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Social Anxiety Among Adolescents: Linkages with Peer Relations and Friendships

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This study examined the utility of modifying the Social Anxiety Scale for Children—Revised (SASC-R) for use with adolescents, and examined associations between adolescents' social anxiety (SA) and their peer relations, friendships, and social functioning. Boys (n = 101) and girls (n = 149) in the 10th through 12th grades completed the Social Anxiety Scale for Adolescents (SAS-A) and measures of social support, perceived competence, and number and quality of their best friendships. Factor analysis of the SAS-A confirmed a three-factor structure: Fear of Negative Evaluation, Social Avoidance and Distress in General, and Social Avoidance Specific to New Situations or Unfamiliar Peers. Girls reported more SA than boys, and SA was more strongly linked to girls' social functioning than boys'. Specifically, adolescents with higher levels of SA reported poorer social functioning (less support from classmates, less social acceptance), and girls with higher levels of SA reported fewer friendships, and less intimacy, companionship, and support in their close friendships. These findings extend work on the SASC-R to adolescents, and suggest the importance of SA for understanding the social functioning and close friendships of adolescents, especially girls.

KEY WORDS: Social anxiety; adolescents; peer relations; friendships; Social Anxiety Scale for children—Revised (SASC-R); Social Anxiety Scale for Adolescents (SAS-A); friendships; romantic appeal; social functioning; anxiety disorders.

Adolescents' relationships with friends and peers play a critical role in the development of social skills and feelings of personal competence that are essential for adult functioning (Ingersoll, 1989). Moreover, peer relationships appear to be instrumental in facilitating adolescents' sense of personal identity and increasing their independence from family influences (Dusek, 1991; Ingersoll, 1989). Consequently, factors that inhibit or impede adolescents' interpersonal functioning represent a critical area for clinical and developmental investigation. In this connection, social anxiety may be an important factor to examine among adolescents.

Although social anxiety has long been recognized as an important factor for understanding adults' interpersonal behavior and psychological functioning (Leary, 1983), the study of social anxiety among children and adolescents is in its very early stages. The present study extended the existing work on social anxiety in several ways.

First, in the absence of a well-validated measure of social anxiety for adolescents, the utility of the Social Anxiety Scale for Children—Revised (SASC-R) for assessing adolescents' social anxiety was evaluated (La Greca & Stone, 1993). Measures of social anxiety have been developed and validated primarily for children (Hymel, & Frank, 1985; La Greca & Stone, 1993) or adults (Watson & Friend, 1969), but not specifically for adolescents. In this regard, it was of interest to determine whether the SASC-R could be modified for use with adolescents. Published reports using the SASC-R have predominantly focused on children in Grades 2 through 6 (La Greca & Stone, 1993; Silverman, La Greca, & Wasserstein, 1995), or young adolescents (seventh and eighth

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graders; Vernberg, Abwender, Ewell, & Beery, 1992). In the present study, the utility of the SASC-R was evaluated for older adolescents (those in Grades 10 through 12).

Extending the construct of social anxiety to this older adolescent age group was important for conceptual as well as practical reasons. The SASC-R was initially developed from a model of social anxiety, derived from studies of adults, that included components of social evaluative anxiety (fear of negative evaluation or FNE), and social avoidance and distress (SAD) (Watson & Friend, 1969). Work with elementary school youths revealed that these two components of social anxiety were evident among children as young as 7 years of age (La Greca, Dandes, Wick, Shaw, & Stone, 1988). For children, however, the SAD component was further differentiated by avoidance and distress that was specific to new situations or unfamiliar peers (SAD-New), and avoidance and distress that was generally experienced in the company of peers (SAD-General) (La Greca & Stone, 1993). Conceptually, it was of interest to determine whether the FNE and SAD components of social anxiety would also be applicable to adolescents. If so, this would provide some developmental continuity for these components of social anxiety. Furthermore, from a practical perspective, extending the SASC-R to adolescents would provide a means of assessing social anxiety across a broad age range, thereby facilitating developmental and longitudinal investigations of children's social and affective functioning.

Clinically, the availability of an instrument such as the SASC-R may also prove useful for examining the onset and course of certain anxiety disorders, such as social phobia. Social phobia (*Diagnostic and Statistical Manual of Mental Disorders,* 4th ed., or DSM-IV, American Psychiatric Association, 1994) has been viewed as an extreme form of social anxiety, affecting up to 7% to 8% of the adult population (Hazen & Stein, 1995). Although little is known about the etiology of social phobia, reports indicate that the disorder begins during childhood or adolescence, with a mean age of onset between 15 and 16 years of age (Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992). Thus, an instrument such as the SASC-R may be useful to investigators interested in studying the etiological pathways for social phobia or for other disorders that are believed to have a substantial social component, such as eating disorders (e.g., Bulik, Beidel, Duchmann, Weltzin, & Kaye, 1991) or alcohol abuse (e.g., Schneier, Martin, Liebowitz, Gorman, & Fyer, 1989). In view of these concerns, a primary goal of this study was to evaluate an adolescent version of the SASC-R (referred to as the Social Anxiety Scale for Adolescents, or SAS-A), by examining its factor structure and psychometric properties.

A second goal of this study was to evaluate gender differences in adolescents' social anxiety. Among children (Crick & Ladd, 1993; La Greca & Stone, 1993) and early adolescents (Vernberg et al., 1992), girls have reported higher levels of social anxiety than boys, especially for the *social evaluative* aspect of social anxiety (i.e., fear of negative evaluation from peers). Similarly, one might expect adolescent girls to be more worried than boys about peers' negative evaluations of them. Indeed, surveys have found that adolescent girls are more concerned than boys about others' judgments of their appearance and behavior (Nolen-Hoeksema & Larson, 1992; Rosen & Aneshensel, 1976). Moreover, rates of internalizing problems are higher among girls than boys (Bernstein, Garfinkel, & Hoberman, 1989; Kashani, Orvaschel, Rosenberg, & Reid, 1989; Quay & La Greca, 1986), and adult women are about twice as likely to be socially phobic as men (Schneier et al., 1992). Thus, adolescent girls may be more vulnerable than boys to feelings of social anxiety, and this may have implications for their social functioning.

This leads to the third important goal of this study, which was to evaluate linkages between adolescents' social anxiety and their interpersonal functioning with peers. Two specific aspects of interpersonal functioning were of interest: general levels of *acceptance from peers* and *close friendships.* For many adolescents, the importance of *peer group acceptance* increases with age, and peaks in mid to late adolescence (Brennan, 1982). Also during the adolescent years, interest in romantic attachments and opposite-sex relations introduces a new dimension to social functioning; namely, the desire to be accepted as a romantic partner (Harter, 1988; Kuhlen & Houlihan, 1965). One might expect socially anxious adolescents to perceive their general social acceptance and their romantic appeal to be low. Perceptions of social exclusion from the peer group may directly contribute to feelings of anxiety (Leary, 1990); in addition, feelings of social anxiety might limit adolescents' interactions with peers, or inhibit their dating and romantic attachments, thereby interfering with their social functioning. Although link-

ages between social anxiety and adolescents' peer relationships have not been studied, previous work has revealed that anxious children are less well liked by their peers (Strauss, Frame, & Forehand, 1987), and that children who are rejected or neglected by their peers are more socially anxious than their classmates (La Greca et al., 1988; La Greca & Stone, 1993). Thus, the present study extended this work on linkages between social anxiety and general peer relations to an adolescent age group. Specifically, adolescents with high levels of social anxiety were expected to report less acceptance and support from their peer groups (i.e., classmates) and to perceive themselves as having less romantic appeal.

Aside from peer group acceptance, *close friendships* also represent a critical aspect of adolescents' interpersonal functioning. Close friendships with peers take on increasing importance during adolescence, and serve several important functions, such as providing companionship, emotional support, intimacy, and a means of expressing emotions and resolving conflicts (Berndt, 1982). In this connection, feelings of social anxiety—particularly generalized social avoidance and distress—could lead to disengagement from peer interactions (La Greca et al., 1988), and interfere with the development of close, supportive ties. Work with early adolescents (Vernberg et al., 1992) provides some support for this notion. Among seventh and eighth graders, high levels of generalized social avoidance and distress at the beginning of the school year predicted lower levels of intimacy and companionship in adolescents' close friendships months later; this was especially true for girls. The present study extended this earlier work by examining linkages between adolescents' social anxiety and their reports of the number of close friends, the quality of these friendships, and their perceptions of competency in their close friendships. Specifically, in comparison to less socially anxious adolescents, those with higher levels of social anxiety were expected to report fewer close friendships, and to perceive these relationships as less intimate and supportive. Furthermore, because girls emphasize intimacy and emotional support in their friendships to a greater extent than boys (Berndt, 1982; Berndt & Perry, 1986; Buhrmester & Furman, 1987), problems in close friendships may be more strongly linked to feelings of social anxiety for girls than for boys; this notion was evaluated.

Finally, the present study also examined associations between social anxiety and adolescents' perceived support from significant adults (i.e., parents, teachers), as well as their self perceptions in nonsocial areas of competency (i.e., scholastic competence and behavioral conduct). Social anxiety was not expected to be highly related to support from adults, or to adolescents' perceptions of their competencies in non-social areas. These associations were explored to provide some support for the discriminant validity of the social anxiety construct for adolescents.

METHOD

Participants

The participants were 250 high school students (101 boys, 149 girls; Grades 10 through 12), who resided in a large Southeastern metropolitan area. The ethnic composition of the sample was 51.6% white, 31.6% Hispanic, 15.2% African-American, and 1.6% Asian. Adolescents ranged in age from 15 to 18 years (mean = 17.04, *SD* = .91), and came from predominantly middle-class socioeconomic backgrounds. Specifically, 72.3% of the adolescents resided in two-parent families; the median family income fell in the $40,000 to 60,000 range; and the majority of parents had graduated college (53.8%), with an additional 42.6% having received high school diplomas.

Procedure

Adolescents were recruited as part of a larger study of adolescent peer relations. An unselected sample of school children, who were initially assessed during the spring of 1988, were tracked through the county public school database during the spring of 1994. At that time it was determined that 338 students remained in the local public schools, and were potentially available for participation. For these students, letters were mailed to their parents at their most recently listed addresses, requesting permission for their adolescent's participation. Letters were followed within 2 weeks by phone calls to the adolescents' homes. Of the 338 students, 32 (9%) could not be contacted by repeated phone calls or letters. Of the 306 students remaining in the pool, 250 (82%) agreed to participate and 56 (18%) declined participation. Participants did not differ from those who declined to participate with respect to ethnicity, age, socioeconomic status, or grade. However, a greater percentage of the participants were girls (59.6%),

compared to those who refused participation (46.4% girls) ($p < .05$).

Adolescents were interviewed at home by trained research assistants. The measures included the SAS-A, the Social Support Scale for Children and Adolescents, the Adolescent Interview, and the Self-Perception Profile for Adolescents. Adolescents also completed a brief form requesting demographic information, such as age, gender, ethnicity, and family composition. Parents provided background information regarding ethnicity, education, and employment. Written informed consent was obtained from adolescents and parents prior to participation.

Measures

Social Anxiety Scale for Adolescents (SAS-A). The SASC-R (La Greca & Stone, 1993) was modified slightly for use with adolescents. The SASC-R was initially developed to assess children's subjective experience of social anxiety. It contains 18 descriptive self-statements and four filler items reflecting activity preferences ("I like to read") or social preferences ("I like to play with other kids"). Each item is rated on a 5-point scale according to how much the item "is true for you" (1 = *not at all*, 5 = *all the time*). Based on factor analytic studies, three distinct subscales have been identified. The first subscale, Fear of Negative Evaluation (FNE), reflects fears, concerns, or worries regarding negative evaluations from peers; it includes eight items (e.g., "I worry about what other kids think of me"). In addition, there are two subscales for Social Avoidance and Distress: SAD-New and SAD-General. SAD-New reflects social avoidance and distress with new social situations or unfamiliar peers; it includes six items (e.g., "I get nervous when I meet new kids"). SAD-General reflects more generalized or pervasive social distress, discomfort, and inhibition; it includes four items (e.g., "I feel shy even with kids I know well"). Scores are obtained by summing the ratings for the items comprising each subscale, and can range from 8 to 40 for FNE, 6 to 30 for SAD-New, and 4 to 20 for SAD-General; total scores can range from 18 to 90.

Psychometric support for the SASC-R has been satisfactory (La Greca et al., 1988; La Greca & Stone, 1993). For example, confirmatory factor analysis revealed a good fit between the three-factor model of social anxiety and children's responses (La Greca & Stone, 1993). Internal consistencies for the subscales ranged from .69 (SAD-General) to .78 (SAD-New) to .86 (FNE). Construct validity was supported by patterns of relationships between SASC-R subscales and children's self-appraisals, as well as peer-rated sociometric status (La Greca & Stone, 1993).

For the present study, the wording of the SASC-R was revised to make it more developmentally appropriate for adolescents. Thus, the SAS-A was identical in format to the elementary school version (i.e., 22 items; 5-point rating scale), but the item wording was modified slightly for an older age group. Specifically, items containing the term "other kids" were reworded to "peers," "others," or "people," and references to "playing with" others were reworded to "doing things with" others. For example, Item 5 of the SASC-R, "I only talk to kids that I know really well," was changed to, "I only talk to people I know really well." Item 8 of the SASC-R, "I worry about what other kids think of me," was modified to, "I worry about what others think of me." (See Table I, in the Results section, for a brief listing of each item.)[3]

Social Support Scale for Children and Adolescents (SSSCA; Harter, 1985). This instrument assesses adolescents' perceived social support from four sources: parents, teachers, classmates, and close friends. Each of the 24 items (six per subscale) uses a forced-choice format, wherein the adolescent first determines which of two statements is most like him or her (e.g., "Some kids have parents who treat their child like a person who really matters BUT other kids have parents who don't usually treat their child like a person who really matters.") After choosing between the statements, the adolescent rates how true it is ("Really true for me" or "Sort of true for me"). This yields a score from 1 to 4 for each item; subscale scores are obtained by averaging relevant items.

Prior work with the SSSCA has revealed good psychometric properties. Internal consistencies for all four subscales have been considered satisfactory (range of .72 to .88) (Harter, 1985). Harter (1985) reported that the Classmate Support subscale correlated significantly with perceptions of social acceptance from peers (.69); the Parent Support subscale correlated with the degree to which youngsters' values were congruent with their parents' (.48); and the Close Friend subscale correlated with youngsters' disclosure of personal thoughts and feelings to friends (.46). Although few gender differences in social support have been observed, girls reported higher levels of support from close friends than boys (Harter, 1985).

[3]Copies of the SAS-A may be obtained from the first author.

Number and Quality of Friendships. Adolescents were asked to name each of their very best friends. This served as an index of the number of close friends. Next, they completed the Adolescent Interview (AI) to assess the quality of their three closest friendships. The AI was based on the Friendship Interview developed by Berndt and Perry (1986), as modified by Vernberg (1990). Based on Vernberg's (1990) scoring, the friendship domains of companionship and intimacy were evaluated. Adolescents name up to three best friends and then rate how frequently specific behaviors occur with each friend. Each behavior is rated on a 5-point scale for each friend, with 1 = *never*, and 5 = *very often*. Four behaviors pertain to *intimacy* (e.g., telling a secret), and six to *companionship* (e.g., getting together on the weekends). Responses are averaged for all friends named, yielding scores between 1 and 5. Vernberg et al. (1992) reported high internal consistency and moderate stability for the intimacy and companionship scales (e.g., Cronbach's alpha was .87 for companionship and .90 for intimacy); also, test-retest correlations of .45 for companionship and .59 for intimacy were obtained over a 6-month time period.

Self-Perception Profile for Adolescents (SPPA; Harter, 1988) This 45-item questionnaire assesses adolescents' perceptions of competence in eight areas: social acceptance, romantic appeal, behavioral conduct, close friendship, scholastic competence, athletic competence, physical appearance, and job competence. Each subscale contains six items; adolescents first determine which of two statements is most like them (e.g., "Some teenagers find it hard to make friends, BUT for other teenagers it's pretty easy"), and then rate how true that statement is for them. Each item receives a score of 1 to 4, and responses are averaged within each subscale. Harter (1988) has reported good internal consistency for each of the SPPA subscales (Cronbach's alpha ranged from .74 to .93). In the present study, the Social Acceptance, Romantic Appeal, Close Friendship, Behavioral Conduct, and Scholastic Competence were included. The first three of these were expected to be negatively related to social anxiety, as these subscales reflect adolescents' perceptions of social competencies. The last two were expected to be minimally related to social anxiety, as they reflect perceptions of competence in nonsocial areas of functioning.

RESULTS

Psychometric Analysis of the SAS-A

To examine the factor structure of the SAS-A, a principal-axis factor analysis with varimax rotation was conducted with the 18 primary items. This yielded three factors, each with eigenvalues greater than 1.0, that together accounted for 60% of the variance in the SAS-A. The three factors were identical to the three primary factors of the original SASC-R. (See Table I.) Factor I was comprised of the eight items from the FNE scale, with factor loadings ranging from .46 to .84. Factor II was comprised of the six items from the SAD-New scale, with loadings ranging from .36 to .83; and Factor III was comprised of the four items from the SAD-General scale, with loadings ranging from .49 to .77. In general, the factor structure was clean, with minimal cross-loading of items. Only Item 3 (FNE subscale) had a cross-loading greater than .40 on a second factor; a similar pattern was observed for this item on the elementary school version of the SASC-R (La Greca & Stone, 1993). Thus, factor analysis of the SAS-A yielded a result identical to that obtained with younger children.

In addition, Confirmatory Factor Analysis (Bentler, 1995) was used to evaluate adolescents' responses on the SAS-A. Based on the conceptually-derived aspects of social anxiety, a three-factor model was evaluated (i.e., FNE, SAD-New, SAD-General). The specific SAS-A items were assigned to factors according to the conceptual groupings listed in Table I. This analysis revealed a satisfactory fit for the three-factor model of social anxiety, with a Goodness-of-Fit Index equal to .91, an average standardized residual of .048, and χ^2 (132) = 341.4 ($p < .01$). Relative to a one-factor model of social anxiety (Goodness-of-Fit Index = .77; average standardized residual = .062), the three factor model represented a significant improvement (test of difference between the two models; χ^2 (1) = 346.1, $p < .0001$).

Following these analyses, scores for FNE, SAD-New and SAD-General were computed by summing the 5-point ratings for the items comprising each subscale. Internal consistencies (Cronbach's alpha) were .91 (FNE), .83 (SAD-New), and .76 (SAD-General).[4] In addition, interscale correlations re-

[4]These internal consistencies were higher than those obtained using the SASC-R with children (.86 for FNE, .78 for SAD-New, and .69 for SAD-General) (La Greca & Stone, 1993).

Table I. Factor Structure and Factor Loadings for Items of the Social Anxiety Scale for Adolescents (SAS-A)[a]

	Factors		
	I	II	III
Fear of Negative Evaluation (FNE)			
I worry about what others say about me (12)	*.84*	.24	.17
I worry that others don't like me (14)	*.83*	.25	.23
I'm afraid that others will not like me (9)	*.80*	.24	.19
I worry about what others think of me (8)	*.77*	.32	.11
I feel that others make fun of me (17)	*.58*	.22	.35
I worry about being teased (3)	*.52*	.42	.23
I feel that peers talk about me behind my back (6)	*.49*	.19	.26
If I get into an argument, I worry that the other person will not like me (18)	*.46*	.18	.36
Social Avoidance and Distress—New (SAD-New)			
I get nervous when I meet new people (13)	.23	*.83*	.15
I feel shy around people I don't know (4)	.19	*.75*	.15
I get nervous when I talk to peers I don't know very well (10)	.37	*.57*	.25
I feel nervous when I'm around certain people (20)	.29	*.55*	.28
I only talk to people I known really well (5)	.22	*.40*	.29
I worry about doing something new in front of others (1)	.25	*.36*	.21
Social Avoidance and Distress—General (SAD-G)			
It's hard for me to ask others to do things with me (22)	.22	.19	*.77*
I'm afraid to invite others to do things with me because they might say no (19)	.26	.09	*.70*
I am quiet when I'm with a group of people (15)	.13	.30	*.51*
I feel shy even with peers I know very well (21)	.12	.19	*.49*

[a]Item numbers are in parentheses; SAS-A.

Table II. Means (Standard Deviations in Parentheses) for the Social Anxiety Scale for Adolescents (SAS-A)[a]

	Boys	Girls	Total	*F*	*p*
n	101	149	250		
SAS-A					
Fear of Negative Evaluation	15.75 (5.8)	17.52 (6.8)	16.81 (6.4)	4.61	.033
Social Avoidance and Distress—New	14.65 (4.2)	15.86 (4.9)	15.37 (4.7)	4.05	.045
Social Avoidance and Distress—General	6.65 (2.4)	7.08 (3.0)	6.91 (2.8)	1.36	—
Total	37.07 (10.7)	40.46 (12.7)	39.09 (12.0)	4.87	.028
Median	37.0	39.0	38.0		

[a]SAS-A = Adolescent Version of Social Anxiety Scale for Children—Revised.

vealed that the SAS-A subscales were significantly interrelated, but distinct. These correlations were .52 (FNE and SAD-General), .55 (SAD-General and SAD-New), and .67 (between FNE and SAD-New) (all p's < .001).

Gender Differences

Mean scores for the three subscales and the total SAS-A are presented in Table II. A Gender × Grade analysis of variance revealed that girls reported more total social anxiety than did boys (p < .013). Follow-up analyses for each subscale indicated that adolescent girls reported greater fear of negative evaluation from peers, and more social avoidance and distress in new situations (see Table II), although the magnitude of these differences was relatively small. No grade effects or interactions between grade and gender were obtained.

Gender differences were also examined for the friendship and support variables; boys and girls were compared using an analysis of variance (ANOVA) procedures (see Table III). To protect against Type I error, a Bonferroni correction was applied for each set of measures. For example, for the analysis of the social support measure (the SPPA), the alpha level was set at .01 (.05/5 subscales = .01). As can be seen from Table III, in comparison to boys, girls reported more social support from their best friends and from their teachers, more intimacy in their close friendships, and perceptions of greater competency in their

Table III. Means (Standard Deviations in Parentheses) for the Measures of Social Functioning[a]

	Boys	Girls	Total	*F*	*p*
n	101	149	250		
Social Support (SSSCA)					
Classmates	3.36 (0.5)	3.39 (0.5)	3.38 (0.5)	0.07	–
Close friends	3.49 (0.6)	3.77 (0.5)	3.66 (0.5)	17.62	.0001
Parents	3.35 (0.5)	3.42 (0.6)	3.39 (0.6)	0.83	–
Teachers	2.81 (0.6)	3.19 (0.6)	3.04 (0.6)	23.99	.0001
Self-Perceptions (SPPA)					
Social acceptance	3.28 (0.5)	3.35 (0.6)	3.32 (0.6)	1.18	–
Romantic appeal	2.91 (0.6)	2.96 (0.7)	3.66 (0.5)	0.37	–
Close friends	3.33 (0.6)	3.57 (0.6)	3.47 (0.6)	10.85	.001
Scholastic competence	3.02 (0.5)	3.20 (0.6)	3.13 (0.6)	6.09	–
Behavioral conduct	2.95 (0.6)	3.12 (0.5)	3.05 (0.6)	5.97	–
Friendships					
Number of friends	4.82 (2.3)	4.46 (2.0)	4.60 (2.1)	1.84	–
Intimacy	3.57 (0.8)	4.16 (0.7)	3.92 (0.8)	37.10	.0001
Companionship	3.43 (0.7)	3.52 (0.7)	3.48 (0.7)	0.98	–

[a]SSSCA = Social Support Scale for Children and Adolescents; SPPA = Self-Perception Profile for Adolescents.

close friendships. Gender differences were not observed for support from parents and classmates, for the number of best friends, or for other areas of self-perceptions.

Social Anxiety: Relations to Peer Acceptance, Friendship, and Support Variables

Pearson correlations were computed to examine linkages between adolescents' social anxiety and their social functioning. However, prior to computing these correlations, the self-perception, social support, and friendship variables were organized into three conceptual groupings to reflect (a) general peer relations and social acceptance, (b) close friendships and friendship quality, and (c) non-peer-related perceptions of support and competency. These conceptual groupings are listed in Table IV, and were supported by a factor analysis of these measures.[5]

[5]A principal-components factor analysis with a varimax rotation was conducted for the subscales of the SPPA, SSSCA, and the friendship variables from the AI. The first factor (eigenvalue = 4.31; 39% of variance) reflected friendship quality, and consisted of the following measures (factor loading in parentheses): SPPA-Friendships (.66), SSSCA-Close Friends (.78), AI-Intimacy (.83), and AI-Companionship (.76). The second factor (eigenvalue = 1.65; 15% of variance) included all the non-peer related measures: SSSCA-Parents (.61), SSSCA-Teachers (.73), SPPA-Scholastic Competence (.71), and SPPA-Behavioral Conduct (.75). The last factor (eigenvalue = 1.01; 9.2% of variance) reflected general peer relations/social acceptance, and consisted of the following measures: SPPA-Social Acceptance (.63), SPPA-Romantic Appeal (.77), and SSSCA-Classmates (.81). No significant

Correlations between the SAS-A and the other measures were computed separately for girls and boys, and are presented in Table IV (boys' data are in parentheses). A conservative alpha level ($\alpha = .01$) was used to evaluate significance. The median correlation for each group of variables is also indicated in Table IV.

First, in terms of general peer relations, it was expected that social anxiety would be most closely linked to perceptions of social acceptance and support from the larger peer group (i.e., classmates). The pattern of findings is consistent with this notion. High socially anxious adolescents reported less support from classmates and lower perceptions of their social acceptance and romantic appeal, than low socially anxious adolescents. (See Table IV.) Median correlations were the highest for this group of variables. Although the pattern of results was the same for girls and boys, the correlations were consistently higher for girls.[6] For example, for girls, higher overall social anxiety (SAS-A total) was related to lower perceived support from classmates ($r = -.53$), and to lower perceptions of social acceptance ($r = -.52$) and romantic appeal ($r = -.51$). For boys, these correlations were –.25, –.39, and –.30, respectively.

Second, adolescents' close friendships appeared to be more strongly associated with girls' levels of social anxiety than boys'. Specifically, adolescent girls who reported higher levels of social anxiety also re-

[6]For the most part, a difference of .22 or more between the correlations for girls and boys is significant (based on Fisher's exact *z* test, with $p < .05$).

Table IV. Correlations Between SAS-A and Measures of Social Functioning: Girls (Correlations for Boys in Parentheses)[a]

	Total	SAS-A subscales		
		FNE	SAD-General	SAD-New
A. General peer relations/acceptance				
SPPA-Social Acceptance	-.52[c] (-.39[c])	-.42[c] (-.31[c])	-.57[c] (-.33[c])	-.42[c] (-.35[c])
SPPA-Romantic Appeal	-.51[c] (-.30[c])	-.48[c] (-.18)	-.39[c] (-.31[c])	-.42[c] (-.33[c])
Social Support-Classmates	-.53[c] (-.25[b])	-.48[c] (-.24[b])	-.55[c] (-.15)	-.39[c] (-.21)
Median correlation	*-.52 (-.32)*	*-.45 (-.24)*	*-.48 (-.24)*	*-.41 (-.28)*
B. Close friendships				
Number of best friends	-.28[c] (-.16)	-.20[b] (-.10)	-.30[c] (-.21)	-.28[c] (-.14)
Social Support-Close Friends	-.48[c] (-.12)	-.39[c] (-.05)	-.48[c] (-.28[b])	-.40[c] (-.08)
SPPA-Friendships	-.41[c] (-.17)	-.29[c] (-.07)	-.52[c] (-.29[c])	-.34[c] (-.16)
AI-Intimacy	-.33[c] (-.18)	-.24[b] (-.11)	-.36[c] (-.19)	-.25[c] (-.19)
AI-Companionship	-.25[c] (-.12)	-.19[b] (-.12)	-.31[c] (-.07)	-.17 (-.12)
Median correlation	*-.37 (-.15)*	*-.29 (-.09)*	*-.44 (-.13)*	*-.29 (-.14)*
C. Non-peer related				
Social Support-Parents	-.14 (-.10)	-.10 (-.12)	-.10 (-.11)	-.19 (-.04)
Social Supprt-Teachers	-.12 (-.05)	-.13 (.02)	-.09 (-.11)	-.10 (-.10)
SPPA-Scholastic Competence	-.21[b] (-.18)	-.14 (-.17)	-.26[c] (-.04)	-.18 (-.19)
SPPA-Behavioral Conduct	-.17 (-.13)	-.08 (-.10)	-.24[b] (.01)	-.17 (-.18)
Median correlation	*-.16 (-.12)*	*-.11 (-.08)*	*-.18 (-.05)*	*-.15 (-.12)*

[a]SAS-A = Adolescent Version of Social Anxiety Scale for Children—Revised; FNE = Fear of Negative Evaluation; SAD-General = Social Avoidance and Distress—General; SAD-New = Social Avoidance and Distress—New; SPPA = Self-Perception Profile for Adolescents; AI = Adolescent Interview.
[b]$p < .01$.
[c]$p < .001$ (one-tailed).

ported having fewer best friends, feeling less competent in their friendships, and perceiving their friendships as less supportive, less intimate, and lower in companionship (see Table IV). Of the SAS-A subscales, SAD-General was the one most strongly associated with the friendship variables. Although the overall pattern of results was similar for boys and girls, social anxiety was generally not significantly related to boys' friendships. The one exception was that boys who reported high levels of SAD-General reported less support from their close friends and perceived themselves to be less competent in their friendships. Overall, the median correlations between social anxiety and the friendship variables were lower than those obtained for the general peer acceptance variables (described above).

Third, adolescents' reports of social anxiety were not related to their perceptions of support from parents and teachers, and were minimally related to self-perceptions in nonsocial areas. For girls only, high levels of SAD-General were associated with lower perceptions of scholastic competency and behavioral conduct. The median correlations for this group of variables were considerably below those for the more peer-oriented variables, especially for girls.

Finally, to further clarify the linkages between social anxiety and social functioning, hierarchical regressions were used to examine the relative strength of adolescents' friendships and peer acceptance in "predicting" social anxiety scores. For each SAS-A subscale, two regressions were conducted. In the first, a set of peer acceptance variables[7] was entered on the first step, followed by a set of close friendships variables[8] on the second step; the order of the variable sets was reversed in the second regression analysis, to evaluate the unique and additive contributions of the social/friendship variables to the prediction of social anxiety. Table V summarizes these analyses for girls and boys, separately.

For girls, both close friendships and peer acceptance were significant predictors of social anxiety, and together accounted for 29% to 43% of the variance in SAS-A scores. In addition, girls' peer accep-

[7]The set of Peer Acceptance variables included: SPPA-Social Acceptance, SPPA-Romantic Appeal, and SSSCA-Classmates.

[8]The set of close friendship variables included three variables with high factor loadings for the "Friendship" construct: SPPA-Friendships, SSSCA-Close Friends, and AI-Intimacy. AI-Companionship was not considered in this set as it correlated highly with AI-Intimacy ($rs > .60$), and could have led to problems wiht multicolinearity in the regression analyses.

Table V. Summary of Hierarchical Regressions Predicting Social Anxiety from Social Functioning[a]

Variable set		R	R^2	R^2 change	F (equation)
		Girls (n = 149)			
Fear of Negative Evaluation					
Step 1	Close friendships[b]	.39	.16		8.78[f]
Step 2	Peer acceptance[c]	.60	.37	.21[f]	13.47[f]
Step 1	Peer acceptance	.58	.34		24.68[f]
Step 2	Close friendships	.60	.37	.02	13.47[f]
SAD-General					
Step 1	Close friendships	.54	.29		19.77[f]
Step 2	Peer acceptance	.66	.43	.14[f]	17.62[f]
Step 1	Peer acceptance	.63	.39		30.74[f]
Step 2	Close friendships	.66	.43	.04[d]	17.62[f]
SAD-New					
Step 1	Close friendships	.41	.17		9.80[f]
Step 2	Peer acceptance	.54	.29	.12[f]	9.53[f]
Step 1	Peer acceptance	.51	.26		16.45[f]
Step 2	Close friendships	.54	.29	.03	9.53[f]
		Boys (n = 101)			
Fear of Negative Evaluation					
Step 1	Close friendships	.16	.03		.86
Step 2	Peer acceptance	.33	.11	.08[d]	1.90
Step 1	Peer acceptance	.31	.10		3.34[d]
Step 2	Close friendships	.33	.11	.01	1.90
SAD-General					
Step 1	Close friendships	.31	.10		3.44[d]
Step 2	Peer acceptance	.44	.19	.09[d]	3.59[e]
Step 1	Peer acceptance	.38	.14		5.21[e]
Step 2	Close friendships	.44	.19	.05	3.59[e]
SAD-New					
Step 1	Close friendships	.25	.06		2.16
Step 2	Peer acceptance	.43	.18	.12[e]	3.42[e]
Step 1	Peer acceptance	.42	.17		6.55[f]
Step 2	Close friendships	.43	.18	.01	3.42[e]

[a]SAD-General = Social Avoidance and Distress—General; SAD-New = Social Avoidance and Distress—New.
[b]Variables = Adolescent Interview-Intimacy; Social Support-Close Friends; Perceptions-Friendships.
[c]Variables = Social Support-Classmates; Perceptions-Social Acceptance; Perceptions-Romatic Appeal.
[d]$p < .05$.
[e]$p < .01$.
[f]$p < .001$.

tance consistently contributed to the prediction of social anxiety, even after accounting for the contributions of close friendships (see Table V). Close friendships also contributed to the prediction of SAD-General, beyond the variance explained by peer acceptance. For boys, peer acceptance was consistently associated with social anxiety, predicting 10% to 17% of the variance in SAS-A scores. In contrast, close friendships were only predictive of SAD-General (10% of the variance), and did not add to the prediction of SAD-General when peer acceptance was first considered. Across the analyses, betas for

specific variables were negative (i.e., lower peer acceptance and poorer quality friendships were linked with greater social anxiety).

DISCUSSION

The findings of the present investigation extend previous research on adolescents' interpersonal functioning in several important ways. Specifically, the results provide initial support for the utility of the SAS-A for assessing social anxiety among adolescents. In addition, the findings help to document important linkages between adolescents' social anxiety and their friendships and peer relations. The key findings will be discussed in turn.

A primary goal of this study was to examine the factor structure and psychometric properties of the SAS-A. Both exploratory and confirmatory factor analyses revealed essentially the same underlying factor structure as that obtained with elementary school children (La Greca & Stone, 1993); that is, three factors emerged: FNE, SAD-New, and SAD-General. These findings provide some support for the developmental continuity of these components of social anxiety. In addition, satisfactory levels of internal consistency were obtained for the SAS-A subscales, and moderate interrelationships among the subscales were observed. Together, these data provide initial psychometric support for the SAS-A.

As has been the case with children (Crick & Ladd, 1993; La Greca & Stone, 1993), gender differences were apparent in adolescents' reports of social anxiety (i.e., FNE, SAD-New). Kashani and colleagues (1989) observed that adolescent girls appeared to have a greater concerns than boys about feelings of social inadequacy, consistent with our findings of greater social anxiety for adolescent girls.

The availability of an instrument to assess social anxiety that has been validated across a wide age range (i.e., 7 through 18 years of age) may facilitate developmental and longitudinal investigations of children's social and affective functioning. The SAS-A may also prove useful for examining the onset and course of social phobia or other anxiety-related disorders that have substantial social components. To date, research into the factors contributing to youngsters' anxiety disorders has focused largely on family and biological variables (e.g., Black, 1995; Bruch, 1989; Weissman et al., 1984). Peer influences have received much less attention, despite findings that children with clinically significant anxiety disorders are liked less by their peers and tend to be neglected by their classmates (Strauss, Lease, Kazdin, Dulcan, & Last, 1989). Further exploration of the potential role of social anxiety as a mediator between poor peer relations and the development of clinically significant anxiety disorders in children and adolescents would be of substantial interest (Ginsburg, La Greca, & Silverman, 1998; Silverman & Ginsburg, 1995). The availability of an instrument such as the SAS-A may facilitate such investigations.

Perhaps of most importance in the present study were the findings linking adolescents' social anxiety with their general peer acceptance, as well as the obtained associations between social anxiety and girls' close friendships. First, it was observed that adolescents who reported higher levels of social anxiety felt less accepted and supported by their classmates and less romantically attractive to others. These associations were apparent for both boys and girls, although they were stronger for girls. These findings extend previous work with children that revealed linkages between social anxiety and peer acceptance (e.g., La Greca & Stone, 1993). If socially anxious adolescents perceive their general social acceptance or romantic appeal to be low, as the present results indicate, this may lead them to miss out on important socialization experiences and, over time, may contribute to impairments in social functioning. Consistent with this perspective, clinical reports suggest that about 70% of adults with social phobia (an extreme form of social anxiety) report impairments in their social relationships (e.g., Turner, Beidel, Dancu, & Keys, 1986), and epidemiological studies have shown that adults with social phobia are less likely to marry than normal controls (e.g., Schneier et al., 1992).

Given the cross-sectional nature of the present investigation, it was not possible to determine whether feelings of social anxiety contributed to poor peer relations among adolescents, or whether poor peer relations led to feelings of social anxiety. However, it is conceivable that being neglected or excluded from peer interactions represents a significant stressor for adolescents (Frankel, 1990), that leads to feelings of social apprehension, worry, or distress (see Leary, 1990); these subjective feelings, in turn, may lead to behavioral avoidance of peers, and contribute to missed opportunities for normal socialization experiences. In this manner, social anxiety may help to explain the linkages between poor peer relations and the clinical impairment associated with

youngsters' anxiety disorders (Strauss et al., 1989). Further research of a longitudinal nature will be helpful in elucidating such etiological pathways.

Also important and unique to the present investigation were the findings linking social anxiety with adolescent girls' close friendships. Specifically, socially anxious girls (especially those with high levels of generalized social avoidance and distress) reported having fewer best friends and these friendships were perceived to be lower in intimacy, companionship, and emotional support than were the friendships of less socially anxious girls. In contrast, for boys, social anxiety was not typically related to friendship qualities, although generalized social avoidance and distress was associated with less perceived support and competency in boys' close friendships.

These results are troubling, as they suggest that social anxiety may interfere substantially with girls' close interpersonal relationships. Intimacy and emotional support from close friends are salient features of adolescent girls' friendships, as our findings and others' have indicated (e.g., Berndt, 1982; Harter, 1985); thus factors that interfere with the development of close, intimate friendships—such as feelings of social anxiety—may have a greater negative impact on girls than on boys. Alternatively, it may be the case that girls who encounter difficulties in their close friendships are especially *vulnerable* to feelings of anxiety. Our findings are consistent with these notions, as well as with previous work with early adolescents (Vernberg et al., 1992), that suggested a bidirectional relationship between problems in close friendships and feelings of social anxiety for girls.

Despite the important contributions of this study, limitations should be noted. First, the crosssectional nature of the study precluded an evaluation of reciprocal influences between adolescents' social anxiety and their interpersonal functioning. Although this was a necessary beginning point to explore the construct of social anxiety among adolescents, future studies might consider using short-term longitudinal methodologies, particularly during important social transition periods (e.g., school transitions, relocation), to further elucidate the causal pathways between social anxiety and social/emotional dysfunction.

Another limitation of this study is that the measures were based exclusively on adolescent reports. Adolescents' perspectives were elicited in this study because adolescents are considered to be the best informants for internalizing difficulties, relative to parents or teachers (Loeber, Green, & Lahey, 1990). Adolescents are also likely to be the best source of information regarding peer relations and friendships. Parents, for example, may be unaware of their adolescents' friendships. Although adolescents were the sole informants, the pattern of obtained findings suggests that shared method variance alone could not account for these results. For example, social anxiety was related to adolescents' peer relations and friendships but not to social support from adults. Also, different patterns of results were obtained for boys and girls. Nevertheless, in future studies, it would be useful to consider obtaining input from significant others (e.g., parents) in the adolescents' lives.

In conclusion, the present results highlight the interconnections between adolescents' social anxiety and their interpersonal functioning, and identify gender differences in adolescents' reports of social anxiety and close friendships. Kashani et al. (1989) observed that social/interpersonal anxiety appears to be a fact of life for adolescent boys and girls at about the time when satisfaction with family decreases and peers become the focus of attention. Future efforts to study linkages between social anxiety and adolescents interpersonal functioning seem crucial. In particular, efforts to understand why girls appear to be more vulnerable to feelings of social anxiety than boys, as well as efforts to evaluate the specific pathways by which social anxiety may lead to social impairment, would be especially illuminating. In addition, the role of social anxiety in the onset and course of anxiety disorder among adolescents appears to be a fruitful avenue for further study.

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