>2.05* (1.07)</td>
<td>28.2</td>
</tr>
</tbody>
</table>

Note. n = 34. Means with different superscripts differ at p < .05.

* * p < .001.
scores at different points in therapy. Two-way repeated measures ANOVAs were used to analyze the data, with the between-subjects variable being order and the within-subjects variable being time. There was a significant effect of time and no significant effect of order or the interaction between order and time. The self-focused attention and safety behaviors experiment occurred in session 2 and the video feedback experiment was in session 3. Paired comparisons between sessions 2 and 3 and between sessions 3 and 4 showed that both the self-focus and safety behaviors experiment, and the video feedback experiment were associated with significant reductions in the SPWSS in the following week. To determine whether these reductions could be specifically attributed to the content of these sessions, rather than simply being a non-specific effect of being in therapy, two further analyses were performed.

The first analysis compared change following the sessions in which the behavioral experiments occurred with the change following a control session. We choose session one as the control. This session involved developing with patients a personalized version of Clark and Wells’ (1995) cognitive model of social phobia as a template for the rest of therapy. We did not expect that simply developing the model would have an impact on social anxiety. Also session 1 occurred before the two experiments so its effects could be separated from their’s. Paired comparisons between participants’ scores at the start of session 1 and 2 confirmed that, in contrast to the two experiments, developing the model was not followed by a significant reduction in participants’ SPWSS scores.

The second analysis capitalized on the fact that many of the participants received their cognitive therapy as part of a controlled trial and those who did not followed exactly the same treatment protocol. The trial (Clark et al., 2006) compared cognitive therapy (CT) with exposure and applied relaxation (EXP + AR). The two treatments were delivered by the same therapists and did not differ in ratings of non-specific therapy factors such as the therapeutic alliance, treatment credibility and expectation of improvement. The first three sessions of both treatments were also closely matched in a number of other respects. For both treatments, session 1 involved developing a therapy specific rationale and model of the maintenance of social phobia. For both treatments, session 2 involved role-playing a difficult social situation twice. In CT, the role-plays were used to manipulate focus of attention and safety behaviors. In EXP + AR, the role-plays were presented as a habituation procedure so attention and safety behaviors were not explicitly manipulated. In session 3, both treatments included a major therapeutic intervention. For CT this was video feedback. For EXP and AR this was detailed training in an early stage of applied relaxation. Elsewhere, (Clark et al., 2006) we have reported the main post-treatment results, which demonstrated that after 14 sessions CT was more effective than EXP + AR on measures of social anxiety, including the SPWSS. We now compare participants’ SPWSS scores at the start of session 4 (i.e., after only three sessions) using analyses of covariance with participants’ scores at pre-treatment as covariates. Means (S.D.s) were: CT pre 4.85 (1.22); EXP + AR pre 4.62 (1.12); session 4, 3.95 (1.01). CT was superior to EXP + AR at session 4: F(1, 56) = 4.6, p < .05.

Given that the two behavioral experiments had a significant impact on social phobia, it is interesting to look at the magnitude of the impact. The mean improvement in SPWSS a week after the self-focus and safety behaviors experiment was 13.4% of the total improvement achieved in the 14 session protocol (see Table 4). The improvement in SPWSS over the two-week period from when the self-focus and safety behaviors experiment was carried out to one week after the video feedback experiment was 33.7% of the total improvement achieved in the 14 sessions of treatment.

3. Discussion

This study developed previous work demonstrating the roles of self-focus, safety behaviors and distorted self-impressions in maintaining social anxiety in analogue populations by showing their roles in a treatment-seeking clinical population. Furthermore, it demonstrates the value of two specific behavioral experiments in ameliorating the social anxiety arising from these factors. The main findings of this study can be considered in three categories: those that relate to the role of self-focused attention and safety behaviors in social phobia; those that relate to the nature of self-impressions in social phobia; and those that relate to the efficacy of the self-focus and safety behaviors experiment and the use of video feedback as therapeutic maneuvers. The results will be discussed under these headings.

3.1. The role of self-focused attention and safety behaviors in social phobia

Results of the current study demonstrate that self-focused attention and safety behaviors have unhelpful effects in social phobia. More specifically self-focused attention and the use of safety behaviors led participants with social phobia to think that their social fears were more likely to have occurred, to feel more anxious, to think they look more anxious, to rate their overall performance as poorer, and to be more likely to have a spontaneously occurring, negative image of themselves. Previous studies have demonstrated that self-focus and/or safety behaviors reduce the therapeutic efficacy of exposure (Wells et al., 1995; Wells & Papageorgiou, 1998) but this is the first study to evaluate the effects of behavioral experiments that are designed to give patients an insight into the adverse effects of self-focus and safety behaviors and to measure the impact of these behavioral experiments on the symptoms of social phobia in the coming weeks. The results provide support for cognitive models of social phobia (Clark & Wells, 1995; Rapee & Heimberg, 1997) in that they suggest that self-focused attention and safety behaviors are not only associated with social anxiety but also have a causal role in the maintenance of the disorder because social anxiety can be increased or decreased by manipulating these two variables.
3.2. Self-impression in social phobia

Previous studies (Alden & Wallace, 1995; Mulkins, de Jong, Dobbleaar, & Bogels, 1999; Rapee & Lim, 1992; Stopa & Clark, 1993) have shown that patients with social phobia have an excessively negative self-perception in the sense that they underestimate their social performance and overestimate the visibility of anxious symptoms, relative to observers. The present study builds on the analogue population studies of Harvey et al. (2000) and Kim et al. (2002) by demonstrating that video feedback can help patients develop a more positive self-impression. The results of the study also provide support for some of the hypothesized links between the different components of cognitive models of social phobia (Clark & Wells, 1995; Rapee & Heimberg, 1997). For example, the finding that when patients were more self-focused and used safety behaviors they more often experienced spontaneous negative images of how they were coming across, provides evidence for the hypothesized links between self-focus, imagery and safety behaviors (Hirsch, Meynen, & Clark, 2004).

The efficacy of the self-focus and safety behaviors experiment and the video feedback experiment as therapeutic maneuvers. This study aimed to evaluate the effects of two of the components of Clark et al.’s (2003, 2006) cognitive therapy for social phobia, namely the self-focus and safety behaviors experiment and the video feedback experiment. In line with expectations, both of these behavioral experiments had their intended effects in terms of demonstrating to patients the points in Clark and Wells’ (1995) model of the maintenance of social phobia that they were intended to demonstrate. These points were demonstrated both in terms of mean ratings to the group as a whole, as well as to 32 of the 34 participants. It was hypothesized that the insights that patients gained from the experiments would lead to clinical change. In line with this expectation, both the self-focus and safety behaviors experiment and the video feedback experiment were associated with significant reductions in social anxiety symptoms in the week following the session that they were carried out in. The possibility that the observed reductions in social anxiety following each of the behavioral experiments were entirely due to the non-specific effects of being in treatment was considered unlikely because of two further analyses. First, the cognitive therapy session that preceded the two behavioral experiments did not produce a reduction in social anxiety symptoms. Second, further analysis of the data from Clark et al.’s (2006) treatment trial showed that cognitive therapy was superior to exposure and applied relaxation after only the first three sessions, in which the two behavioral experiments are the main therapeutic maneuvers. Hence, it can be concluded that both the self-focus and safety behaviors experiment, and the video feedback experiment, have therapeutic efficacy in the treatment of social phobia.

Mean reduction in self-reported social anxiety in the week following the two behavioral experiments was 33.7% of the total reduction that was obtained with the full 14-session cognitive therapy protocol. This suggests that at least some of the other procedures that appear later in the treatment are also likely to have an important impact. However, it is of course possible that the two behavioral experiments alone may have had a more substantial effect if a longer follow-up period was allowed. Inspection of patients’ adherence ratings indicated that the self-focus and safety behaviors experiment was only partially successful in enabling patients to shift to an external focus of attention and reduce their use of safety behaviors. Subsequent procedures in the treatment protocol (such as attention training) aim to further develop patients’ ability to make these changes. However, further research could usefully focus on ways of enhancing the magnitude of the shifts in attention and safety behaviors that can be achieved in the experiment.

In contrast to the present findings, Smits, Powers, Buxkamper, and Telch (2006) failed to show an improvement in social anxiety symptoms following video feedback. However, there are important differences in the way in which video feedback was carried out in the two studies. In particular, the Smits et al. (2006) video feedback intervention was embedded within a repeated exposure, habituation rationale based intervention. Patients gave multiple public presentations within a single treatment session followed by viewing the video of their presentation. From the timings it appears that each video feedback procedure lasted little more than 5 min including completing ratings and was not specifically tailored to disconfirming patients’ idiosyncratic beliefs. In contrast, in the present study, video feedback alone took up all of a 60-min session and involved very extensive discussion of perceived discrepancies between patients’ self-impressions and the video and also utilized feedback from other participants in the original interaction. Considerable attention was paid to setting up the video feedback in a way that would maximize disconfirmation of individual fears. For example, patients who were concerned about blushing would be asked to predict in advance exactly how red they would go, and to specify what the consequences of this would be. A range of shades of red would be placed in view of the camera so that the patients could subsequently point to the shade that they believed represented the severity of their blush. Invariably they pointed to a much darker shade than their own blush. Similar maneuvers were used for fears of shaking, stuttering, and sweating.

3.3. Limitations

It is strength of the current study that it used a population of clinically referred patients with social phobia. However, the fact that the study was carried out as part of routine treatment (either in a National Health Service clinic or in a grant funded treatment trial) also gives rise to some limitations. The self-focus and safety behaviors experiment is a composite procedure in which the effects of self-focus and safety behaviors cannot be individually examined. The results could be accounted for by the effects of reducing safety behaviors alone, or by the effects of reducing self-focused attention alone, or by a combination of the two procedures. However, in practice it is unlikely that it would be possible to examine the effects of these two variables separately—it is hard to imagine not also becoming self-focused if you engage in the safety behaviors that are typical of social anxiety (e.g., planning and rehearsing what to say, monitoring how you are coming across). The fact that the behavioral experiments were embedded in a longer treatment protocol means that it was not possible to assess their long-term effects. Similarly, it is a limitation that only self-report measures were obtained on a weekly basis and, as a consequence, assessor ratings of the effects of the two experiments were not available. However, it should be pointed out that independent assessor and patient self-report measures revealed a very similar pattern of results for the full treatment protocol (Clark et al., 2003, 2006).

References
