Shorter communication

Peer behavior toward socially anxious adolescents: Classroom observations

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Abstract

This study focused on the relation between adolescents’ social anxiety and the way they are treated by classmates. The link between class behavior during oral presentations and the social anxiety of the speakers was investigated. Social anxiety was measured both as a trait variable and as manifest in two state anxiety characteristics. A group of 55 students from Grades 8 and 9 were selected to participate in the study. Class behavior during their presentations was rated by the students themselves, their teacher, and an independent observer. Results showed that negative class behavior was related to social anxiety, particularly when behavior was rated by the independent observer. The data suggested that this negative social outcome is related to longer lasting social interactions in the classroom and not to specific state anxiety characteristics.

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Introduction

The purpose of this research was to evaluate the relationship between adolescents’ social anxiety and the social outcomes they encounter in their daily interactions with peers. The relationship was studied in a real-life situation, while the adolescents were giving an oral presentation in their own classroom. Both the trait social anxiety of the students and their anxiety-related behaviors during the presentation were taken into account as possible factors linked to negative class behavior.

In their review article on interpersonal processes in social phobia, Alden and Taylor (2004) concluded that the link between social anxiety and negative outcomes from peer interactions has been demonstrated in primary school children as well as in older children and adolescents, but at the same time they stated that only one study actually observed peer behavior. In this study of 7–14-year olds (Spence, Donovan, & Brechman-Toussaint, 1999), the socially anxious children received less positive responses from their peers during social interactions in school.
In their social interactions, socially anxious persons are very concerned about the impression they make on others and in particular about how anxious they might look (e.g., Cartwright-Hatton, Tschernitz, & Gomersall, 2005; Rapee & Lim, 1992). Their self-evaluations tend to be negative and probably with good reason because other people also rate their social performance in a rather negative way. The evidence for objective performance differences between high and low socially anxious individuals is especially clear in studies using children and adolescents (e.g., Alfano, Beidel, & Turner, 2006; Beidel, Turner, & Morris, 1999; Inderbitzen-Nolan, Anderson, & Johnson, 2007; Spence et al., 1999). In the Inderbitzen-Nolan et al. (2007) study, high socially anxious adolescents were rated as less socially skilled, less assertive, less friendly, more anxious, and more self-conscious than non-anxious controls in a conversation task with confederates and in an impromptu speech task. The self-ratings of the adolescents yielded the same results. The Beidel et al. (1999) study found evidence for differences between high and low socially anxious children in anxiety and effectiveness on a read-aloud task and role-plays. The high socially anxious group was rated as higher in state anxiety and as less effective. These children rated themselves as more anxious. Alfano et al. (2006) found that in a social interaction task, high socially anxious youth evaluated their performance as less skilled than normal controls. Independent observers rated them as more anxious and less effective. In the Spence et al. (1999) study, socially anxious children were rated by their parents and themselves as less socially competent. Behavioral observations in the classroom and the playground showed that these children interacted less with their peers and also initiated fewer interactions.

Behavioral studies in this domain generally used social interaction tasks with unfamiliar persons acting as interaction partners in a conversation or as an audience (e.g., Cartwright-Hatton et al., 2005; Inderbitzen-Nolan et al., 2007). In this way, ongoing social interaction patterns that persons have developed in their social lives could neither influence the behavior of the participants nor that of their partners in the interactions. This is clearly an advantage if one wishes to focus solely on the role of state characteristics, like overt anxiety or friendliness, as influencing other persons’ evaluations of the socially anxious. However, there are at least two reasons why it could be advantageous to also take ongoing social relationships into account. First, this approach allows for exploring the relative importance of, on the one hand, state anxiety factors like overt anxiety and safety behaviors during a certain interaction and, on the other, the more stable and continuous trait-related behaviors, in explaining the quality of persons’ social interactions. The second reason is that studying real-life interactions with peers has higher ecological validity.

The present study investigated peer behavior toward students giving oral presentations in their own classroom. In both primary and secondary schools in the Netherlands, oral presentations are part of the educational curriculum. Both the speakers’ trait social anxiety and expression of state anxiety during the presentation were examined in relation to their classmates’ behavior. The behavior of the class was rated by three different raters, the speakers themselves, their teacher, and an independent observer. The behavior of the speakers was rated by the independent observer. The first question of this study asked whether there is a relation between social anxiety and adverse treatment by classmates. On the basis of previous studies (Blôte & Westenberg, 2007; Spence et al., 1999), it was expected that students with higher social anxiety would encounter more negative treatment by their classmates. The second question was whether class behavior was linked to specific behaviors of the speaker during the presentation such as overt nervousness and (lack of) interaction with the class. These speaker behaviors are interesting variables because nervousness and safety behaviors, like avoiding contact with classmates, might explain negative responses from these classmates (Clark & Wells, 1995). Finally, the third question was whether a relation existed between social anxiety and how the presentation was graded. The grade was an important indication of students’ overall performance during the presentation. If the socially anxious performed poorly, as they themselves would think they did (Inderbitzen-Nolan et al., 2007; Spence et al., 1999), one would expect that they received lower grades for their presentations.

Method

Participants

The study started with 210 students from 10 secondary school classes (pre-university level) from Grades 8 to 10. The students in these classes were mainly Caucasian and from middle-class families. In total, 10 students
from different classrooms refused to participate in the study. A selection was made of four classes from the pool of 10 on the basis of two criteria. (1) The classes had the same Dutch language teacher; the reason for this criterion is that the oral presentations took place during the Dutch language lessons. (2) The students in those classes reported a relatively large difference in class behavior toward low and high socially anxious classmates. We assumed that it was more likely that observers in those classes would identify differences in class behavior toward students with different levels of social anxiety. The classes that met the criteria were two 8th-grade and two 9th-grade classes. Their reported differences in class behavior toward hypothetical low and high socially anxious peers, as measured with the perception of class behavior lists (Bloëte & Westenberg, 2007), was above the average of the 10 classes the study started with. The total number of students in the four selected classes was 88. A random selection of 55 students was then asked to participate in the study as speakers. All these selected students agreed to participate. The group consisted of 26 boys and 29 girls, ranging in age from 13 to 16 years ($M = 14.05, SD = 0.89$).

**Measures**

**Social Anxiety Scale for Adolescents (SAS-A)**

The Dutch translation of the SAS-A (La Greca & Lopez, 1998) was used to measure the students’ social anxiety. The scale includes 22 items, 18 of which are statements about social anxiety and four are filler items. Each of the self-describing statements is rated on a 5-point scale ranging from 1 (not at all) to 5 (always). The internal consistency of the original scale ($\alpha = .93$; Storch, Masia-Warner, Dent, Roberti, & Fisher, 2004) and that of the translated scale ($\alpha = .89$ in the present study) are both good.

**Class behavior rating list**

For the rating list, we took nine different aspects of class behavior that are relevant to the situation of a student giving a speech (see Table 1). Four were worded as positive and five as negative statements in order to prevent a response set. Each item is rated on a 7-point scale, according to how much the item ‘is true’ ($1 = $ all the time, $7 = $ not at all). The scores of the negatively phrased items were recoded for data analysis in such a way that a higher total score indicated more negative behavior. The list was composed in two different formats, one for the independent observer and the teacher, and one for the student who gave the presentation.

**Global ratings**

An independent observer rated how nervous the speakers were on a 3-point scale ranging from “not nervous”, “nervous” to “nervous to a degree that it interferes with giving the presentation”. She also rated the degree to which the speakers interacted with the class, by directly addressing one or more classmates, in their presentation. This 3-point scale ranged from “no interaction”, “normal interaction” to “much interaction”. The teacher graded the performance of the speakers on a scale from 1 to 10. Judgments of the speakers’ posture, voice quality, the content of the speech, the logic of reasoning, and the use of audio-visual aids were all included in the grade.

<table>
<thead>
<tr>
<th>Table 1</th>
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<tbody>
<tr>
<td><strong>Items of the observation list</strong></td>
</tr>
<tr>
<td>1. As the student walks to the front of the classroom to give his or her presentation, the class has already settled down to listen.</td>
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<tr>
<td>2. When the student wants to start his or her presentation, the class keeps talking.</td>
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<tr>
<td>3. The class is quiet while the student is speaking.</td>
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<tr>
<td>4. The classmates do not pay attention during the student’s presentation and do other things.</td>
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<tr>
<td>5. The classmates show that they understand the presentation.</td>
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<tr>
<td>6. The class is not interested in what the student has to say.</td>
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<tr>
<td>7. The class makes silly jokes about the student while he or she is speaking.</td>
</tr>
<tr>
<td>8. The class does not ask interesting questions after the presentation.*</td>
</tr>
<tr>
<td>9. The class compliments the student when he or she has finished.</td>
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</tbody>
</table>

*This item has later been removed from the list for reasons of reliability.
Procedure

After a short introduction about the purpose of the study (learning more about the problems students have in giving a speech in class) the students were asked to participate. They were told that participation was voluntary and anonymous. The students first filled out the perception of class behavior lists that were used to select the classrooms for this study. On a later occasion they completed the SAS-A. One experimenter, the second author, went into the classrooms to collect the data and make the observations mentioned below. There was also a teacher present in each classroom.

Class behavior and the behavior of the speaker were observed during the oral presentations the students gave as part of their normal educational assignments. The presentations took place over a period of 4 months and started about 2 months after data collection in the classroom. The students were free to choose their own topic for their speech, provided it was a serious one they could argue for or against. Examples of topics covered by the students were “the death penalty”, “genetic manipulation”, and “healthy eating habits”. The speakers stood facing the class; the teacher was seated at the back of the classroom facing the speaker, and the observer was sitting at the front of the classroom to one side, facing the speaker as well as the class. The raters did not know whether the student who gave the presentation was, according to his or her SAS-A score, socially anxious or not. The observer and the teacher filled out the class behavior rating lists during the presentations of the students. The speakers filled out the student version of the list immediately after finishing their presentation. Thereafter, the teacher and the students who had been in the audience discussed the quality of the presentation. The teacher then graded the presentation. The presentations (without the discussions) lasted about 10 min each.

Results

Preliminary analyses

After calculating the internal consistency of the nine items of the class behavior rating list, one item was removed because of a low correlation with the other items (see Table 1). The internal consistency of the remaining eight items was \( \alpha = .62 \) for the observer’s ratings and \( \alpha = .82 \) for the students’ ratings. The reliability of the teacher’s ratings was clearly insufficient, at \( \alpha = .34 \); therefore, the teacher’s ratings were not used in the following analyses.

No significant gender differences were found in any of the ratings or the SAS-A (see Table 2).

The Pearson correlation coefficient between the speakers’ and the independent observer’s ratings of class behavior was \( r = .53, p < .01 \), indicating a moderate agreement between the speakers’ ratings of how they were treated by their classmates and the observations of the independent observer.

Social anxiety, performance, and class behavior

Zero-order correlations showed that class behavior as rated by the independent observer was significantly related to social anxiety (see Table 3). As expected, speakers with higher self-reported social anxiety were

<table>
<thead>
<tr>
<th></th>
<th>Girls</th>
<th>Boys</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker’s rating of class behavior</td>
<td>2.50 (1.13)</td>
<td>2.17 (0.72)</td>
<td>2.35 (0.96)</td>
</tr>
<tr>
<td>Observer’s rating of class behavior</td>
<td>2.11 (0.78)</td>
<td>2.25 (0.75)</td>
<td>2.18 (0.76)</td>
</tr>
<tr>
<td>SAS-A</td>
<td>38.76 (11.43)</td>
<td>35.00 (7.62)</td>
<td>36.98 (9.91)</td>
</tr>
<tr>
<td>Interaction with the class during the speech</td>
<td>2.17 (0.54)</td>
<td>2.23 (0.59)</td>
<td>2.20 (0.56)</td>
</tr>
<tr>
<td>Overt nervousness during the speech</td>
<td>1.62 (0.73)</td>
<td>1.38 (0.57)</td>
<td>1.51 (0.66)</td>
</tr>
<tr>
<td>Grade</td>
<td>7.84 (0.88)</td>
<td>7.76 (0.72)</td>
<td>7.80 (0.80)</td>
</tr>
</tbody>
</table>

*High scores indicate negative behavior.
treated less positively by their classmates. The correlation between the speakers’ own rating of the way they were treated and social anxiety was marginally significant \((p < .08)\). Unexpectedly, class behavior was not significantly related to the overt anxiety of the speakers or their interaction with the class, suggesting that the behavior of the speakers during their speech does not explain class behavior. Moreover, after controlling for overt nervousness the correlation between social anxiety and class behavior did not change, \(r_p = .20 \text{ and } .21\), for the speakers’ and the observer’s ratings, respectively. Interaction with the class during the presentation could not explain class behavior toward the socially anxious students either, \(r_p = .21 \text{ and } .23\), for the speakers’ and the observer’s ratings, respectively.

The grade students received for their presentation was not, as expected, related to their social anxiety (see Table 3). Evident nervousness did, however, have a negative effect on how the presentation was graded. Class behavior was also related to grading. Students who encountered negative class behavior received lower grades for their performance. Finally, a relation was found between the extent to which speakers interacted with their audience and the grade they received. More interaction resulted in a higher grade. In a hierarchical regression analysis with interaction and class behavior (rated by the observer) as predictor variables in the first step, and nervousness added in the second step, only the interaction of the speaker with the class and the behavior of the class were significant predictors of the grade students received, \(t = 2.48 \text{ and } -3.07\), respectively, \(p’s < .05 \text{ and } .01\). Adding overt nervousness as a third predictor improved the \(R^2\) by only \(.02\) from \(.30\) to \(.32\). When nervousness was entered together with class behavior in the first step, and interaction in the second step, the effect of interaction was still significant and that of nervousness remained non-significant.

**Discussion**

This study found that during oral presentations given by students in their classroom, the behavior of classmates was related to the speakers’ social anxiety. Higher socially anxious students were treated more negatively, particularly when class behavior was evaluated by an independent observer. Class behavior was not related to speakers’ overt nervousness or social interaction with classmates during their speech. Furthermore, the grade students received for their presentation was not related to their social anxiety. It was, however, related to the speaker’s social interaction with the class during the presentation and also to class behavior. This last finding can at least partly be explained by the fact that the teacher graded presentations after engaging in a classroom discussion about the quality of the presentation. Although it was the teacher who finally decided, he did so after hearing the opinion of the class.

The agreement between class behavior ratings from the independent observer and the students who gave a presentation was only moderate. However, one has to take into account that the raters had not been trained in using the rating list. For a comparison, observers who have been trained together to use a particular observation system and who do not expect their ratings to be checked will normally show a level of interobserver agreement in the same order of magnitude as we found (Achenbach, McConaughy, & Howell, 1987).
As stated in the Method section, we originally planned to take the teacher’s observation of class behavior into account. However, the teacher’s responses to the observation list lacked internal consistency. There are at least two possible reasons why the teacher’s observations were not reliable. The first one is that the teacher’s first concern was to pay attention to the speakers, because he had to evaluate their performance and had to take down notes for the discussion later on. The second reason is that he was sitting at the back of the classroom and therefore could not see the faces of students sitting in the audience. This would make it very difficult to rate certain behaviors like smiling, paying attention, and the like. In contrast, the independent observer had a good view of the audience and had ample opportunity to give it her attention.

The present study extended the results of previous studies on the negative outcomes from social interactions that socially anxious youth encounter (Blöte & Westenberg, 2007; Spence et al., 1999). Spence et al. (1999) found that socially anxious children and young adolescents were treated less positively by their schoolmates. The present study corroborated this finding in a group of older adolescents. In the Blöte and Westenberg study, students and their teachers reported that socially anxious students were treated relatively negatively. That study relied on people’s memories of class behavior during presentations and was therefore susceptible to distortions. The present research did not have this drawback because the ratings of class behavior were taken while the presentations took place. What the present study, therefore, added to the former is confirmation of the adverse treatment of socially anxious adolescents by an independent observer.

Although the aforementioned conclusions are based on significant relations between the different variables, it is nevertheless clear that the effect sizes are small. For example, social anxiety explains only about 6 percent of the individual differences in class behavior. That being said, it is still impressive that class behavior taking place in a well-structured situation, in the presence of a teacher, and during a period of only 10 min, can be linked to speakers’ self-reported trait social anxiety. This is especially remarkable because the sample consisted of a group of normal students in which differences between participants’ social anxiety levels will be much smaller than in studies comparing a clinically high anxious group with a low anxious or normal group.

Some students were very nervous during their speech. They started crying, excused themselves saying they did not feel well, or initially refused to give the presentation. Remarkably, not all of these were high socially anxious. The SAS-A scores and overt nervousness as rated by the independent observer were only weakly correlated. A possible explanation for not finding a stronger relationship is that different subtypes of social anxiety may be involved and each may cause high state anxiety during presentations. Students showing a high degree of overt nervousness during their presentation could have either been students high in generalized social anxiety or students high in the non-generalized subtype of social anxiety that is restricted to public speaking (e.g., Harb, Eng, Zaider, & Heimberg, 2003; Hofmann, Gerlach, Wender, & Roth, 1997). The latter students would not have high scores on the SAS-A and therefore would reduce the correlation between the SAS-A and overt nervousness.

There is another issue related to the generalized versus non-generalized types of social anxiety that needs attention. Since the generalized type of social anxiety as measured with the SAS-A was related to class behavior and overt nervousness was not, it is suggested that socially anxious students were treated negatively by their classmates because of the quality of their ongoing relationships with them. During oral presentations, classmates thus reacted to the high socially anxious as they normally did. Other students who were just nervous in this specific situation and generally had normal social relationships would not encounter adverse reactions during their presentation. It could be argued that if this explanation is correct an oral presentation would not be the best possible procedure for research investigating the correlates of generalized social anxiety. Moreover, if this procedure is used, it would be advisable to include speech anxiety as a control variable.

Some other notable limitations of the study need to be mentioned. First, the classes that were selected for classroom observations were the ones in which the students had reported relatively large perceived differences in their treatment of high and low socially anxious peers. The present study cannot answer the question of whether the relation between class behavior and the other variables in classes with smaller perceived differences in behavior is different. New research is needed to clarify this point. Second, speaker and class behavior were not independently measured, as one observer rated them both. Although the observer was blind to the SAS-A scores of the speakers, their behavior may have given her an idea of their social anxiety. Third, the study’s method used only two global ratings for anxiety-related state variables. Future studies should preferably employ a more extended set of measures including rating lists that describe more specific behaviors.
Fourth, the students in the sample were mainly highly achieving, Caucasian adolescents from middle-class families. New studies are needed to examine the same research questions in a more diverse sample of students.

The clinical implications of this study are clear. Both trait social anxiety and poor interaction with the audience play a role in the negative evaluations adolescents encounter whilst giving a speech in front of a familiar audience. Trait social anxiety is related to negative audience behavior and little interaction with the audience results in a relatively poor evaluation of the performance. Both adverse audience behavior and poor evaluation are forms of negative feedback that may cause social anxiety to increase over time. If these results are reliable, treatment interventions should focus on improving social interactions with peers and not just on negative social cognitions. Furthermore, if high socially anxious children and adolescents’ greatest fear is that others notice their nervousness through their blushing, shaking, sweating, and the like (Cartwright-Hatton et al., 2005), this fear could possibly be lessened by showing them that nervousness in itself does not influence the audience.

References


