

Interview Anxiety: Taking the Perspective of a Confident Other Changes Inferential Processing

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Abstract. Previous research with an on-line processing task found that individuals without social anxiety generate benign inferences when ambiguous social information is encountered, but people with high social anxiety or social phobia do not (Hirsch and Mathews, 1997, 2000). In the present study, we tested if it is possible to induce a benign (or less negative) inferential bias in people who report anxiety about interviews by requiring them to take the perspective of an interview confident person, rather than their own. High interview anxious volunteers were allocated to read descriptions of job interviews, either taking their own perspective in the described situation or that of a confident interviewee. At certain points during the text, a target letter string appeared and participants were asked to indicate whether it formed a word or a non-word (lexical decision). Some of the lexical decisions occurred in the context of ambiguous text that could be interpreted in both a threatening and a benign manner. In a baseline condition, decisions were made following text for which there was only one possible inference (either threat or benign). The results indicated that, compared to the self referent condition, participants who adopted the perspective of a confident other person showed enhanced inhibition of threat inferences.

Keywords: Social anxiety, interpretation, inferences, self-reference, imagery.

Introduction

People with social phobia typically fear social situations such as meeting new people and public speaking. The fear often persists despite regular exposure to unavoidable social contacts in which the socially anxious person rarely receives explicit negative feedback from other people. Understanding the mechanisms that maintain the disorder is important in developing more effective therapeutic interventions for social phobia.

Individuals with social phobia are distinguished from people without social anxiety by two cognitive processes: negative self-images that are experienced whilst in social situations

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(Hackmann, Surway and Clark, 1998); and the lack of a normal benign inferential bias when encountering ambiguous social information (Hirsch and Mathews, 2000). It is postulated in this article that the two effects may be related. Negative self-imagery in social phobia may block the normal bias to generate benign interpretations of social situations.

Many social situations are inherently ambiguous and can be interpreted in either a relatively benign (i.e. either neutral or positive) or threatening way. For example, if a person smiles at a remark that you make during a conversation, this could be taken to indicate approval (a benign interpretation) or derision (a threatening interpretation). Most of the research investigating interpretation biases in social phobia has utilized self-report measures and results suggest that people with social phobia tend to make threatening interpretations about ambiguous social events (e.g. Amir, Foa and Coles, 1998; Stopa and Clark, 2000). In the study by Amir et al. (1998) patients with social phobia, those with other anxiety disorders, and non-clinical controls were required to read ambiguous scenarios. The scenarios described either social or non-social situations, and participants read them either in relation to themselves, or in relation to a "typical person". The results indicated that patients with social phobia had a specific bias to make threatening interpretations of ambiguous social situations, but not of non-social situations. Furthermore, this threat bias was only evident for the self referential condition. No such bias was apparent in the other anxiety disorders group, or for the non-clinical controls. Stopa and Clark (2000) reported results that were broadly consistent with Amir et al.'s (1998) findings with ambiguous scenarios and also demonstrated that patients with social phobia make catastrophic interpretations in response to scenarios depicting mildly negative social scenarios. Hence, there is evidence to suggest that individuals with social phobia may have a specific threat interpretation bias for social information, encoded in reference to themselves. Although informative, the self-report methodology employed by Amir et al. (1998) and Stopa and Clark (2000) is not able to distinguish between two clinically and theoretically relevant alternatives. The interpretations may be generated at the time that the ambiguous social information is initially encountered (i.e. on-line), or only later on reflection about the social event (i.e. off-line). Individuals with social phobia frequently ruminate about social events after they have left the situation (Clark and Wells, 1995; Rachman, Grueter-Andrew and Shafran, 2000) and before entering a new social situation and it may be at these times that threatening interpretations of previous social encounters are generated.

In contrast to the self-report findings, research utilizing a laboratory "on-line" processing paradigm has indicated that while non-clinical controls generate benign inferences, people with social phobia make neither threatening nor benign inferences. Hirsch and Mathews (1997) conducted a series of experiments to investigate whether individuals with high or low levels of anxiety about interviews made interpretative inferences while reading descriptions of being interviewed for a job. At emotionally ambiguous points in the text, low anxious individuals were faster to endorse words that corresponded to benign rather than threatening interpretations. High anxious participants were equally slow to endorse words corresponding to either benign or threat inferences. This evidence was taken to support the hypothesis that non-anxious individuals infer benign outcomes to ambiguous social events, while highly anxious individuals do not.

In a further experiment, Hirsch and Mathews (2000) obtained similar results with patients suffering from social phobia. This experiment included an additional baseline condition, in which sentences were added that were designed to ensure that all readers should arrive at the same inference (see later Materials section for examples). At points of emotional ambiguity,

non-patient volunteers endorsed words corresponding to benign interpretations as rapidly as they did in the baseline condition. However, the same participants were significantly slower to endorse probe words corresponding to a socially threatening inference. Since the baseline was designed to provide an estimate of latencies when an inference had almost certainly been made, this implies that non-anxious participants made benign, but not threatening inferences. In contrast, patients with social phobia did not show any such evidence of on-line inferences at points of emotional ambiguity. In an ambiguous context, participants with social phobia were significantly slower to endorse words corresponding to either threat or benign interpretations than they were in the baseline condition. It was concluded that social phobia is associated with a failure to generate any on-line emotional inferences in ambiguous social situations.

The benign inferential bias evident in individuals without social phobia could be beneficial for these individuals. Benign interpretations may help them maintain self-esteem as well as low levels of anxiety, which may, in turn, make further benign interpretations more likely. Hence, a benign cycle may operate to help prevent social anxiety from developing. If so, developing a similar benign inferential bias in socially anxious individuals may be therapeutically helpful.

As discussed above, another cognitive phenomenon that distinguishes individuals with and without social phobia is negative self-imagery. People with social phobia report negative images or impressions of themselves performing poorly in social situations, whereas people without social phobia do not (Hackmann et al., 1998). It is possible that negative self-imagery/impressions may be one way in which benign on-line inferences are blocked in people with social phobia. Consistent with this suggestion, Hirsch, Mathews, Clark, Williams and Morrison (2003) demonstrated that when low socially anxious people were required to hold negative self-images in mind during the task used by Hirsch and Mathews (2000), this blocked their normal benign inferential bias. It is therefore possible that if the negative self-processing, perhaps in the form of negative images/impressions were less evident, then inferences made by socially anxious individuals might be normalized. One way in which this might be achieved is if an interview anxious person were to imagine a confident interviewee in the interview situation rather than themselves.

In the present study, volunteers reporting high levels of anxiety in interviews were required to perform the on-line inferential task used by Hirsch and Mathews (2000). Participants read descriptions either in relation to themselves (Self Referent) or in relation to another confident interviewee (Other Referent). It was predicted that, in keeping with Hirsch and Mathews (2000), highly interview anxious volunteers reading descriptions of interviews in relation to themselves would not generate on-line inferences. However, when reading in relation to a confident interviewee, we predicted that the more benign inferential bias usually present in non-anxious individuals would emerge, even in the anxious participants.

Method

Design

Participants who reported high interview anxiety were randomly allocated to read descriptions of imaginary interviews in which the interviewee was described either as themselves (Self Referent) or as someone else who was very confident in interviews (Other Referent). The Other Referent group read six long descriptions about a confident person being interviewed

for jobs, while imagining this person in each interview situation. The Self Referent group read the same descriptions, but phrased in the first person, while imagining themselves in the interview situation. During the descriptions, participants responded as quickly as they could to word or non-word lexical decision probes that appeared unpredictably at critical points in the text. A given set of word probes included both threatening and benign resolutions to the ambiguous incomplete sentence that they followed. Decision latencies for these probes were taken to reflect the availability of the corresponding emotional inferences.

Within a counter-balanced design, another set of word probes were presented at different points, where they represented the only possible inference from the preceding text. This provided a baseline measure of the latency when a corresponding inference should be highly accessible to all participants. A comparison of latencies for probes following emotional ambiguity and the baseline latencies could then be used to assess whether emotional inferences had been made on-line. That is, if inferences had been made from the preceding ambiguous text, then decision latencies should be similar to baseline values. If such inferences had not been made, however, then decision latencies following ambiguity should be significantly slower than baseline.

Participants

Participants were 32 students and staff recruited through local universities and colleges who had completed a 20-item set of statements found in earlier work (Hirsch and Mathews, 1997, 2000) to distinguish between people high and low in anxiety about interviews (Interview Anxiety Questionnaire, IAQ, for development details see Hirsch and Mathews, 1997). Each item (e.g. "When I have an interview, I get so nervous I forget facts I really know") was rated on a 5-point scale from "strongly agree" to "strongly disagree", with maximum anxiety thus corresponding to a score of 100. The internal consistency of the IAQ is high (Cronbach's Alpha = .90). To ensure that participants in the present experiment were particularly anxious about job interviews, they were required to score 75 or higher on the IAQ at screening.

Participants' data were included in the study if, on the day of testing, they still had a score of 75 or above on the IAQ and also met the following criteria (as used to select control subjects by Hirsch and Mathews, 2000): a score of 75% or more on the comprehension questions that followed the interview descriptions (see later under Materials); and more than 66% correct lexical decisions for each type of probe trial. In addition, National Adult Reading Test (NART; Nelson, 1982) error scores had to be 28 or below to ensure adequate reading ability.

Thirty-two participants were randomly allocated to each group ($N=16$; 3 men) with the final five participants in each group being allocated on the basis of predetermined criteria to minimize group differences on IAQ and Trait-STAI. The criteria were drawn up by a member of the research team who did not meet the participants. Participant characteristics are shown in Table 1. The groups that performed the self referential and other referential tasks comprised 13 women and 3 men and groups did not differ in age, scores on the IAQ, Trait form of the State-Trait Anxiety Inventory (STAI: Spielberger, Gorsuch, Lushene, Vagg and Jacobs, 1983), Fear of Negative Evaluation questionnaire (FNE: Watson and Friend, 1969), Social Phobia and Anxiety Inventory (SPAI: Turner, Beidel, Dancu and Stanley, 1989), Beck Depression Inventory (BDI: Beck and Steer, 1987) and the NART (see Table 1).

Table 1. Participant characteristics means (standard deviations in parentheses)

	Other Referent		Self Referent		<i>t</i> (30)
	M	(SD)	M	(SD)	
IAQ	84.00	(7.82)	83.50	(6.38)	.84
Trait-STAI	53.75	(9.36)	52.19	(9.54)	.64
FNE	24.75	(4.01)	24.19	(6.60)	.77
SPAI	90.00	(23.97)	95.58	(23.21)	.51
BDI	11.63	(6.15)	10.69	(5.46)	.65
NART	17.93	(3.67)	18.93	(4.11)	.49
Age	25.75	(6.52)	25.60	(7.36)	.95

Note: IAQ = Interview Anxiety Questionnaire; STAI-T = State-Trait Anxiety Inventory; FNE = Fear of Negative Evaluation questionnaire; SPAI = Social Phobia and Anxiety Inventory; BDI = Beck Depression Inventory; NART = National Adult Reading Test error score.

Materials and apparatus

Experimental descriptions. Eight texts were presented. These were two short practice descriptions of common social situations and six descriptions of interviews for different types of job (varying from a position in a bank to a supermarket checkout).

There were two versions of the interview descriptions. The set used in the Self Referent condition, written in the first person, were identical to those used by Hirsch and Mathews (2000) and ranged in length from 528 to 690 words, and from 93 to 137 lines of text. We thought that it might be difficult for an interview anxious person to think of themselves as a confident interviewee, but that he or she might be better able to imagine another person who is confident in a situation in which they themselves would feel anxious. Hence, in order to maximize the likelihood that individuals could keep a confident interviewee in mind, the protagonist was described as a confident person of the opposite sex. The sets used in the Other Referent condition were revised only in that they were written in the third person about Donald (for female participants) or Joyce (for male participants). Participants in the Other Referent condition read about someone of the opposite gender to reduce the chance that they would read the description in relation to themselves.

The initial computerized instructions for the Other Referent participants reading about a confident interviewee were as follows:

The descriptions are about Joyce, a very calm and self-assured woman who comes across well in interviews and does not get anxious. Before you read a description you will be told its theme. Please can you try and imagine Joyce in the situation. Think about how she would feel in the situation and what she would be thinking. Think about what may possibly happen in the situation. Then when you have thought about this you should read each description as if it was really happening to Joyce at this moment. So all the time think about how she would be reacting in that situation.

The instructions for the Self Referent group were as follows:

Before you read the description you will be told its theme. Please can you try and imagine that you are in that situation. Think about the situation and how you would feel in it and what you would

be thinking. Think about what may possibly happen in the situation. Then when you have thought about this you should read each description as if it was really happening to you at this moment. So all the time think about how you would be reacting in that situation.

Each set (Self or Other) consisted of eight experimental descriptions that included a total of 48 probe words of which, in their ambiguous contexts, 24 were designed to correspond to a threatening inference and 24 to a benign inference, matched for word frequency (see Hirsch and Mathews, 2000 for a list of probe words). The 24 threatening and 24 benign probes were then further subdivided into two matched subsets, so that a subset could be assigned to each of the two context conditions (ambiguous vs. unambiguous baseline), with the subset assigned to each condition being counter-balanced across participants within groups (see Hirsch and Mathews, 2000, for more details). Each experimental description included eight word and eight non-word probes, embedded within a continuous description.

In the ambiguous condition, at critical ambiguous points in the text, probes were presented that corresponded to either a threatening or benign inference. For example, one critical incomplete sentence and following threat interpretation probe from the Other Referent text was:

- (1) Joyce wonders if, when she is in the interview, all her preparation will be
- (2) forgotten [probe for threatening inference].

The probe for a benign inference in the same context was “useful”.

In the baseline condition, probe words appeared at points in the text, where they corresponded to inferences that would be highly accessible for all readers. An example of a baseline sentence, designed to elicit the inferred probe word “forgotten”, is shown below.

- (3) If it is important to remember a particular detail, then it is annoying if it is
- (4) forgotten.

In addition to the 48 critical word probes, there were also 48 non-word probes constructed by replacing letters from 24 threat and 24 benign words, which were equivalently placed in either ambiguous and baseline contexts. After a non-word probe was presented, a neutral completion of the sentence was provided. For example:

- (5) The interviewer asks Joyce to tell them more about her last job and she thinks this means that they are
- (6) agreeing [to-be-rejected non-word probe]
- (7) listening. They then . . . [continuation]

At the end of each description, three verification questions, unrelated to the probe trials, were presented as a check on comprehension.

State anxiety. After completing the computerized reading task, participants completed the state form of the State-Trait Anxiety Inventory (STAI: Spielberger et al., 1983) in relation to how they felt whilst reading about the interviews.

Apparatus. Descriptions were presented on a Compaq E500 portable computer, with the screen approximately 35 centimetres from the participant, controlled by Micro Laboratory software, (Schneider, 1988). Each line of text, or probe word, was revealed when participants pressed the “arrow down” key (labelled “A” for advance) on an external keyboard, positioned in front of the participant. Yes/no lexical decision and comprehension responses were made by pressing the right and left arrow keys (labelled Y and N respectively). When an incorrect

response was made, or if there was no response within two seconds, a computer-generated tone signalled the error.

Procedure

Participants were seated in front of the computer, with their fingers on the advance, Y and N keys, and asked to read the instructions on the screen. They were instructed that their main task was to answer correctly the comprehension questions at the end of each description and that the secondary task was to indicate, as quickly as possible, whether probes that appeared during the text were English words or not.

Participants then read the two practice descriptions. After this the experimenter left the room, and the six interview descriptions were presented in a random order determined by the program. Each situation was first briefly introduced, and Self Referent participants were reminded to imagine themselves in that situation whilst reading, while Other Referent participants were reminded that they were reading about a person who is very confident in interviews. While reading the actual descriptions, each time the advance key was pressed a new line of text appeared, masking the previous line, until a probe trial occurred. This began with a warning signal 'N ← → Y' for 750 ms, indicating that a lexical decision trial was beginning, followed by the presentation of a probe word or non-word until the participant responded, or two seconds had elapsed. After another one-second pause the next line of text appeared. The probe trials varied unpredictably throughout each text, and were separated by varying numbers of lines, so that appearance of the next one could not be anticipated.

After each description had been completed, the three comprehension questions were presented. After the final description had been read, the experimenter returned to the room. Participants then completed the State version of the STAI, in relation to how they had felt whilst reading about job interviews, the IAQ, the Trait version of the STAI, the NART, FNE, BDI and SPAI. Finally, all participants were paid £10 for participation.

Results

State anxiety

State anxiety scores were obtained immediately after completion of the reading task and with instructions that they should be based on mood at the time of reading the descriptions about job interviews. A *t*-test performed on the State STAI data indicated that state anxiety did not differ significantly between the Other Referent and Self Referent groups, $t(30) = 1.14$, *ns*, 48.31 (*SD* 9.78) vs. 52.50 (*SD* 10.99).

Accuracy data

Self Referent and Other Referent groups did not differ in their percentage of correct responses to the text comprehension questions (for Other Referent group mean = 84.50%, *SD* = 6.04; for Self Referent group, mean = 87.31%, *SD* = 6.50; $t(30) = 1.27$, *ns*). Participants made very few errors on the lexical decision task, with an average of 95.54% (*SD* 4.07) correct and some subjects making no errors.

Table 2. Means of median decision latencies in milliseconds (standard deviations in parentheses). NB: Larger difference scores are consistent with less inferences

	Other Referent		Self Referent	
	M	(SD)	M	(SD)
Threat probes				
Ambiguous context	1014	(194)	917	(279)
Baseline condition	890	(163)	876	(239)
Difference	124	(82)	41	(84)
Benign probes				
Ambiguous context	938	(202)	900	(283)
Baseline condition	878	(180)	821	(269)
Difference	60	(53)	79	(85)

Latency data

Only latencies for correct word probes responses were analysed, as our hypotheses did not concern rejection times for non-word probes. The reaction time data were positively skewed due to the occurrence of a few extremely long latencies. A variety of approaches are commonly used to deal with reaction time outliers (see Ratcliffe, 1993 for a thorough discussion). It is common practice for research groups to vary the approach and criteria they use to deal with skewed data across different experiments. Our group has typically used median reaction times in the analysis of lexical decision reaction times. However, when the present data were analysed using medians, the three-way interaction between Group (threat vs. benign) and Context (ambiguous vs. baseline) did not reach significance at the 5% level, $F(1, 30) = 2.27, p = .14$. A more common approach to deal with reaction time data has been to exclude response times over a specified number of standard deviations away from the mean. Following this method, long out-lying latencies values more than 2.5 standard deviations above a given volunteer's mean were removed (2.7% of the data), thus normalizing the distribution. Means of trimmed latencies are shown in Table 2. Table 2 also includes difference scores calculated (mean latency for ambiguous context – mean latency for unambiguous baseline context) for both for threat and benign probes. Smaller difference scores are taken to reflect more generation of inferences in the ambiguous context (i.e. similar to the baseline in which inferences were assumed to have occurred), whilst larger difference scores indicate that any inferences made were less marked (i.e. latencies were slower than the baseline).

Analyses were performed on the mean trimmed latencies for correct responses to probes corresponding to threatening and benign inferences, within each context condition. A mixed model ANOVA was performed on the latency data with group (Other Referent vs. Self Referent) as the between-participants factor, and probe valence (threat vs. benign) and context (ambiguous vs. baseline) as within-participant factors.

There was no significant main effect of group, $F < 1$, but as expected, there was a significant main effect of context, $F(1, 30) = 44.22, p < .001$, with faster reaction times for probes in the baseline condition than in an ambiguous context (866 vs. 942 ms.). There was also a significant main effect of probe valence, $F(1, 30) = 15.36, p < .001$, with faster reaction times for benign than threat probes (884 vs. 924 ms.). However, both of these effects were

qualified by a significant three-way interaction between group, probe valence and context, $F(1, 30) = 11.51, p < .01$.

To investigate this three-way interaction, separate repeated-measure ANOVAs were performed on latency data from the Self and Other Referent groups. For the Self Referent group, there were main effects of context, $F(1, 15) = 12.63, p < .01$ (baseline faster than ambiguous, 848 vs. 909 ms) and of probe valence, $F(1, 15) = 7.64, p < .05$ (benign faster than threat, 861 vs. 896 ms). However, there was no significant interaction between probe valence and context, $F(1, 15) = 2.24, p = .16$. The significant main effect of context in the Self Referent group is consistent with the suggestion that neither type of inference was made as frequently in the emotionally ambiguous context as in the baseline condition. The lack of a significant interaction with type of probe indicates that the extent to which inferences were made did not differ reliably between probes implying threatening versus benign meanings.

The same analyses was conducted on the Other Referent data and this again revealed a significant main effects of probe valence, $F(1, 15) = 7.86, p < .05$, with faster reaction times for benign than threat probes (908 vs. 952 ms.). Similarly, there was a main effect of context, $F(1, 15) = 35.84, p < .001$, with faster reaction times for baseline than ambiguous probes (884 vs. 976 ms.). In contrast to the Self Referent group, however, analysis of data from the Other Referent group revealed a significant interaction between probe valence and context, $F(1, 15) = 16.13, p < .001$. Bonferroni corrected paired comparisons were conducted to investigate this interaction. Latencies to identify threatening versus benign probe words did not differ when they were in the unambiguous baseline context, 890 vs. 879 ms., $t < 1$. In contrast, when probes were presented in an emotionally ambiguous context, threatening probes were identified more slowly than were benign probes, 1014 vs. 938 ms., $t(15) = 5.14, p < .01$. Hence, differences across probe type in the baseline condition were small and unreliable. The significantly slower response to threat than benign probes in the ambiguous context, implies that the Other Referent group were less likely to make threatening than benign inferences.

Discussion

Our previous research has established that socially confident individuals tend to make benign inferences when reading about emotionally ambiguous social situations such as interviews (Hirsch and Mathews, 1997, 2000). In contrast, socially anxious individuals fail to make similar inferences “on-line” (that is, as they read), perhaps due to interference from self-referential processing in the form of negative self-images/impressions. We have also shown that inducing similar images in non-anxious people blocks their usual benign inferential style (Hirsch et al., 2003). Thus, it seemed possible that the presence of self-referential encoding associated with negative self-images/impressions may contribute to the absence of on-line benign inferences seen in socially anxious individuals. If so, we supposed that inferences made by interview anxious individuals might be normalized by asking them to imagine a confident interviewee in the described situation rather than themselves.

In the present experiment, as predicted, the high anxiety group again failed to show any evidence of a benign inferential bias when reading descriptions of interviews while imagining themselves as the interviewee. In the analysis of Self Referent data alone, there was a significant main effect showing that latencies in ambiguous contexts were slower than those in the baseline condition, suggesting that the self-reference tended to restrict inferences in general. This main effect was not significantly qualified by the emotional valence of the probe but, if anything,

the difference between latencies in ambiguous versus baseline context was greater for benign probes. That is, although the interaction was not significant, the direction of means was even less consistent with benign than with threatening inferences.

The main novel aspect of the present investigation was the manipulation of whom the participant was asked to imagine in the described situation. Instructions to imagine a confident interviewee had a significant effect on the latencies to endorse threatening probes when presented at times of emotional ambiguity in the text. That is, the instructions to shift from the usual Self Referent perspective to a confident Other Referent perspective led to significant slowing of identification latencies, specifically for threatening probes. By implication, therefore, this shift in perspective made threatening inferences even less likely to be made than when adopting a Self Referent perspective. In contrast, and contrary to prediction, for probes corresponding to benign inferences the request to shift to a confident-other perspective did not have significant effects, despite the means being in the direction to be predicted if benign inferences were increased in this condition. Perhaps, shifting to another's perspective makes the threatening self-concepts of interview anxious people become less accessible, but it is more difficult to make incongruent benign concepts become more accessible.

It is not clear exactly how the process of reading in relation to a confident other person blocks threat inferences. The groups did not differ in levels of state anxiety during the task, so mood state effects do not seem a likely explanation. Equally, it does not seem likely that this effect can be attributed to the increased mental load caused by having to hold an unusual concept in mind (i.e. imaging a confident other). Any general restriction of available working memory capacity should have decreased benign as much as threatening inferences, whereas in fact benign inferences were not reduced. The actual effects observed suggests that imaging a confident person in the described situation specifically opposed the production of threatening inferences, presumably reflecting the incompatibility between the concepts involved.

It remains unclear why instructions to image a confident person did not lead to more benign inferences being generated. One possible explanation for the lack of benign inferences is that, although threat concepts were made less accessible, individuals with high interview anxiety may not have a sufficiently developed understanding of how confident interviewees respond and interpret social situations such as interviews. That is, although they know in principle that the person feels confident in interviews, they may not have fluent access to the concepts on which that confidence is based. If so, then it may be necessary to improve access to the concepts supporting social confidence before a normal benign inference style can be established.

Another possible explanation for the lack of benign inferences in the Other Referent group is that the participants who were required to imagine a confident interviewee were not able to hold this in mind well enough to facilitate benign inferences, but that they were able to do it to the extent that threat inferences were blocked. Although participants were reminded before each description to imagine either themselves or a confident interviewee (depending on the condition to which they were allocated) in the described situation, unfortunately we did not obtain an assessment of the extent to which they complied with the instructions. Future research should assess this.

Throughout this paper we have discussed the lack of speeding in response to benign probes presented in ambiguous contexts as indicating an absence of benign inferences. Alternatively, a number of inferences may have been generated simultaneously (including benign inferences), but due to the inhibitory process from competing inferences, this may not have activated

benign concepts enough to produce facilitation on the lexical decision task. Further research is needed to distinguish these two possibilities.

The current study is the first to investigate the conditions under which interview anxious individuals' on-line inferential bias could be changed. Having established that asking interview anxious participants to read in relation to another person who is confident in interviews changes the inferences generated, there are a series of issues that can be addressed in further research. It would be interesting to see if similar results are evident if the confident interviewee was of the same sex as the participant, or even if the participant imagined themselves as confident in interviews, although we believe that the latter may be particularly difficult for the interview anxious person. It would also be interesting to see whether inferences generated by patients with social phobia could be changed by requiring them to read in relation to a confident person. Such research could also include control groups of patients with anxiety disorders other than social phobia, matched for trait anxiety, to clarify whether the findings are attributable to social concerns, rather than high levels of general anxiety. Another research question is whether the effect is specific to interviews. This would require a replication, perhaps with socially anxious volunteers being presented with different types of materials; interview material, social material (not related to interviews) and non-social material, with the expectation that the effects would be evident for interview and social material, but not for non-social material.

We have previously speculated (Hirsch and Mathews, 2000) that a benign inferential bias may sustain a feedback cycle that serves to maintain self-esteem, and reduce social anxiety. Investigating a non-socially anxious population, Mathews and Mackintosh (2000) found that both threat and benign interpretative biases can be induced via repeated access to the valenced meaning of text-based material. Consequently, it may be possible to train people with social phobia to develop a more benign inferential bias, with beneficial consequences. It is feasible that during the initial phase of training, including a component of imagining a confident other person may be useful, since this may make threat inferences less accessible. After this initial training, then a phase of inferential training involving imagining themselves as a socially confident person could be introduced, in order to ensure that a benign inferential bias could be developed in relation to themselves. Further work will be needed to explore whether refining inferential training in this way could benefit people with social phobia.

In conclusion, the current study investigated inferences in interview anxious individuals who either read descriptions of interviews in relation to themselves or with reference to a confident interviewee. The results provide evidence that holding the image of a confident other in mind helps to make threat concepts less accessible, but it was not clear that benign concepts were made correspondingly more accessible. We suggest that this latter effect may be achieved in further research on practice in accessing the benign concepts that underlie social confidence.

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