

Differences in the Cognitive Content between Socially Phobic and Nonanxious Adolescents

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Introduction

- Social anxiety disorder is characterized by persistent and excessive fear of negative evaluation by others (American Psychiatric Association, 2004). Social anxiety is typically considered to be comprised of three components: physiological arousal, behavioral factors, and cognitions (Albano & Detweiler, 2001). Various models of anxiety have considered the role cognitions play in the onset and maintenance of anxiety.
- The present study examines the cognitive content of adolescents in the context of social situations in which one is being evaluated by others. More specifically, the self-statements, or automatic thoughts, that arise in a particular situation are explored. It is important to examine automatic thoughts given the interrelationship between thoughts, behaviors, and physiological arousal associated with social anxiety and because automatic thoughts are often targeted in the treatment of social anxiety.
- The majority of the research on the cognitive content of individuals (children, adolescents, and adults) with social anxiety disorder suggests that socially anxious individuals experience more negative thoughts in social situations than nonanxious individuals (e.g., Bradley, 2004; Kendall & Treadwell, 2007; Mahone, Bruch, & Heimberg, 1993).
- Research findings provide some support that positive self-statements are inversely related to social anxiety. Whereas several studies support this relationship in adult populations (e.g., Beidel, Turner, & Dancu, 1985), there is less evidence that this relationship exists in child populations. In fact, many child studies did not find a significant difference in positive self-statements between socially anxious and nonanxious children (e.g., Chansky & Kendall, 1997). Bradley (2004) explored this relationship in adolescents and found that socially anxious adolescents did not differ from nonanxious adolescents in their endorsement of positive coping statements.
- The purpose of the present study was to examine the valence and focus of the self-statements of socially phobic and nonanxious adolescents given the relative dearth of studies examining this phenomenon in this population. Further attention to this population is particularly warranted given that results from Alfano and colleagues' (2006) study suggests that young children and adolescents do not experience similar self-talk in social situations.
- Although there is research examining differences in cognitions across social situations in adults (e.g., Mahone et al., 1993), there is little research examining these differences in adolescents. The two adolescent studies to date investigating this issue reveal somewhat conflicting results. Bradley (2004) found that socially anxious adolescents endorsed more negative thoughts than nonanxious adolescents across two social situations (speech and conversation). Alfano and colleagues (2006), however, found that socially anxious adolescents reported more negative thoughts than nonanxious adolescents during a role-play, but not during a read-aloud task.

- Thus, the present study investigates the impact of situational context on self-statements between socially phobic and nonanxious adolescents during two behavioral tasks, an impromptu speech and a conversation with a similar-aged peer.

Method

- As part of a larger study examining the behavioral, cognitive, and physiological correlates of Social Phobia in adolescents, 347 adolescents (age: $M = 14.44$, $SD = 1.24$) were recruited from the community. The adolescent sample consisted of 157 males (45.2%) and 190 females (54.8%). The sample was predominantly Caucasian (92.5%), but also included African American (2.0%), Asian American (2.9%), Native American (0.6%), Mexican American (0.6%), and (1.4%) “Other” participants.
- Of the 347 adolescents, 77 were diagnosed with Social Phobia using the *Anxiety Disorders Interview Schedule for DSM-IV: Child Version* (ADIS-IV: C; Silverman & Albano, 1996). The ADIS-IV:C is a widely used semi-structured diagnostic interview that assesses for most *DSM-IV* childhood disorders, including Social Phobia. In the present study, ADIS-IV:C interviews were completed by trained graduate students. The interrater reliability of diagnosis given was found to be 94 percent.
- As part of the study, adolescents engaged in two behavioral tasks. Participants gave a 10-minute speech before a small audience and engaged in a 10-minute conversation with an unfamiliar, similar-aged peer.
- After each task, participants completed the *Social Anxiety Thought Questionnaire* (SATQ). The SATQ is a 48 item self-report questionnaire designed to assess cognitions that arise during behavioral tasks. It was developed by the primary investigator of the larger research project from which the data from the current study were collected. For each item, participants responded using a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*all the time*) to indicate how frequently they experienced the particular thought during the respective behavioral task. Example items include “I’m doing poorly,” “The others probably think I’m dumb,” and “I don’t do well on things like this.”
- The SATQ consists of six scales that were intuitively derived: negative social evaluation (6 items), general negative evaluation (8 items), negative comparison (4 items), negative emotion-focused thoughts (5 items), positive coping statements (17 items), and off-task thoughts (8 items). Bradley (2004) found the SATQ to have good internal consistency across two behavioral tasks. Internal consistency of the SATQ was also examined in the present study. Concerning the current sample, the *alphas* for the speech and conversation task respectively were as follows: negative social evaluation = .82/.83, general negative evaluation = .84/.81, negative comparison = .65/.63, negative emotion-focused = .74/.71, positive coping statements = .84/.83, and off-task thoughts = .86/.87.

Results

- Mixed-groups factorial ANOVAs were conducted for each of the six subscales to examine the differences in cognitions between the socially phobic and nonanxious adolescents across the two behavioral tasks. Table 1 presents the means, standard deviations, and result of the ANOVAs, and Figure 1 graphically presents the means of the subscale scores.

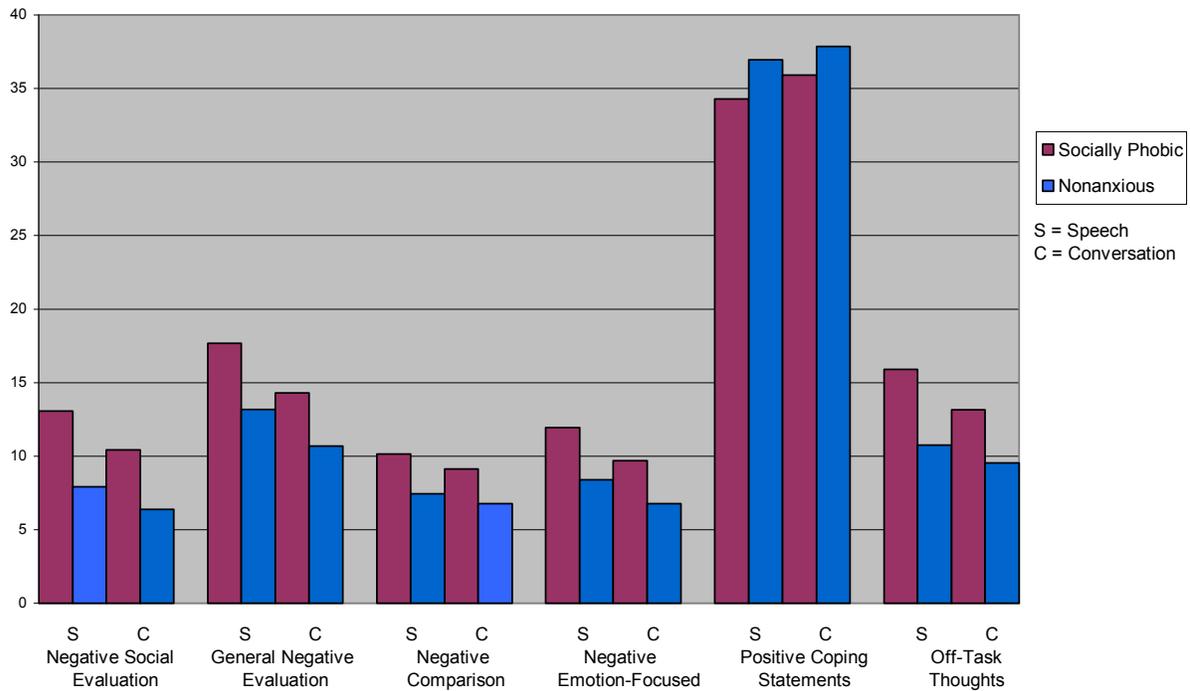
- A pattern was found with the General Negative Evaluation, Negative Comparisons, and Negative Emotion-Focused Thoughts subscales. For these three subscales, there were main effects for task such that adolescents endorsed more negative evaluation, negative comparison, and negative emotion-focused thoughts after the speech task than the conversation task (all $p < .01$). There were also main effects for diagnosis with socially phobic adolescents endorsing more negative evaluation, negative comparison, and negative emotion-focused thoughts than the nonanxious adolescents (all $p < .01$).
- A similar, yet somewhat unique, pattern was found with both the Negative Social Evaluation and Off Task Thoughts subscales. Main effects for task were found, with adolescents endorsing more negative social evaluation and off task thoughts after the speech task than the conversation task (all $p < .01$). There were also main effects for diagnosis, with socially phobic adolescents endorsing more negative social evaluation and off task thoughts than the nonanxious adolescents (all $p < .01$). Different from the first three subscales, there were also significant interactions between task and diagnosis on the Negative Social Evaluation and Off Task Thoughts subscales (all $p < .05$).
- A unique pattern emerged on the Positive Coping Statements subscale. Although there was a main effect for task such that adolescents endorsed less positive coping statements after the speech task than the conversation task ($p < .01$), there was not a main effect for diagnosis.

Table 1.
Means, Standard Deviations, and ANOVA Results

	Socially Phobic <i>M (SD)</i>	Nonanxious <i>M (SD)</i>	ANOVA <i>F</i>		
			Task (T)	Group (G)	T x G
Negative Social Evaluation					
Speech	13.06 (4.71)	7.92 (4.85)	87.37**	63.60**	5.79*
Conversation	10.45 (4.99)	6.38 (4.59)			
General Negative Evaluation					
Speech	17.69 (6.28)	13.20 (5.95)	82.39**	34.00**	1.79
Conversation	14.32 (5.40)	10.69 (5.51)			
Negative Comparison					
Speech	10.14 (3.17)	7.44 (2.85)	24.36**	58.28**	0.89
Conversation	9.14 (2.70)	6.76 (2.71)			
Negative Emotion-Focused					
Speech	11.95 (4.12)	8.41 (3.98)	69.30**	52.78**	1.60
Conversation	9.71 (4.22)	6.77 (3.34)			
Positive Coping Statements					
Speech	34.28 (9.94)	36.96 (10.87)	7.82**	2.96	0.64
Conversation	35.93 (9.01)	37.88 (10.48)			
Off-Task Thoughts					
Speech	15.91 (6.30)	10.76 (7.13)	43.26**	24.22**	6.53*
Conversation	13.16 (6.07)	9.54 (7.13)			

Note. * $p < .05$. ** $p < .01$.

Figure 1.
 Mean SATQ subscale scores for the two behavioral tasks.



Conclusions

- Consistent with past research, results suggest that socially phobic adolescents generally experience more negative cognitions when engaging in social interactions than do nonanxious adolescents. Results also suggest that both socially phobic and nonanxious adolescents experience negative cognitions at a greater frequency in situations that are more anxiety-provoking.
- Regarding positive cognitions, adolescents in general endorsed experiencing fewer positive coping statements when in a more anxiety-provoking situation (i.e., the speech task as compared to the conversation task).
- The findings of this study have implications for the treatment of socially phobic adolescents. This study highlights which socially evaluative cognitions are “normal” versus those that may be maladaptive, and therefore, should be addressed in treatment. Additionally, results suggest that the types of cognitions vary depending upon the situation, implying that different exposures may be needed to target the negative cognitions experienced in these situations.

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