Social anxiety in children: social skills deficit, or cognitive distortion?

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Received 7 July 2003; received in revised form 25 November 2003; accepted 5 December 2003

Abstract

Background. Treatments for childhood social anxiety have traditionally employed social skills training, based on the assumption that effected children have social skills deficits. Recent conceptualisations of social anxiety in adults have questioned this assumption, and have suggested that socially anxious individuals merely believe that they have skill deficits. A recent study using children provided preliminary confirmation of this for younger populations, and also suggested that beliefs about appearing nervous are of particular importance.

Methods. Two groups of children, aged 10–11 years (analogue high social anxiety/low social anxiety), participated in a conversation with an unfamiliar adult. They then rated their performance in a number of domains, after which independent observers also rated their performances.

Results. Independent observers were unable to distinguish between the low and high social anxiety groups. However, high socially anxious children rated themselves as appearing significantly less skilled than their low socially anxious counterparts. Notably, high socially anxious children rated themselves particularly poorly in terms of how nervous they looked.

Conclusions. Socially anxious children may not necessarily display social skill deficits. However, they may believe that they appear nervous during social encounters. Clinicians should consider using CBT techniques to address these concerns, rather than relying on social skill remediation.

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Keywords: Social skills; Social anxiety; Children

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1. Introduction

There has been a widely held assumption that people suffering from social anxiety are experiencing some kind of social skills deficit, and the treatment of choice for this client group has, therefore, been ‘social skills training’ (e.g. Bijstra & Jackson, 1999; Hayward et al., 2000; Spence, Donovan, & Brechman-Toussaint, 2000). This approach has met with some success, which has often been interpreted as giving support to the social skills deficit theory. However, more recently, these assumptions have been questioned.

Recent cognitive models of social anxiety (derived mainly for adult clients) have proposed that sufferers do not generally lack adequate social skills. They do, however, believe that they lack social skills—a belief that may seriously undermine their confidence in social situations (e.g. Clark & Wells, 1995; Rapee & Heimberg, 1997). Cognitive interventions designed to modify these deleterious beliefs about social skills deficits have met with early success (e.g. Wells & Papageorgiou, 2001).

In addition, there is now direct evidence that the socially anxious do not necessarily lack social skills. Several studies have reported that individuals with social anxiety (or non-clinical participants with high levels of reported social anxiety) do not lack social skills compared to their low socially anxious counterparts (e.g. Rapee & Lim, 1992; Strahan & Conger, 1998).

A number of studies, however, have reported social skill deficits in the socially anxious, (e.g. Beidel, Turner, & Dancu, 1985; Segrin & Flora, 2000; Spence, Donovan, & Brechman-Toussaint, 1999), but it is possible that there is a simple explanation for some of the discrepant results reported by these studies. In particular, most of the studies that reported deficits had asked participants to self-report on their own social skills. In two studies where both objective and subjective reports of social skills were taken, it was only on the subjective reports that any deficits were apparent. (Segrin, 1999; Segrin & Kinney, 1995). This indicates that self-reporting of social skills may produce biased results—and supports the new conceptualisations of social anxiety as a deficit in confidence in social skills, rather than a deficit in social skills per se. In several studies where small observable differences were apparent in socially anxious adults, these were substantially magnified by self-reports of performance, when compared with observer ratings (e.g. Norton & Hope, 2001). Furthermore, most studies recognise that there is considerable overlap in the performance of the socially anxious and non-socially anxious groups, such that some socially anxious participants receive very good performance ratings from observers. These facts suggest that impaired social skills cannot be the major cause of social anxiety in all cases.

To date, little work has examined the role of social skills in the development of social anxiety in children. However, examination of social skills in the early stages of social anxiety is crucial to the understanding not only of child anxiety, but to the understanding of any deficits that may be apparent in adults with long-standing disorders. It is quite possible that any deficits in social skill that are apparent in adults may not be the cause of their anxiety, but arise as a consequence. Many adults with severe social anxiety avoid social encounters, and report having done so for many years. It is quite possible that the consequent lack of social activity could result in under-rehearsed social skills. If this theory is correct, we may hypothesise that socially anxious children, who have had less opportunity to engage in social avoidance, will not yet
show rusty or diminished social skills. In order to test this hypothesis, Cartwright-Hatton, Hodges, and Porter (2003) invited school children aged between 8 and 11 years, to take part in a public speaking task. Participants were asked to rate their own performance in a number of domains. Videotapes of their performance were then rated by objective observers. In particular, the authors were interested in examining the effect of self-reported symptoms of social anxiety on micro-social skills (eye gaze, clarity/loudness of voice, smiling); global performance (how well they did generally, how clever and how friendly they appeared); and nervous behaviour (stuttering and generally looking nervous). The results of this study showed that trait social anxiety was associated with scoring highly on both the objective and subjective measures of nervous behaviours only. A measure of state social anxiety was associated with poorer self-reports on all aspects of performance, but was not significantly correlated with any of the objective performance ratings. The authors concluded that although there was little evidence of any actual social skill deficits, socially anxious children were concerned with their levels of social skills. In particular, they were very concerned with appearing nervous. These results echo those reported by Baker and Edelmann (2002), who found slight observable differences between their socially anxious and non-anxious adult participants, but only in behaviours that could be interpreted as signs of nervousness or as safety behaviours.

The present study aimed to replicate and extend the results of Cartwright-Hatton et al. (2003). Two groups of children were recruited. The first were an analogue socially anxious group, the second were a group of children who scored below average on a measure of childhood social anxiety. In the present study, children were asked to engage in a conversation with an adult confederate—rather than a public speaking task as used previously. It was felt that this would represent a more commonplace social situation for the children, and we were interested to see whether the results of the previous study would generalise to this potentially less anxiety provoking setting. Performance was rated by the children and by independent adult observers. It was hypothesised that there would be an interaction between social anxiety level (high/low) and rater (observer/self) on reported levels of social skills, with socially anxious children rating themselves as displaying poorer skills than their less anxious peers, and with the observers detecting no significant differences between the groups. In order to examine the relationship between social anxiety and separate domains of social skill behaviours, analyses were repeated for ratings of micro-social skills, global performance, and nervous behaviours.

2. Method

2.1. Participants

Participants were 40 children (31 female) between the ages of 10 and 12 years (mean 11.0 years). The children were recruited from several state primary and secondary schools in the Greater Manchester area. Participants were recruited to either the ‘high social anxiety’ or ‘low social anxiety’ group, according to their scores on a measure of social anxiety (see below).
2.2. Materials

2.2.1. Spielberger state–trait anxiety inventory for children (STAIC)—state version (Spielberger, 1973)

This questionnaire is designed to measure state anxiety in children aged 9–12 years. The instrument consists of 20 items, measuring how a child feels at a particular moment in time. The instrument was chosen for its properties of reliability and validity.

2.3. The Social Anxiety Scale for children—revised (SASC-R) (LaGreca & Stone, 1993)

This instrument is designed to assess symptoms of social anxiety in children aged between 6 and 12 years. It has been shown to assess three facets of social anxiety: fear of negative evaluation (FNE; eight items); social avoidance and distress—new situations (SAD-new; six items); and general social avoidance and distress (SAD-general; four items). There are also four filler items (e.g. I like to play sports). The SASC-R has satisfactory test–retest reliability ($r = 0.67$) and internal consistency ($r = 0.76$), (La Greca, Kraslow Dandes, Wick, Shaw, & Stone, 1988). Children respond to each item using a 5-point Likert-type scale ranging from 1 (not at all) to 5 (all the time). The scale is moderately correlated with general measures of anxiety, self-perceptions of social confidence, teacher-rating of anxiety withdrawal, and peer nominations of popularity (Nevill et al., 1997). The cut-offs used in this study were (as recommended by LaGreca & Stone, 1993) for high social anxiety: above or equal to 54 for males, and above or equal to 50 for females; for low social anxiety: 40 or below for males and 36 or below for females.

2.4. Performance questionnaires

The original performance questionnaire (Cartwright-Hatton et al., 2003) is an eight-item instrument, which consists of a child version (PQ-C) and a version for the observer (PC-O). It demonstrates an alpha of 0.74 for the PQ-C and 0.91 for the PQ-O. It consists of three questions pertaining to micro-behaviours (e.g. How loud and clear was your voice?), two items to how nervous the child looked during the task (e.g. How nervous did you look?) and three items to the global impression of the child (e.g. How friendly did you look?). Items are scored on a four-point scale ranging from not very (much) to very (much), as appropriate to the question. Some minor changes were made to the original questionnaire, before use in this study, as the social situation in this study was slightly different to the one it was originally designed for. For example, “How much did you look at the camera?” was replaced with “How much did you look at the person you were talking to?” In addition, a further item relating to nervousness was added to the instrument—“How much did you blush?”

2.5. Procedure

Once written consent of both a parent and the child was established, children were individually invited to join the researcher away from the classroom, whereupon they were asked to complete the SASC-R. They were then informed that an adult would be joining them, with whom they should hold a three-minute conversation. They were informed that it would be up to them
to keep the conversation going. They were told that they could talk about anything they wanted to and that they should try to ask the adult questions. They were informed that the conversation would be filmed and that two other adults would later watch this film. The children were then asked to complete the Spielberger State Anxiety Questionnaire. The adult confederate then entered the room, and sat on a chair approximately 2 m away from the child. A video camera was focused on the child. The conversation then began. The confederate was trained only to give neutral feedback during the task, and to ensure that the child led the conversation. If a child had not spoken for more than 10 s, the researcher would cue the confederate into asking a standard cue question. A maximum of three cues were provided for each child. If a further 10-s pause occurred, the task was then terminated. The three standard cue questions were “What is your favourite subject at school?”,”What did you do at the weekend?” and “Do you have any brothers or sisters?”. The questions were always asked in this order. Upon completion of the social interaction task, the children were asked to complete the performance questionnaire (PQ-C). All the children were then debriefed, congratulated on their performance and thanked for participating before returning to the classroom. Taped conversations were then transferred onto a videocassette in random order, and were viewed by two undergraduate students who were unaware of the hypotheses of the study. Each observer rated each conversation using the performance questionnaire (PQ-O). The observers rated the tapes independently, in separate rooms and did not confer.

3. Results

All variables used in the foregoing analyses were approximately normally distributed. Therefore, parametric statistics were employed.

Modified versions of the PQ-O and PQ-C were used in this study. Therefore, an analysis of their internal consistency was performed. For the PQ-O, the Cronbach alpha was 0.79. For the PQ-C, the Cronbach alpha was an acceptable 0.69.

An intraclass correlation was conducted to examine inter-rater agreement on the PQ-O. The correlation between the two raters’ scores was a satisfactory 0.77. Therefore, the mean of the two PQ-O scores was used in subsequent analyses. An examination of the distribution of PQ-O scores indicates that for most items, raters used the full range of scores. However, for one item (“How much did you blush?”), neither rater rated any child as blushing ‘very much’.

Children in the two social anxiety groups were compared on levels of state anxiety as measured by the Spielberger State Anxiety Scale. A t-test confirmed that the high social anxiety group was significantly more anxious (mean 36.6) than the low socially anxious group (mean 27.8) immediately prior to the conversation with the stooge ($t_{(38)} = -6.9$, $p < 0.001$).

In order to test the hypothesis that there would be no interaction between anxiety level (high/low) and rater (observer/self) on total social skills score, a $2 \times 2$ mixed model analysis of variance was computed. In order to determine whether there was a main effect of group (i.e. high anxious children having poorer social skills according to the combined ratings of themselves and the objective observers), the main effect of anxiety group was examined. This was significant, indicating that anxious children achieved significantly poorer ratings of total social skills overall, when rating source was controlled ($F_{(1,38)} = 16.71$, $p = 0.014$). The interaction between
rater and anxiety level was then examined. This was significant, suggesting that level of anxiety had a different effect according to who was doing the rating \( F(1,38) = 13.52, p = 0.001 \). Examination of Fig. 1 indicates that the source of this interaction lay between the high and low anxious children when they were rating their own social skills. There was no significant difference between observers’ ratings of the high and low anxious children on total social skills.

The mean total social skills scores for high and low anxious children according to themselves and the objective raters are reported in Table 1 and Fig. 1.

In order to examine which aspects of social skills might be responsible for this interaction, a series of three further analyses of variance were computed to examine the interaction of rating source and anxiety level on rating of: micro-social skills; global social skills; and nervous behaviours.

In order to test the hypothesis that there would be no interaction between anxiety level (high/low) and rater (observer/self) on micro-social skills, a 2 x 2 mixed model analysis of variance was computed. In order to determine whether there was a main effect of group (i.e. high anxious children having poorer micro-social skills according to the combined ratings of themselves and the objective observers), the main effect of anxiety group was examined. This was insignificant, indicating that anxious children did not achieve significantly poorer ratings of micro-social skills overall, \( F(1,38) = 1.40, p = 0.244 \). The interaction between rater and anxiety level was then examined. This was insignificant, suggesting that level of anxiety did not have a different effect according to who was doing the rating \( F(1,38) = 0.42, p = 0.519 \). It appears, therefore, that anx-

Fig. 1. Total performance scores in high and low socially anxious children, according to self, and independent observers.
ious children in this study were not significantly poorer in terms of micro-social skills than their less anxious peers, either according to self-report or to the reports of objective observers.

The mean micro-social skills scores for high and low anxious children according to themselves and the objective raters are reported in Table 1 and Fig. 2.

Table 1
Mean performance questionnaire scores of high and low socially anxious children, according to themselves and to objective observers (S.D. in parentheses)

<table>
<thead>
<tr>
<th>Skill/behaviour</th>
<th>Self-rating</th>
<th>Observer rating</th>
</tr>
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<tbody>
<tr>
<td><strong>High anxious</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro-skills</td>
<td>8.1 (1.6)</td>
<td>7.1 (1.9)</td>
</tr>
<tr>
<td></td>
<td>$N=20$</td>
<td>$N=20$</td>
</tr>
<tr>
<td>Global performance</td>
<td>9.3 (1.7)</td>
<td>6.9 (1.9)</td>
</tr>
<tr>
<td></td>
<td>$N=20$</td>
<td>$N=20$</td>
</tr>
<tr>
<td>Nervous behaviours</td>
<td>10.0 (1.9)</td>
<td>4.2 (0.9)</td>
</tr>
<tr>
<td></td>
<td>$N=20$</td>
<td>$N=20$</td>
</tr>
<tr>
<td><strong>Low anxious</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro-skills</td>
<td>7.1 (1.5)</td>
<td>6.7 (2.0)</td>
</tr>
<tr>
<td></td>
<td>$N=20$</td>
<td>$N=20$</td>
</tr>
<tr>
<td>Global performance</td>
<td>8.8 (1.7)</td>
<td>7.1 (1.7)</td>
</tr>
<tr>
<td></td>
<td>$N=20$</td>
<td>$N=20$</td>
</tr>
<tr>
<td>Nervous behaviours</td>
<td>6.2 (2.3)</td>
<td>4.5 (0.8)</td>
</tr>
<tr>
<td></td>
<td>$N=20$</td>
<td>$N=20$</td>
</tr>
</tbody>
</table>

N.B. A higher score on the performance questionnaire indicates a poorer performance.

Fig. 2. Micro-social skills in high and low socially anxious children, according to self, and independent observers.
In order to test the hypothesis that there would be no interaction between anxiety level (high/low) and rater (observer/self) on global social skills, a $2 \times 2$ mixed model analysis of variance was computed.

In order to determine whether there was a main effect of group (i.e. high anxious children having poorer global social skills according to the combined ratings of themselves and the objective observers), the main effect for anxiety group was examined. This showed that anxious children did not display significantly poorer ratings of global social skills overall ($F_{(1,38)} = 0.612, p = 0.669$). The interaction between rater and level of social anxiety was then examined. This was insignificant, suggesting that level of anxiety did not have a different effect according to who was doing the rating ($F_{(1,38)} = 0.720, p = 0.402$). We can be confident, therefore, that anxious children in this study were not significantly poorer in terms of global social skills than their less anxious peers, either according to self-report or to the reports of objective observers.

The mean global social scores for high and low socially anxious children according to themselves and the objective raters are reported in Table 1 and Fig. 3.

In order to test the hypothesis that there would be an interaction between anxiety level (high/low) and rater (observer/self) on nervous behaviours, a $2 \times 2$ mixed model analysis of variance was computed. There was a significant main effect of group ($F_{(1,38)} = 21.53, p < 0.001$), indicating that when rating sources were combined, the socially anxious children were rated as more nervous than the low socially anxious children. The interaction between rating source and anxiety level was then examined. This confirmed that there was an interaction between these variables, suggesting that level of anxiety had a different effect according to who was doing the rating ($F_{(1,38)} = 37.35, p < 0.001$).

Fig. 3. Global performance of high and low socially anxious children, according to self, and independent observers.
Examination of Table 1 and Fig. 4 indicate that the significant difference detected in this interaction lay between high and low anxious children on self-rated nervous behaviours. High anxious children reported that they looked more nervous than the low anxious children did. However, the objective reporters did not report any difference in how nervous the two groups looked.

4. Discussion

The self-rated total social skills of the high socially anxious children in this study were poorer than the self-rated total social skills of the less socially anxious children. Despite this, the independent observers were unable to distinguish between the two groups.

However, examination of the subfactors of performance revealed that this effect was only significant for nervous behaviours. The high socially anxious children reported that they looked significantly more nervous than their low anxious peers during the conversation task. Despite this significant difference on subjective ratings, the objective raters could not distinguish the groups in terms of how nervous they looked during the task. This suggests that whilst the anxious children felt that they looked very nervous (blushed more, stuttered more, and generally came across as more nervous), this was not apparent to the two objective raters employed in this study. However, neither the children nor the objective observers reported any group differences for micro-social skills or global social skills. It appears that the socially anxious children in this study neither felt nor appeared less adequate than their low anxious peers, in terms of micro-social skills (e.g. speaking clearly, smiling and looking at the confederate) or global performance (e.g. appearing friendly and clever).
These results are broadly similar to those reported by Cartwright-Hatton et al. (2003) who also concluded that anxious children underestimated their social skills, and that very few deficits were apparent to objective observers. However, there were a number of slight differences in the present results and those reported by Cartwright-Hatton et al. (2003) who showed that social anxiety was associated with self-reported deficits in micro-social skills and global performance, as well as nervous behaviours during a public speaking task. Perhaps the current lack of self-reported deficit in micro-social skills and global performance arose as a result of the less stressful nature of the conversation task employed in the present study. It seems that anxious children may be more confident in their skills for everyday conversation-type interactions, than for less frequent and more stressful public speaking-type tasks. This may also explain why the independent observers in the previous study noted a relationship between social anxiety and appearing nervous during the public speaking task, while this was not detected in the current conversation task. Despite these differences, the broad conclusions of the two studies are very similar. In both studies, no relationship between social anxiety and objective micro-social skills or global performance was noted by the independent observers. Similarly, in both studies, the strongest concerns of the most anxious children centred on appearing nervous.

The clinical implications of these results are clear. Children with symptoms of social anxiety may not necessarily have social skill deficits. Indeed, in the everyday conversation task that was employed in the current study, the objective raters were unable to distinguish the high and low anxious children on any dimension. It seems unlikely that this arose as a result of poor judgement or sympathetic marking on the part of the two observers, as their scores achieved acceptable levels of inter-rater reliability, and the distribution of their scores indicates that they were not reluctant to give children poor evaluations. Instead, it seems that the high socially anxious children were vulnerable to rating themselves as appearing nervous during the task, whereas this happened much less with the low social anxiety group. If these results are reliable, then it seems that providing socially anxious children with simple social skills training may often be inappropriate. Indeed, as suggested by Cartwright-Hatton et al. (2003), sending children to a group to ‘learn social skills’ may suggest to these children that they are indeed lacking in skills. Similarly, encouraging children to direct their attention to their social performance in this way could contribute to the development of an ‘observer perspective’ (Wells, 1997), which has been implicated in the genesis of social phobia.

Instead, it seems that these children might benefit from an intervention that focuses on their maladaptive beliefs about their appearance to others during social encounters. Similar interventions, for example, using video feedback of performance, have been shown to be effective in adult populations (Harvey, Clark, Ehlers, & Rapee, 2000). Of course, it is possible that socially anxious children are lacking in social skills that were not assessed in this study, or that the instrument used to assess social skills was lacking in sensitivity. This seems unlikely as the observers in this study were asked to make not only judgements of selected fine-grained social skills, but also of a number of gross social outcomes that would have been affected if other, untapped social skill deficits had been present. However, additional research is now needed to investigate these possibilities further.

In conclusion, therapists should be wary of assuming that socially anxious children are lacking in basic social skills. Two studies, examining quite different social situations, now indicate that high socially anxious children are not lacking in a varied set of social skills. Instead, the
therapist, after an assessment of a child’s social skills, should focus on maladaptive beliefs about appearance during social situations. Research is now needed to elucidate the best techniques for manipulating such beliefs in children, and to help understand the aetiology of a set of beliefs that appear to be present much earlier than has been assumed.

References


