

# The Screen for Child Anxiety Related Emotional Disorders (SCARED): Scale Construction and Psychometric Characteristics

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## ABSTRACT

**Objective:** To develop a reliable and valid child and parent self-report instrument to screen children with anxiety disorders. **Method:** An 85-item questionnaire was administered to 341 outpatient children and adolescents and 300 parents. Utilizing item analyses and factor analyses, the original scale was reduced to 38 items. A subsample of children ( $n = 88$ ) and parents ( $n = 86$ ) was retested an average of 5 weeks (4 days to 15 weeks) after the initial screening. **Results:** The child and parent Screen for Child Anxiety Related Emotional Disorders (SCARED) both yielded five factors: somatic/panic, general anxiety, separation anxiety, social phobia, and school phobia. For the total score and each of the five factors, both the child and parent SCARED demonstrated good internal consistency ( $\alpha = .74$  to  $.93$ ), test-retest reliability (intraclass correlation coefficients =  $.70$  to  $.90$ ), discriminative validity (both between anxiety and other disorders and within anxiety disorders), and moderate parent-child agreement ( $r = .20$  to  $.47$ ,  $p < .001$ , all correlations). **Conclusions:** The SCARED shows promise as a screening instrument for anxiety disorders. Future studies using the SCARED in community samples are indicated. *J. Am. Acad. Child Adolesc. Psychiatry*, 1997, 36(4):545-553. **Key Words:** children, adolescents, anxiety disorder, rating scales.

Anxiety disorders in children and adolescents are one of the most prevalent forms of psychopathology, affecting as many as 10% of youth (Anderson, 1994; Bell-Dollan and Brazeal, 1993; Bernstein and Borchardt, 1991; Kashani and Orvaschel, 1990). These disorders are often associated with psychosocial difficulties, school problems, low self-esteem, and increased risk for other serious conditions including depression, suicide, and substance abuse (e.g., Breslau et al., 1995; Keller et al., 1992; Klein, 1994; Lipsitz et al., 1994; Reinherz et al., 1993; Strauss et al., 1988).

Anxiety disorders are often unrecognized and underdiagnosed, despite their prevalence and associated mor-

bidity. This may be due both to their frequent co-occurrence with other disorders, in particular depression, as well as the covert nature of anxiety symptomatology (Curry and Murphy, 1995; Kendall et al., 1992; Kovacs et al., 1989).

Structured interviews have been used to reliably diagnose anxiety disorders in children, but they are time-consuming, they require trained interviewers, and their validity with regard to anxiety disorders still needs further research (for a review, see Costello et al., 1994; Klein, 1994; Silverman, 1994). Alternatively, one can use rating scales to assess anxiety symptomatology. Three rating scales have been used to measure various symptoms of anxiety in children and adolescents: the Revised Children's Manifest Anxiety Scale (Reynolds and Richmond, 1978), the Revised Fear Survey Schedule for Children (Ollendick, 1983), and the Cognitive and Somatic State and Trait Anxiety Scale (CSSTAS) (Spielberger, 1973). In addition, the Social Anxiety Scale for Children has been used to evaluate social anxiety and fear of negative evaluation (LaGreca and Stone, 1993). Overall, these self-reports possess moderate to high internal consistency and moderate test-

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retest reliability. While in some studies the CSSTAS has been shown to discriminate anxious from other psychiatrically disordered and normal children (Bell-Dollan et al., 1990; Hodges, 1990; Last, 1991), other studies have questioned the discriminant validity of the above-noted scales (Hoehn-Saric et al., 1987; Mattison and Babnato, 1987; Perrin and Last, 1992; Strauss et al., 1988). Furthermore, while the currently used rating scales are useful to assess general anxiety symptomatology, they do not differentiate individual anxiety disorders (e.g., panic versus separation anxiety disorders) (Brady and Kendall, 1992; Klein, 1994; Silverman, 1994; Stallings and March, 1995).

Thus, there appears to be a need for a practical instrument that would serve as a reliable and valid screening tool for anxiety disorders and also provide diagnostic information about the type(s) of anxiety disorder of the responder. For this purpose, a self-report instrument, the Screen for Child Anxiety Related Emotional Disorders (SCARED), for children and their parents was developed to screen for the following anxiety disorders: general anxiety disorder (GAD), separation anxiety disorder (SAD), panic disorder, social phobia, and school phobia. This article presents the scale construction along with internal consistency, reliability, and discriminant validity studies of the SCARED. A subsequent article will present the concurrent and convergent validity of the SCARED with other self-report instruments.

## METHOD

First, a list of items with clinically relevant questions based on the *DSM-IV* (American Psychiatric Association, 1994) classification of anxiety disorders was generated. This questionnaire was then administered to a small sample of children of various ages to determine basic comprehension. Comments and criticisms from these children were used to modify questions with age-appropriate wording and sentence construction. Eighty-five questions identifying symptoms of SAD, GAD, panic disorder, social phobia, and school phobia were included, in random order, throughout the questionnaire. Several of these 85 questions were similar in content but different in wording so as to provide an opportunity to determine the best wording and sentence construction for children. Severity of symptoms was rated for the past 3 months using a 0- to 2-point rating scale, with 0 meaning not true or hardly ever true, 1 meaning sometimes true, and 2 meaning true or often true.

Patients' psychiatric diagnoses were made by interviewing both children and parents using one of two methods: a clinical interview which includes a comprehensive symptom list for all *DSM-IV* diagnostic categories (Birmaher and Poling, unpublished) or the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present Episode (K-SADS-P) (Chambers et al., 1985),

which was modified for anxiety disorders (Last, unpublished). No one subject received both K-SADS and the clinical interview.

To examine the test-retest reliability of the SCARED, a group of children ( $n = 88$ ) and parents ( $n = 86$ ) were retested an average of 5 weeks after the initial screening (range = 4 days to 15 weeks).

## Sample

Three hundred forty-one consecutive referrals to a mood/anxiety disorders clinic completed the SCARED. The children's ages ranged from 9 to 18 years (mean age  $14.5 \pm 2.3$  years), 59% ( $n = 203$ ) were female, 82% ( $n = 278$ ) were Caucasian, and 18% ( $n = 63$ ) were African-American. Of these children, 180 were interviewed with the clinical interview and 161 with the K-SADS-P. Of the 341 parents requested to fill out the SCARED parent version, 300 parents completed the entire form.

Similar to other studies (e.g., Angold and Costello, 1993; Kashani and Orvaschel, 1990; Last et al., 1987; Strauss et al., 1988), the majority of the anxious children included in this study had two or more anxiety disorders and there was substantial comorbidity with the depressive and disruptive disorders. One hundred sixty-nine children had an anxiety disorder (47 SAD, 89 GAD, 27 social phobia, 26 school phobia, and 22 panic disorder); 236 had a depressive disorder (166 major depressive disorder, 54 dysthymia, 43 depressive disorder not otherwise specified); and 125 had a disruptive disorder (52 attention-deficit hyperactivity disorder, 97 conduct/oppositional disorders). Of the 341 children, 70 had pure anxiety disorders (defined as anxious children without depression and disruptive disorders) (21 SAD, 25 GAD, 14 social phobia, 19 school phobia, and 10 panic disorder); 138 had pure depression (no anxiety and disruptive disorders) (92 major depressive disorder, 26 dysthymia, 31 depressive disorder not otherwise specified); and 35 had pure disruptive disorders (no anxiety and depressive disorders) (19 attention-deficit hyperactivity disorder, 26 conduct/oppositional disorder).

## Data Analysis

Data distributions were examined for normality using the Shapiro and Wilk  $W$  statistic (Shapiro and Wilk, 1965). Where significantly nonnormal distributions were found, transformations were performed to normalize the distributions before using parametric tests. In cases in which no transformation normalized the data, nonparametric statistics (e.g., Kruskal-Wallis) were used. Sample characteristics were compared using  $t$  tests,  $\chi^2$  tests, and Fisher's exact tests as appropriate.

Data from both the parent and child samples were analyzed using item analysis and principal-components factor analysis with varimax rotation (Spector, 1992). Several factor solutions were analyzed. Only those solutions with factors with eigenvalues greater than 1 and which were clinically sound were chosen. Internal consistency was measured by means of coefficient  $\alpha$  and parent-child correlations through Pearson correlations ( $r$ ).

Test-retest correlations were measured through intraclass correlation coefficients (ICCs). In addition, because of the variability in the test-retest intervals, partial correlation analyses controlling for different time intervals were performed (SPSS, 1994). Analyses of covariance were used to test effects of age, sex, and race on all variables analyzed. Discriminant validity was examined using parametric and nonparametric statistics (e.g., analysis of variance) and receiver operating characteristic (ROC) analysis (Mossmann and Somoza, 1991; Somoza et al., 1989; Somoza and Mossmann, 1991). This method is a standard way of assessing multiple pairs of test

sensitivities (rates of true positives) and specificities (rate of false positives) at numerous cutoff scores.

For the most part, data from all the above-noted analyses showed similar results for both children and parents. Therefore, with few exceptions, results will be presented using only the SCARED child form.

The K-SADS generated *DSM-III-R* (American Psychiatric Association, 1987) anxiety diagnoses, and the clinical interview generated *DSM-IV* anxiety diagnoses. However, analysis of the data from patients interviewed with the K-SADS yielded results similar to those obtained from analysis of data from patients interviewed with the clinical interview. Therefore, the data obtained with these two interview methods were combined.

All values are reported as means  $\pm$  SD. All *p* values are based on two-tailed tests. Corrections for multiple comparisons were performed using the Bonferroni correction method.

## RESULTS

### Scale Reduction and Internal Consistency

An item analysis was conducted with the purpose of reducing the original 85-item scale and to ensure that items formed an internally consistent scale. Item-remainder correlation coefficients were derived for both parent and child samples, and final scale reduction was conducted by identifying items with item-remainder correlation coefficients greater than .40. Items that overlapped with symptoms of depression were excluded (e.g., sleep problems, tiredness, irritability). Four items with item-remainder correlation coefficients between .30 and .39 were retained on the final 38-item scale because of their clinical relevance and included the following items: "I get scared if I sleep away from home" (.32); "I worry about sleeping alone" (.39); "I follow my mother or father wherever they go" (.30); and "I don't like to be away from my family" (.38). The other 34 items had item-remainder coefficients in the range of .40 to .69.

The original 85-item scale, and final 38-item scale, had coefficient  $\alpha$  values of .96 and .93, respectively, for the total score.

### Factor Structure

Principal-components factor analyses with varimax rotation were conducted on the 85- and 38-item parent and child scales (Table 1). Both scales yielded identical five-factor solutions, with all factors having eigenvalues greater than 1. The factors were (1) somatic/panic, (2) generalized anxiety, (3) separation anxiety, (4) social phobia, and (5) school phobia. The factor solution showed good internal consistency, with coefficient  $\alpha$

values ranging from .74 to .89. The factor scores were relatively independent, however, with correlations among individual factors ranging from .17 to .30. Children's scores on a given factor accounted for less than 10% of the variance in any of remaining factor scores.

### Age, Sex, and Race Differences

There were very few age, sex, or race differences in both parents' and children's responses to the items on the SCARED. In the child report, younger children (aged 9 to 12 years,  $n = 61$ ) had significantly higher separation anxiety scores than older children (>12 years old,  $n = 280$ ) ( $4.9 \pm 3.8$  versus  $2.1 \pm 2.5$ ,  $t_{1,339} = 5.36$ ,  $p < .001$ ). However, no age differences were found on the parent report.

The child and parent total anxiety scores, generalized anxiety, separation anxiety, panic, and school phobia factors were significantly higher in females than in males (all noted comparisons  $p < .05$ ).

There were no race differences in the child SCARED. In the parent SCARED, African-American children had significantly higher scores on the separation anxiety factor ( $3.8 \pm 3.3$  versus  $2.6 \pm 3.1$ ,  $t_{1,297} = 2.0$ ,  $p = .05$ , after Bonferroni correction) than Caucasian children.

### Parent-Child Correlations

Parent-child correlation for the total anxiety score was  $r = .33$ , and for specific factors, correlations ranged from a low of .20 for social phobia to a high of .47 for SAD and school phobia (all noted comparisons  $p < .001$ ). There were no age, sex, and age or sex by diagnosis effects on the parent-child correlations.

### Test-Retest Reliability

A total of 88 children and 86 parents completed the SCARED on two different occasions ranging from 4 days to 15 weeks apart (median time: 5 weeks), with 79% of these children completing the SCARED within 8 weeks of the original date of completion. ICCs were .86 for the total score, .70 to .90 for the individual factors, and not significantly different if calculated separately for children who completed retest before or after 5 weeks. When ICCs were recalculated controlling for retest time intervals, they were somewhat lower, but not significantly different.

There were no age, sex, or age or diagnosis by age or sex effects on the test-retest correlations.

**Table 1. Factor Analysis (38-Item SCARED)\***

FACTORS	I	II	III	IV	V
	somatic / panic	general anxiety	separation anxiety	social phobia	school phobia
<b>Correlations by Factor</b>	<b>0.92</b>	<b>0.91</b>	<b>0.85</b>	<b>0.88</b>	<b>0.88</b>
1) when frightened, it is hard to breathe	0.65				
2) get headaches when I am at school					0.30
3) don't like to be with people I don't know				0.75	
4) get scared if I sleep away from home			0.62		
5) worry about others liking me		0.59			
6) when frightened, I feel like passing out	0.73				
7) I am nervous		0.41			
8) I follow my parents wherever they go			0.55		
9) people tell me I look nervous	0.48				
10) feel nervous w/people I don't know well				0.77	
11) I get stomachaches at school					0.43
12) when frightened, feel like going crazy	0.56				
13) I worry about sleeping alone			0.51		
14) worry about being good as other kids		0.71			
15) when frightened, feel things aren't real	0.56				
16) I have nightmares about parents			0.62		
17) I worry about going to school					0.78
18) when frightened, my heart beats fast	0.49				
19) I get shaky	0.60				
20) nightmares about bad happening to me			0.41		
21) worry about things working out for me		0.76			
22) when frightened, I sweat a lot	0.57				
23) I am a worrier		0.64			
24) I get really frightened for no reason	0.53				
25) I'm afraid to be alone at home			0.65		
26) hard to talk with people I don't know				0.84	
27) when frightened, feel like I am choking	0.65				
28) people tell me I worry too much		0.57			
29) I don't like being away from family			0.69		
30) afraid of having anxiety (panic) attacks	0.57				
31) worry that bad happens to parents			0.67		
32) I'm shy with people I don't know well				0.77	
33) I worry about the future		0.71			
34) when frightened, feel like throwing up	0.57				
35) I worry about how well I do things		0.72			
36) I'm scared to go to school					0.80
37) I worry about things in the past		0.59			
38) when frightened, I feel dizzy	0.74				

\*Factor 1: Items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38; Factor 2: Items 5, 7, 14, 21, 23, 28, 33, 35, 37;

Factor 3: Items 4, 8, 13, 16, 20, 25, 29, 31; Factor 4: Items 3, 10, 26, 32; Factor 5: Items 2, 11, 17, 36

**TABLE 2**  
Comparison of Anxiety Disorders With Other Nonanxiety Psychiatric Disorders (Child Form)

Child Form	Anxiety Cases ( <i>n</i> = 169)	Nonanxiety Cases ( <i>n</i> = 172)	<i>t</i> Value	<i>p</i> Value
Total score	26.76 ± 14.68	17.24 ± 12.06	6.54	<.0001
Factor 1 (panic/somatic)	6.86 ± 6.09	3.87 ± 4.22	5.28	<.0001
Factor 2 (general anxiety)	9.14 ± 4.92	6.58 ± 4.77	4.87	<.0001
Factor 3 (separation anxiety)	3.45 ± 3.36	1.84 ± 2.30	5.14	<.0001
Factor 4 (social phobia)	3.69 ± 2.54	2.73 ± 2.43	3.56	.0004
Factor 5 (school phobia)	2.58 ± 2.05	1.43 ± 1.56	5.84	<.0001

Note: Values represent mean ± SD.

#### Discriminant Validity

1. *Comparison of Anxiety Disorders as a Group With Nonanxiety Psychiatric Disorders.* As depicted in Table 2, the total score and the total scores for each of the five factors from the child SCARED form significantly differentiated children with anxiety disorders (*n* = 169) from those with nonanxiety psychiatric disorders (*n* = 172).

2. *Comparison of Children With Pure Anxiety, Depression, and Disruptive Disorders.* Table 3 compares children with pure anxiety (*n* = 70), depressive disorders (*n* = 138), and disruptive disorders (*n* = 35).

*Children With Pure Anxiety Versus Pure Disruptive Disorders.* The total anxiety and each of the five factors significantly differentiated children with anxiety disorders from those with disruptive disorders (*p* values < .05) (Table 3).

*Children With Pure Anxiety Versus Pure Depressive Disorders.* The separation anxiety and school phobia factors from both child and parent forms, and the somatic/panic anxiety factor from the parent form, significantly discriminated between anxious and depressed children (*p* values < .05) (Table 3).

3. *Comparisons Within Individual Anxiety Disorders.* Children with panic disorder (*n* = 22) showed significantly higher scores on the somatic/panic factor than children with other anxiety disorders (*n* = 151) (13.0 ± 6.1 versus 6.0 ± 5.6,  $t_{1,171} = 5.39$ , *p* = .0001, respectively). Children with GAD (*n* = 90) showed significantly higher scores on the GAD factor than children with other anxiety disorders (*n* = 83) (11.0 ± 4.4 versus 7.2 ± 4.9,  $t_{1,171} = 5.39$ , *p* = .0001, respectively), and children with SAD (*n* = 48) showed significantly higher scores on the SAD factor than

**TABLE 3**  
Comparison of Children With Pure Anxiety, Depression, and Disruptive Disorders (Child Form)

Child Form	Anxiety ( <i>n</i> = 70)	Depression ( <i>n</i> = 138)	Disruptive ( <i>n</i> = 35)	Statistics	
				<i>F</i>	<i>p</i> Value
Total score	22.89 ± 13.16 <sup>a</sup>	18.80 ± 11.81 <sup>a</sup>	11.09 ± 11.15 <sup>b</sup>	11.05	.001
Factor 1 (panic/somatic)	5.47 ± 4.70 <sup>a</sup>	4.27 ± 4.34 <sup>a</sup>	2.26 ± 3.33 <sup>b</sup>	6.48	.001
Factor 2 (general anxiety)	7.37 ± 4.50 <sup>a</sup>	7.23 ± 4.68 <sup>a</sup>	4.03 ± 4.03 <sup>b</sup>	7.59	.001
Factor 3 (separation anxiety)	3.51 ± 3.53 <sup>a</sup>	1.96 ± 2.36 <sup>b</sup>	1.37 ± 2.02 <sup>b</sup>	10.16	.001
Factor 4 (social phobia)	3.33 ± 2.44 <sup>a</sup>	2.94 ± 2.50 <sup>a,c</sup>	1.91 ± 1.98 <sup>b,c</sup>	4.04	.01
Factor 5 (school phobia)	2.39 ± 1.99 <sup>a</sup>	1.56 ± 1.58 <sup>b</sup>	0.89 ± 1.37 <sup>c</sup>	10.41	.001

Note: Values represent mean ± SD. Means not sharing a superscript letter are significantly different. All analyses were protected for multiple comparisons using Bonferroni correction method.

children with other anxiety disorders ( $n = 126$ ) ( $5.9 \pm 4.1$  versus  $2.5 \pm 2.4$ ,  $t_{1,172} = 5.45$ ,  $p = .0001$ , respectively). For children with social phobia or school phobia, only the parent report was significantly different, with social-phobic children ( $n = 28$ ) and school-phobic children ( $n = 25$ ) having higher scores on the social phobia ( $4.8 \pm 2.5$  versus  $3.3 \pm 2.6$ ,  $t_{1,167} = 2.72$ ,  $p = .007$ ) and school phobia factors ( $6.0 \pm 2.0$  versus  $4.5 \pm 2.8$ ,  $t_{1,166} = 3.13$ ,  $p = .003$ ), respectively, than children with other anxiety disorders.

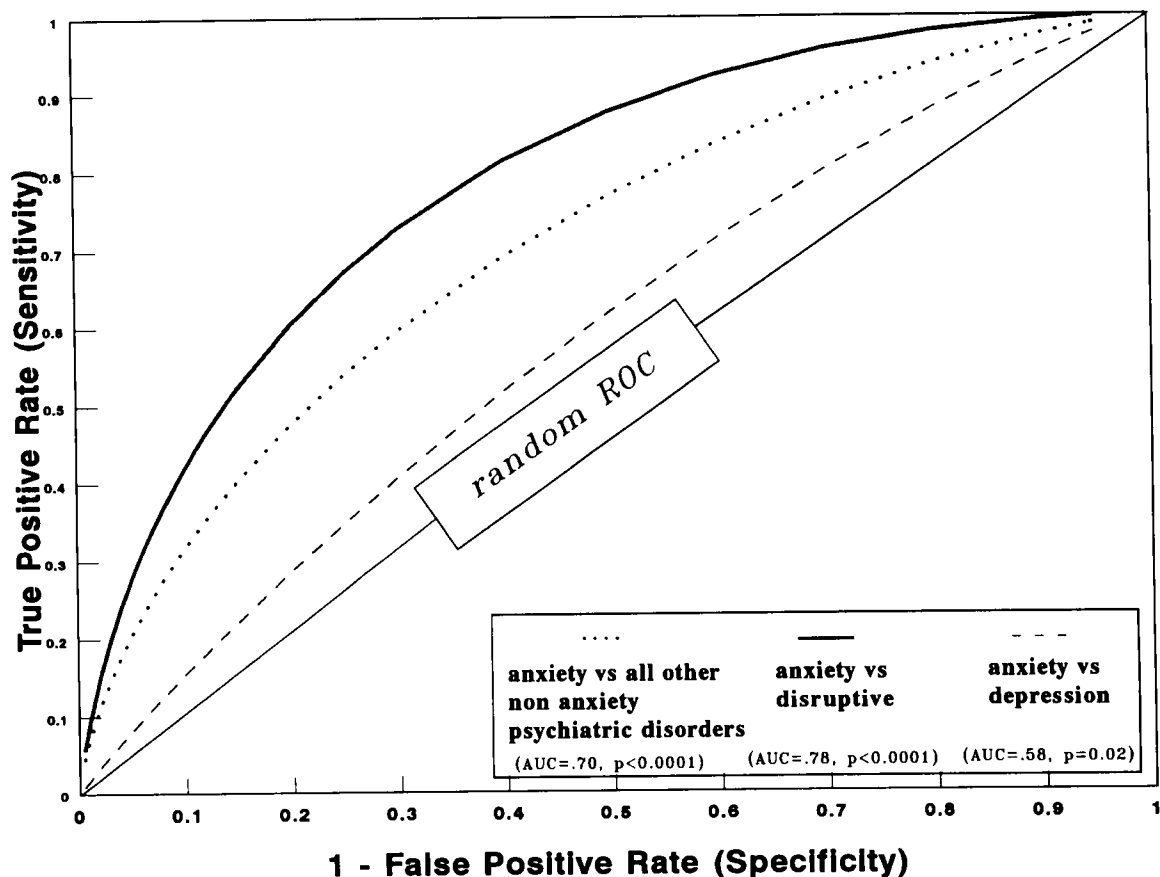
**4. Receiver Operating Characteristic Analysis: Sensitivity and Specificity.** ROC analyses were carried out using the SCARED total anxiety and individual factor scores. To assess whether any specific cutoff scores significantly discriminates between anxious and nonanxious children, the ROC method was used (e.g., Somoza et al., 1989). The optimal cutoff point is determined by plotting sensitivity versus  $1 - \text{specificity}$  and examining the point of maximum deviation from chance.

For illustration, Figure 1 shows the child total anxiety score ROC curve comparing pure anxiety ( $n = 70$ ) versus pure nonanxiety psychiatric disorders ( $n = 173$ ), pure anxiety versus pure depression ( $n = 138$ ), and pure anxiety versus pure disruptive disorders ( $n = 35$ ).

Table 4 shows the optimal cutoff scores with their respective sensitivity and specificity values derived from the ROC obtained for the comparison among pure anxiety, depression, and disruptive disorders.

**Pure Anxiety Versus Nonanxiety Psychiatric Disorders.** The area under the curve (AUC) for the total anxiety score was .70 ( $p = .0001$ ). The AUCs for each individual factor ranged between .86 for the somatic/panic factor to .66 for the social phobia factor. All were significantly different from the random AUC ( $p$  values between .05 and .0001).

**Pure Anxiety Versus Pure Disruptive Disorders.** The AUCs for the comparison of anxiety with disruptive disorder for the total anxiety score and each individual



**Fig. 1** Child total anxiety score: estimated binormal ROC comparing pure anxiety ( $n = 70$ ) versus pure nonanxiety psychiatric disorders ( $n = 173$ ), pure anxiety versus pure disruptive disorders ( $n = 35$ ), and pure anxiety versus pure depression ( $n = 138$ ). ROC = receiver operating characteristic curve; AUC = area under the curve.

**TABLE 4**  
Pure Anxiety, Depression, and Disruptive Disorder ROC Analysis: Cutoff Scores;  
Sensitivity and Specificity (Child Form)

	Maximum Score	Optimal Cutoff	Sensitivity (%)	Specificity (%)
Total anxiety score	76	15	70	50
Factor 1 (panic/somatic)	26	9	80	84
Factor 2 (general anxiety)	18	8	72	64
Factor 3 (separation anxiety)	16	4	76	80
Factor 4 (social phobia)	8	4	71	59
Factor 5 (school phobia)	8	3	67	58

Note: Anxiety:  $n = 70$ ; depression:  $n = 138$ ; disruptive disorder:  $n = 35$ . ROC = receiver operating characteristic curve.

factor ranged between .68 and .78. All were significantly different from the random AUC (all  $p$  values  $< .0001$ ).

*Pure Anxiety Versus Pure Depression.* The comparison with depression yielded AUCs for the total anxiety, somatic/panic, separation anxiety, and school phobia factors of approximately .60. All were significantly different from the random AUC (all  $p$  values  $< .02$ ). AUCs for GAD and social phobia were nonsignificant.

## DISCUSSION

The purpose of this study was to develop an empirically derived self-report instrument for use in clinical settings that would screen for *DSM-IV* childhood anxiety disorders.

The child and parent SCARED each produced five robust factors: somatic/panic anxiety, general anxiety, separation anxiety, social phobia, and school phobia. The first four factors correspond to their *DSM-IV* counterparts. School phobia is not a *DSM-IV* diagnostic category, but it is a common clinical entity that is seen both comorbidly and independently from other anxiety disorders (Berg, 1993).

The SCARED demonstrated good reliability as measured by internal consistency and test-retest reliability. Comparable with the parent-child correlations for psychiatric symptoms reported in the literature (e.g., Herjanic and Reich, 1982; Kashani et al., 1985; Klein, 1994; Rapee et al., 1994; Weissman et al., 1987), the SCARED showed moderate parent-child correlations with a correlation of .33 ( $p = .001$ ) for the total anxiety score. As would be expected, lower parent-child correlations were seen with more covert behaviors as was found in adolescents with social phobia ( $r = .20$ ,  $p = .001$ ), and higher parent-child correlations in children with more overt behaviors, such as in children

with separation anxiety or school phobia ( $r = .45$ ,  $p = .001$ ).

The SCARED showed good discriminant validity, both between children with anxiety versus nonanxiety disorders and among individual anxiety disorders. The SCARED did particularly well differentiating anxiety disorders from disruptive disorders. The SCARED also discriminated children with anxiety and depression on the child's total score, somatic/panic, separation anxiety, and school phobia factors. Despite the fact that items with symptoms that correspond to depression were excluded from the SCARED, there was significant overlap between the anxiety and depressive disorders. Similar results have been reported in adult studies (for a review see Clark and Watson, 1991; Somoza et al., 1994). It is not surprising that anxiety and depression measures in general do not discriminate well between anxious and depressed patients (e.g., Eason et al., 1985; Norvell et al., 1985; Ollendick and Yule, 1990; Somoza et al., 1994; Wolfe et al., 1987). First, genetic, family aggregation, epidemiological, nosological, and biological studies have shown a strong relationship between anxiety and depression in adult and youth populations (e.g., Angold and Costello, 1993; Biederman et al., 1995; Birmaher et al., 1996; Kendler et al., 1994; Kovacs et al., 1989; Kutcher and Marton, 1991; Rohde et al., 1991; Warner et al., 1995; Weissman et al., 1993; Williamson et al., 1995). Second, anxiety and depression rating scales frequently include similar items which are endorsed by both depressed and anxious patients, which accounts, in part, for the high intercorrelation between anxiety and depression scales (for a review, see Brady and Kendall, 1992). In this study, however, some items that potentially could be endorsed by both depressed and anxious children, such as tiredness and sleep problems, were excluded from the final version of the SCARED.

The results of this study need to be considered in light of the following limitations. First, the SCARED was constructed using a clinical sample of children; therefore, results cannot be generalized to community samples. In the future, we plan to use the SCARED in a community sample to determine its utility in nonreferred samples. Second, the SCARED is based on the *DSM-IV* categorization of anxiety disorders and we do not know how well the *DSM-IV* reflects the structure of anxiety disorders in clinical or community samples. Subsequent studies will compare the SCARED with anxiety scales not tied to the *DSM* classification, e.g., CSSTAS. Third, with some exceptions, the SCARED significantly differentiated depression from anxiety, but still there were substantial overlaps between these two disorders. However, the differentiation between anxiety and depression may not be practical or ecologically valid because of the frequent comorbidity and shared symptomatology between these two sets of disorders. Fourth, the social phobia factor did not discriminate as well as other factors between anxious children and children with other disorders. This finding may account for the small number of children with social phobia included in the study, or it may be the result of the SCARED items for social phobia failing to tap this disorder. Future studies will include larger samples of social-phobic children and will focus on potentially modifying this section to improve its performance.

In summary, the SCARED is a promising scale to identify children aged 9 to 18 years with anxiety disorders in clinical samples; however, the use of the SCARED in nonreferred samples needs to be evaluated. The SCARED is recommended as a screening tool for anxiety disorders in clinical samples of children aged 9 to 18 years, but it should not replace the formal clinical interview. Further investigation will determine its utility in epidemiological and other research studies (e.g., pharmacological, biological).

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