

Psychometric Properties of the Social Phobia and Anxiety Inventory, the Social Anxiety Scale for Adolescents, the Fear of Negative Evaluation Scale, and the Social Avoidance and Distress Scale in an Adolescent Spanish-Speaking Sample¹

Luis Joaquín García-López,² José Olivares,^{2,5} María Dolores Hidalgo,³
Deborah C. Beidel,⁴ and Samuel M. Turner⁴

The relationship among several social anxiety measures and a semistructured interview in an adolescent Spanish-speaking sample is examined. Construct validity and test-retest reliability were tested. A principal axis factor analysis was also explored. Results revealed good construct validity and alpha coefficients for the assessment instruments such as the Social Phobia and Anxiety Inventory (SPAI), the Social Anxiety Scale for Adolescents (SAS-A), the Fear of Negative Evaluation Scale (FNES) and the Social Avoidance Distress Scale (SADS). Among these, data strongly support the validity of the Social Phobia and Difference measures of the SPAI and Total SAS-A score as assessment measures in the adolescent population even in non-American cultures and languages. Furthermore, results appear to support the presence of a single higher-order dimension, "social anxiety," as measured by the instruments used in this study.

KEY WORDS: adolescence; assessment; construct validity; social phobia; test-retest reliability.

INTRODUCTION

Social phobia is "a marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others" (American Psychiatric Association, 1994). Social phobia usually begins in midadolescence

with the mean age of onset ranging between 10 and 16 years (Degonda & Angst, 1993; Lépine, Lellouch, Lovell, Téhérani, & Pariente, 1993; Schneier, Johnson, Horning, Liebowitz, & Weissman, 1992); it has a persistent course (Schneier et al., 1992) and interferes in areas such as school (Beidel & Turner, 1988; Last, Perrin, Hersen, & Kazdin, 1992; Seipp, 1991) or social relationships (Albano, DiBartolo, Heimberg, & Barlow, 1995; Beidel & Turner, 1998) and might lead to depression (Francis, Last, & Strauss, 1992; Perrin & Last, 1993; Stein, Tancer, Gelernter, Vittone, & Uhde, 1990) or alcohol abuse or both (Clark & Kirisci, 1996; Kushner, Sher, & Beitman, 1990; Lépine & Pélissolo, 1998).

Data in clinical settings indicate that it is the anxiety disorder most commonly diagnosed in adolescents (Albano et al., 1995). In spite of this, there are few well-validated measures to assess adolescents' social anxiety. To our knowledge, only two instruments are available: Social Phobia and Anxiety Inventory (SPAI) and Social

¹Portions of this paper were presented at the Iberoamerican Meeting of Health and Clinical Psychology, Granada, Spain, November 1999.

²Department of Personality, Assessment and Psychological Treatments, Faculty of Psychology, University of Murcia, P.O. Box 4021, 30080 Murcia, Spain.

³Department of Basic Psychology and Methodology, Faculty of Psychology, University of Murcia, P.O. Box 4021, 30080 Murcia, Spain.

⁴Department of Psychology, University of Maryland, College Park, Maryland 20742.

⁵To whom correspondence should be addressed at Departamento de Personalidad, Evaluación y Tratamiento Psicológicos, Facultad de Psicología, Universidad de Murcia, P.O. Box 4021, 30080 Murcia, Spain; e-mail: jorelx@fcu.um.es or fobiasoc@fcu.um.es.

Anxiety Scale for Adolescents (SAS-A). Although SPAI was developed for American adults (Turner, Beidel, Dancu, & Stanley, 1989) and validated recently for a German population (Bögels & Reith, 1999), English and Spanish studies have demonstrated its validity and reliability in adolescents (Clark et al., 1994; Olivares, García-López, Hidalgo, Turner, & Beidel, 1999), and cutoff scores have recently been reported for Spanish samples (Olivares, García-López, Hidalgo, Turner, & Beidel, 2000). However, despite the fact that SPAI demonstrated good construct validity in an American study (Clark et al., 1994), test-retest reliability, concurrent and discriminant validity in other language or culture populations are lacking.

On the other hand, the SAS-A has showed good psychometric properties for both English- and Spanish-speaking populations (La Greca & López, 1998; Olivares, Ruiz, Hidalgo, & García-López, 1999) and it seems to be a promising social anxiety scale. As for FNES and SADS, although their use has become widespread in social anxiety research, findings with English-speaking clinical samples are mixed and it is unclear if these scales are nothing more than measures of general distress (for a review, see Cox, & Swinson, 1995). However, recent studies have demonstrated the reliability and validity of FNES and SADS in Spanish samples (Bobes et al., 1999; Villa, Botella, Quero, Ruipérez, & Gallardo, 1998).

An examination of social anxiety measures across cultures is necessary in order to determine their suitability for cross-cultural use. This study examines the construct validity of SPAI and SAS-A with respect to several anxiety measures and to the social phobia section of a semistructured interview while also determining the test-retest reliability in a sample of Spanish-speaking adolescents. A second objective is to evaluate the relationship (if there is one) between SPAI and SAS-A—to date, the only specific measures to assess social anxiety in adolescence. Finally, one additional issue is to examine whether or not all of the measures employed could be evaluating a higher-order factor.

METHOD

Subjects

303 students (202 social phobics and 101 non-social-phobics) in the 10th and 11th grades⁶ were located at two private and eight public high schools in several cities of a medium size county in Spain. The sample was composed of 112 (37%) boys and 191 (63%) girls who ranged

in age from 14 to 17 ($M = 15.624$, $SD = 0.832$). Because of the racial and ethnic homogeneity of the county, majority of students were caucasian (99%); however, they represented a wide range of socioeconomic levels.

For a better comprehension as to how the procedure was conducted, measures administered are described herein.

Measures

Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV-L)

DiNardo, Brown, and Barlow (1994) developed this semi-structured interview to assess current and lifetime DSM-IV anxiety, mood, and substance use disorders. Initial findings indicate an adequate level of interrater agreement for social phobia ($\kappa = .64$) (DiNardo, Brown, Lawton, & Barlow, 1995) but lower than the interagreement for social phobia in ADIS-R ($\kappa = .79$; DiNardo, Moras, Barlow, Rapee, & Brown, 1993). The social phobia section consists of 13 dimensional ratings evaluating fear and avoidance using a clinical severity rating on a 9-point scale ranging from 0 (*none*) to 8 (*very severely disturbing/disabling*). A modified version of this instrument was employed in our study, including avoidant personality disorder criteria. Preliminary results of a recent study indicate the reliability and validity of this interview in a Spanish population (Olivares & García-López, 1999).

Social Phobia and Anxiety Inventory (SPAI)

Turner et al. (1989), based on the behavioral-analytic model outlined by Goldfried and D'Zurilla (1969), developed a self-report inventory that assesses behavioral, physiological, and cognitive symptoms associated with social phobia. The SPAI comprises two scales: the 32-item Social Phobia (SP) subscale and the 13-item Agoraphobia subscale. Each item is scored on a 7-point Likert scale from 1 (*never*) to 7 (*always*). Seventeen of the 32 social phobia items evaluate degree of distress in presence of four different groups (strangers, authority figures, the opposite sex, and people in general). Finally, to control for social anxiety attributable to agoraphobia, a Difference score was derived. This score is calculated by subtracting the Social Phobia and Agoraphobia subscales.

Social Anxiety Scale for Adolescents (SAS-A)

This questionnaire is an adaptation of the Social Anxiety Scale for Children-Revised (SASC-R; La Greca &

⁶For Spanish readers, grades were 2° FP-I, 4° ESO, and 1° Bachiller or 2° and 3° BUP.

Stone, 1993) for an adolescent population (La Greca & López, 1998). As in the SASC-R, the SAS-A contains 22 items: 18 descriptive self-statements and 4 filler items. Each item is rated on a 5-point scale according to how much the item "is true for you," ranging from 1 (*not at all*) to 5 (*all the time*). The SAS-A includes three subscales: Fear of Negative Evaluation (FNE; 8 items), Social Avoidance and Distress specific to new situations or unfamiliar peers (SAD-New; 6 items), and Social Avoidance and Distress that is experienced more generally in the company of peers (SAD-General; 4 items).

A similar factor structure has been found in a recent Spanish study (Olivares, Ruiz et al., 1999). Although SAS-A format was identical to SASC-R, items were modified to make them more developmentally appropriate for adolescents. Thus, 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."

Fear of Negative Evaluation Scale (FNES) and Social Avoidance and Distress Scale (SADS)

Watson and Friend (1969) developed these scales to measure social evaluative anxiety and social anxiety/distress and avoidance of social situations in a sample of college students prior to *DSM-III* recognition of social phobia as a diagnostic entity. FNES is a 30-item scale and SADS is a 28-item scale, both of which consist of a true-false format.

Procedure

In a previous phase of this study, SPAI was administered to a large sample of Spanish adolescents to detect social anxiety subjects (Olivares, García-López et al., 1999). Because there were no normative data for SPAI in the adolescent population at that time, one standard deviation above the mean on the Difference score was used. Thus, subjects with a score above 74 in the Difference score were selected. Of the 422 subjects that scored above this score, 228 (54%) were available for participation. Recruitment was conducted in the classes of the high school where the students were found.

The process went as follows: two research assistants attended the classes and reported to the students that some of them had been arbitrarily selected from each class to pass to the second phase of the study concerning adolescent interpersonal relationships that had been conducted the year before. Normal subjects were selected along with the subjects with social phobia to prevent identification of

subjects as having social anxiety. Therefore, the sample consisted of 303 subjects: 228 scoring above 74 and 75 scoring lower than that in the Difference score.

After explaining the procedures, research assistants called out loud the names of selected subjects and those students who left their class to go to a lounge where, as a group, they completed a battery of standardized questionnaires (range 8–15). Once they completed the self-report measures, the complete ADIS-IV-L was administered to subjects with a Difference score above 74, and only ADIS-IV-L social phobia section was administered to control subjects. It should be noted that the assessment was conducted during school hours and so time saving was encouraged. For control subjects who fulfilled the social phobia section, the complete interview was administered. Therefore, subjects received a social phobia diagnosis when after administering the interview (ADIS), they met DSM-IV social phobia criteria. That is, although they scored above 74 in the SPAI-Difference, if they did not meet social phobia criteria (as measured by ADIS) no social phobia diagnosis was made.

After the assessment process, definitive sample was composed of 202 subjects with social phobia and 101 non-social phobics. All subjects (control and social phobics) were informed about their scores and the conclusions drawn from the interview. Finally, subjects with a social phobia diagnosis were offered a treatment.

RESULTS

Descriptive Characteristics

Table I presents the scores as a function of gender and age variables. Significant differences were observed in age on SPAI (SP and Difference scores) as well as SADS, with a reduction at 16 years of age in the SPAI, SAS-A, and SADS scores but not in FNES. Furthermore, statistically significant differences were found in the gender variable for FNE subscale of SAS-A, with girls scoring higher on social anxiety self-reports but showing better social skills. The interaction between gender and age was not significant for any scale or subscale.

Concurrent Validity

First, the social phobia section of ADIS-IV-L (number of feared social situations) correlated highly with scores on SPAI-SP subscale ($r = .78$), SADS ($r = .75$), Total SAS-A score ($r = .74$), and SAD-New subscale ($r = .72$). Correlations between .60 and .70 were found for the SPAI-Difference score, SAD-General subscale,

Table I. Means (SDs) for Self-Reports Measures by Gender and Age

	SPAI			SAS-A				FNES	SADS
	SP	Ag	Dif	FNE	SAD-N	SAD-G	Total		
Gender									
Boys	87.8 (36.4)	14.0 (10.1)	73.4 (32.2)	22.1 (7.3)	17.5 (4.8)	9.4 (3.2)	49.0 (13.5)	18.3 (6.2)	11.7 (5.7)
Girls	98.0 (41.5)	17.2 (12.8)	80.4 (35.0)	25.0 (7.8)	18.2 (5.3)	9.6 (3.7)	52.8 (14.9)	20.1 (6.3)	12.2 (6.7)
Age									
14	76.1 (46.8)	12.0 (12.0)	64.2 (37.4)	20.3 (8.0)	16.5 (6.0)	8.4 (4.3)	45.2 (16.7)	17.8 (7.1)	9.9 (7.5)
15	95.6 (40.5)	15.6 (11.7)	79.7 (34.2)	24.5 (7.6)	18.0 (5.1)	9.7 (3.3)	52.2 (14.2)	19.0 (6.4)	12.3 (6.3)
16	91.9 (37.0)	16.4 (12.0)	74.0 (32.2)	24.3 (7.9)	17.9 (4.8)	9.7 (3.3)	51.9 (14.0)	19.8 (6.2)	1.4 (5.9)
17	108.0 (39.6)	18.6 (12.8)	89.7 (34.2)	25.0 (7.9)	19.0 (5.6)	10.3 (3.9)	54.3 (15.4)	20.1 (6.3)	14.3 (6.6)
Total	92.9 (40.1)	15.6 (12.0)	76.9 (34.2)	23.6 (7.8)	17.9 (5.2)	9.5 (3.5)	50.9 (14.6)	19.2 (6.4)	12.0 (6.3)
F values (<i>df</i>)									
Gender (1, 295)	2.69	2.93	1.72	5.94*	0.83	0.13	2.91	3.40	0.25
Age (3, 295)	3.04*	1.42	3.19*	1.73	1.04	1.26	1.68	0.87	2.84*

Note. SPAI: Social Phobia and Anxiety Inventory (SP: Social phobia subscale; Ag: Agoraphobia subscale; Dif: Difference score); SAS-A: Social Anxiety Scale for Adolescents (FNE: Fear of Negative Evaluation subscale; SAD-N: Social Avoidance Distress-New subscale; SAD-G: Social Avoidance Distress-General subscale; Total: Total score); FNES: Fear of Negative Evaluation Scale; SADS: Social Avoidance Distress Scale.

* $p \leq .05$.

APD, and FNE subscale but lower than .60 on SPAI-Agoraphobia subscale and FNES (see Table II).

Second, SPAI-SP subscale correlated very highly with SPAI-Difference score ($r = .95$) and highly with Total SAS-A score ($r = .73$), SAD-New subscale ($r = .71$), SADS ($r = .68$), SAD-General subscale ($r = .65$), FNE

subscale, and SPAI-Agoraphobia subscale ($r = .60$). SPAI-SP had correlations above .50 with APD and FNES.

Third, SPAI-Difference score was correlated with Total SAS-A score ($r = .64$), SAD-New subscale ($r = .64$), and SADS ($r = .63$) but was lower on SAD-General subscale, the FNE subscale, APD, and FNES.

Table II. Concurrent Validity

	SPAI-SP	SPAI-Ag	SPAI-Dif	FNE	SAD-N	SAD-G	FNES	SADS	ADIS	APD
SPAI-SP										
SPAI-Ag	.60									
SPAI-Dif	.95	.36								
FNE	.60	.47	.52							
SAD-N	.71	.53	.64	.66						
SAD-G	.65	.51	.57	.64	.71					
FNES	.54	.39	.48	.70	.58	.57				
SADS	.68	.48	.63	.51	.70	.62	.48			
ADIS	.78	.59	.69	.61	.72	.67	.57	.75		
APD	.55	.45	.48	.47	.53	.53	.48	.56	.68	
Total SAS-A	.73	.56	.64	.92	.88	.83	.71	.67	.74	.56

Note. SPAI: Social Phobia and Anxiety Inventory (SP: Social phobia subscale; Ag: Agoraphobia subscale; Dif: Difference score); SAS-A: Social Anxiety Scale for Adolescents (FNE: Fear of Negative Evaluation subscale, SAD-N: Social Avoidance Distress-New subscale, SAD-G: Social Avoidance Distress-General subscale, Total: Total score). FNES: Fear of Negative Evaluation scale; SADS: Social Avoidance Distress scale; ADIS: Anxiety Disorders Interview Schedule for *DSM-IV*-Lifetime (social phobia section); APD: Avoidant Personality Disorder.

Fourth, SPAI-Agoraphobia subscale correlated moderately with Total SAS-A score ($r = .56$), SAD-New ($r = .53$), and SAD-General ($r = .51$), but it was lower than .50 with SADS, FNE subscale, APD, FNES, and SPAI-Difference.

As for SAS-A, FNE subscale was correlated very highly with Total SAS-A score ($r = .92$), highly on FNES ($r = .70$), SAD-New subscale ($r = .66$), and SAD-General subscale ($r = .64$) but lower on SADS and APD. SAD-New subscale also correlated highly with Total SAS-A score ($r = .88$), SAD-General subscale ($r = .71$), and SADS ($r = .70$), and moderately with FNES and APD. Finally, SAD-General subscale correlated highly with Total SAS-A score ($r = .83$) and SADS ($r = .62$), and was correlated moderately with FNES and APD.

FNES correlated highly with Total SAS-A score ($r = .71$) but lower with SADS and APD. SADS correlated with Total SAS-A score ($r = .67$) and APD ($r = .56$). APD correlated with Total SAS-A score ($r = .56$).

All correlations were significant ($p < .001$).

Construct Validity: Factorial Analysis

Measures were explored using iterative principal axis factor analysis with the total sample. Factor structure, eigenvalue, and percentage of explained variance is presented in Table III. As it can be seen, all variables appear to load on a single factor, which accounted for 64.61% of the variance. All social anxiety measures had high factor loadings, higher than .65, which seems to support the construct validity of the instruments administered and appears to indicate a single higher-order factor—social anxiety.

Differentiation Between Groups

Social phobia and control subjects were compared on SPAI (SP and Difference measures), SAS-A, FNES, and SADS using one-way analyses of variance (ANOVAs). Significant differences were found for all measures (see Table IV). Furthermore, analyses in function of gender were conducted. Data analysis revealed that SPAI-SP, SPAI-Difference, SAS-A, FNES, and SADS were shown to discriminate between males with and without social phobia as well as to differentiate between female social and non-social phobics ($p < .001$) (see Table V).

Finally, we evaluated if the self-report measures could discriminate between subjects with circumscribed social phobia, generalized social phobia, and subjects without a diagnosis of social phobia. To assign subtype diagnoses, Turner, Beidel, and Townsley (1992) adopted a similar criteria. Thus, a specific subtype diagnosis was identified if the subject feared only circumscribed situations, regardless of their number, whereas subjects received a generalized subtype if they feared two or more interactional situations: parties (social gatherings), initiating conversations, maintaining conversations or speaking with unfamiliar people.

As can be observed in Table VI, all measures showed significant differences between social phobia subtypes ($p < .001$).

Test-Retest Reliability

175 of the 303 subjects completed self-report measures in an average test-retest period of 10 days (range

Table III. Construct Validity: Factorial Analysis

	SPAI		Total SAS-A				FNES	SADS
	SP	Dif	Fne	SAD-N	SAD-G	Total		
Social phobia								
<i>M</i>	115.7	96.4	27.53	20.38	11.27	59.2	22.4	14.8
<i>SD</i>	30.7	28.2	6.9	4.3	3.0	11.9	4.7	5.6
Control group								
<i>M</i>	57.9	49.2	18.77	13.74	6.87	39.5	14.5	7.0
<i>SD</i>	26.4	23.5	6.0	3.7	2.5	9.8	6.1	4.1
<i>F</i> values (<i>df</i>) ^a	261.4	192.8	115.3	176.8	161.0	206.0	154.0	150.3

Note: SPAI: Social Phobia and Anxiety Inventory (SP: Social phobia subscale; Dif: Difference score); SAS-A: Social Anxiety Scale for Adolescents (FNE: Fear of Negative Evaluation subscale, SAD-N: Social Avoidance Distress-New subscale, SAD-G: Social Avoidance Distress-General subscale, Total: Total score); FNES: Fear of Negative Evaluation Scale; SADS: Social Avoidance Distress Scale; ADIS: Anxiety Disorders Interview Schedule for *DSM-IV*-Lifetime (social phobia section).

^aDegrees of freedom in all measures were 1 and 301.

Table IV. Differentiation Between Groups

	Male				<i>F</i> values (<i>df</i>) ^a	Female				<i>F</i> values (<i>df</i>) ^a
	Social phobia		Control			Social phobia		Control		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
SPAI										
SP	107.5	29.1	60.2	26.8	74.9	119.9	30.8	56.0	26.1	187.4
DIF	88.0	29.0	52.3	23.9	46.2	97.6	27.3	46.7	23.1	151.8
SAS-A										
FNE	25.4	6.6	18.2	6.1	34.5	28.6	6.8	19.4	6.0	77.6
SAD-G	10.8	2.6	7.3	2.8	44.7	11.5	3.2	6.5	2.1	117.4
SAD-N	19.3	4.2	14.2	3.9	41.8	20.9	4.2	13.4	3.5	139.5
Total	55.6	11.3	39.7	10.8	54.9	61.0	11.9	39.3	9.1	152.4
FNES	20.4	4.6	14.0	6.3	38.4	23.3	4.4	14.9	6.0	118.2
SADS	14.2	5.5	8.4	4.1	35.2	15.1	5.7	5.9	3.7	122.5

Note. All probability levels are less than .001; SPAI: Social Phobia and Anxiety Inventory (SP: Social phobia subscale; Dif: Difference score); SAS-A: Social Anxiety Scale for Adolescents (FNE: Fear of Negative Evaluation subscale, SAD-N: Social Avoidance Distress-New subscale, SAD-G: Social Avoidance Distress-General subscale, Total: Total score); FNES: Fear of Negative Evaluation scale; SADS: Social Avoidance Distress scale.

^aDegrees of freedom in male were 1 and 110 and in female were 1 and 189.

7–14). Using Pearson product–moment correlation, the test-retest reliability was as follows: $r = .86$ for SPAI-SP subscale, $r = .77$ for SPAI-Agoraphobia subscale and $r = .83$ for SPAI-Difference score. Regarding the SAS-A, $r = .83$, $r = .78$, and $r = .75$ were found for FNE, SAD-

New, and SAD-General subscales, respectively. As for Total SAS-A score, the correlation was $r = .86$. Furthermore, a test-retest reliability higher than 0.80 was obtained for the FNES ($r = .84$) and the SADS ($r = .85$).

Table V. Differentiation Between Groups: Gender Variable

	Control group		Specific social phobia		Generalized social phobia		<i>F</i> values (<i>df</i>) ^a
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
	SPAI						
SP	57.9	26.3	85.4	23.9	119.6	29.4	158.6
DIFF	49.2	23.5	70.4	24.1	97.5	27.2	114.5
SAS-A							
FNE	18.9	6.0	23.3	5.1	28.1	6.9	64.8
SAD-G	6.9	2.5	8.9	2.0	11.6	3.0	95.3
SAD-N	13.7	3.7	16.2	2.8	20.9	4.2	111.4
TOTAL	39.5	9.8	48.4	8.1	60.6	11.6	124.2
FNES	14.5	6.1	20.1	4.0	22.6	4.7	80.4
SADS	7.0	4.1	9.7	4.5	15.4	5.5	95.1

Note. All probability levels are less than .001; SPAI: Social Phobia and Anxiety Inventory (SP: Social phobia subscale; Dif: Difference score); SAS-A: Social Anxiety Scale for Adolescents (FNE: Fear of Negative Evaluation subscale, SAD-N: Social Avoidance Distress-New subscale, SAD-G: Social Avoidance Distress-General subscale, Total: Total score); FNES: Fear of Negative Evaluation scale; SADS: Social Avoidance Distress scale.

^aDegrees of freedom in all measures were 2 and 300.

Table VI. Differentiation Between Subtypes of Social Phobia

Measures ^a	Factor loading
SPAI-SP	0.90
SPAI-Difference	0.81
SAS-A/FNE	0.74
SAS-A/SADN	0.85
SAS-A/SAD-G	0.79
FNES	0.68
SADS	0.78
ADIS	0.87
Eigenvalue	5.17
Percentage of total	
Variance explained	64.61

Note. All probability levels are less than .001; SPAI: Social Phobia and Anxiety Inventory (SP: Social phobia subscale; Dif: Difference score); SAS-A: Social Anxiety Scale for Adolescents (FNE: Fear of Negative Evaluation subscale, SAD-N: Social Avoidance Distress-New subscale, SAD-G: Social Avoidance Distress-General subscale, Total: Total score); FNES: Fear of Negative Evaluation Scale; SADS: Social Avoidance Distress Scale.

DISCUSSION

This article has focused on the validity and reliability of social anxiety measures such as SAS-A, SPAI, FNES, and SADS in an adolescent Spanish-speaking population. The results do provide strong support for its use in community samples, especially SPAI and SAS-A.

In contrast with a previous Spanish study with a normal adolescent population (Olivares, García-López et al., 1999), significant differences were found on the age variable in two SPAI measures (Social Phobia and Difference). Nonetheless, there is a finding that also appeared in the former study: at the age of 16 a reduction in Social Phobia and Difference score is observed, followed by an increase at 17 years of age. This was also found on SAS-A scores in our work as well as in American studies (La Greca, 1998). Further research of this issue is warranted.

Compared with Clark et al.'s (1994) study, Social Phobia subscale mean is very similar to the score found in our work. Moreover, Agoraphobia subscale mean is lower and as a consequence, the Difference value found in our study is higher. As for SAS-A, although La Greca and López's (1998) study was conducted using a community sample, data from our study are consistent with higher scores in girls than in boys for both the subscales and Total score. Only gender analysis of variance on FNE subscale revealed that girls reported significantly more social anxiety than did boys, contrasting with La Greca and López (1998) who found significant gender differences not only on both FNE subscales but also on SAD-New subscale and Total SAS-A score as well. Consistent with American studies, no grade effects or interactions between gender and age were obtained on the SAS-A (Ginsburg, La Greca, & Silverman, 1998; La Greca & López, 1998; Walters, Caster, & Inderbitzen, 1996).

It was also found that the FNE subscale of SAS-A correlated significantly with FNES, SAD-New and SAD-General subscales, as well as SADS, indicating a support for the validity of SAS-A as an instrument developed from scales originally designed for adults (FNES and SADS). Also, Total SAS-A score together with SPAI-SP subscale and SADS were the self-report inventories that most correlated with ADIS-IV-L. The two SPAI measures (SP and Difference scores) had a very high correlation ($r = 0.95$), which is expected because the difference score is derived by subtracting SP and Agoraphobia subscales.

A moderate correlation was found with APD, which shows an overlap between these disorders, consistent with previous studies (Brown, Heimberg, & Juster, 1995;

Heimberg, 1996; Herbert, Hope, & Bellack, 1992; Holt, Heimberg, & Hope, 1992; Schneier et al., 1991). In contrast, the Agoraphobia subscale was not highly correlated with any of the social anxiety measures.

All questionnaires differentiated between social phobic subtypes as well as normal samples and gender. These findings are consistent with previous studies on the SPAI and the SAS-A (Clark et al., 1994; La Greca, 1999). One interesting point is that FNES and SADS reliably differentiated adolescents with social phobia from those with no mental disorder, highlighting the controversy existing over the utility of these scales, even if it is unknown if they can distinguish between social phobics and patients with other anxiety disorders. With adult population, Bobes et al. (1999) found that SADS could discriminate between patients with social phobia and subjects without this disorder. It would be important to investigate the relationship between social anxiety questionnaires and other measures in order to evaluate the divergent validity of these scales in adolescents.

Likewise, all self-report inventories used in our study have demonstrated high test-retest reliability. This is specially relevant in SPAI and SAS-A, for the moment the two questionnaires were only designed or adapted for adolescents and for which test-retest reliability in this period of life was unknown.

To date, the debate concerning which of the SPAI measures is to be used continues. Our results indicate that (a) SP subscale correlated highly with ADIS-IV-L social phobia section; (b) Difference score showed low correlation with SPAI-Agoraphobia subscale; (c) SP and Difference scores discriminated between normal and social phobic subjects as well as gender, but higher *F* values on Social phobia subscale were obtained; and (d) SP subscale demonstrated higher test-retest reliability. The concurrent validity and differentiation between groups could indicate that the Social Phobia subscale score is a more efficient measure although this won't be definitive until the divergent is known. That is, Social Phobia subscale seems to have proved to be a more specific measure of social anxiety, but the Difference score also seems to be of value in the assessment of social phobia because it might reduce the overlap with other mental disorders (Cox, Ross, Swinson & Dorenfeld, 1998; Turner, Beidel et al., 1989; Turner, Stanley et al., 1989).

An important issue is that exploration of measures administered revealed that all of them load on a single factor, providing a very high percentage of the total variance explained, which provides additional data as to which is labeled "social anxiety," a higher-order factor assessed by instruments employed in this research.

Despite the contributions of this investigation, some limitations should be noted. First, measures were based exclusively on adolescent reports. Thus, in future studies it would be useful to consider obtaining information from other figures such as parents, although some studies have shown that adolescents' information is more reliable than parents' information (La Greca, 1998). Futures studies are needed to evaluate the relationship between social anxiety self-reports and observational and physiological measures. Second, it is unknown if these measures are sensitive to treatment effects even if SPAI has been shown to be a treatment-outcome measure in adults (Beidel, Turner, & Cooley, 1993; Cox et al., 1998; Ries et al., 1998; Taylor, Woody, McLean & Koch, 1997).

In conclusion, results of the present investigation have extended the research in adolescent social anxiety field at several points, as the support for the construct validity and the test-retest reliability of SPAI, SAS-A, FNES, and SADS in Spanish-speaking adolescents as well as reveal that these measures seem to tap different aspects of the same factor, a higher-order dimension, social anxiety.

ACKNOWLEDGMENTS

The authors would like to thank Annette M. La Greca for providing us unpublished manuscripts. We also acknowledge Robert Bonomo's assistance in translating this article to English.

REFERENCES

- Albano, A. M., DiBartolo, P. M., Heimberg, R. G., & Barlow, D. H. (1995). Children and adolescents: Assessment and treatment. In R. G. Heimberg, M. R. Liebowitz, D. A. Hope, & F. R. Schneier (Eds.), *Social phobia: Diagnosis, assessment and treatment* (pp. 387–425). New York: Guilford Press.
- American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders (4th ed.)*. Washington, DC: Author.
- Beidel, D. C., & Turner, S. M. (1998). *Shy children, phobic adults. Nature and treatment of social phobia*. Washington, DC: American Psychological Association.
- Beidel, D. C., Turner, S. M., & Cooley, M. R. (1993). Assessing reliable and clinically significant change in social phobia: Validity of the Social Phobia and Anxiety Inventory. *Behaviour Research and Therapy*, 31, 331–337.
- Bobes, J., Badía, X., Luque, A., García, M., González, M. P., & Dal-Ré, R. (1999). Validación de las versiones en español de los cuestionarios Liebowitz Social Anxiety Scale, Social Anxiety and Distress Scale y Sheenan Disability Inventory para la evaluación de la fobia social [Validation of the Spanish versions of the Liebowitz Social Anxiety Scale, Social Anxiety and Distress Scale, and Sheenan Disability Inventory for the evaluation of social phobia]. *Medical Clinical*, 112, 530–538.
- Bögels, S. M., & Reith, W. (1999). Validity of two questionnaires to assess social fears: The Dutch Social Phobia and Anxiety Inventory and the Blushing, Trembling and Sweating Questionnaire. *Journal of Psychopathology and Behavioral Assessment*, 21, 51–66.
- Brown, E. J., Heimberg, R. G., & Juster, H. R. (1995). Social phobia subtype and avoidant personality disorder: Effect on severity of social phobia, impairment, and outcome of cognitive-behavioral treatment. *Behavior Therapy*, 26, 467–486.
- Clark, D. B., & Kirisci, L. (1996). Posttraumatic stress disorder, depression, alcohol use and quality of life in adolescents. *Anxiety*, 2, 226–233.
- Clark, D. B., Turner, S. M., Beidel, D. C., Donovan, J. E., Kirisci, L., & Jacob, R. G. (1994). Reliability and validity of the Social Phobia and Anxiety Inventory for adolescents. *Psychological Assessment*, 6, 135–140.
- Cox, B. J., & Swinson, R. P. (1995). Assessment and measurement. In M. B. Stein (Ed.), *Social phobia: Clinical and research perspectives* (pp. 261–291). New York: Guilford Press.
- Cox, B. J., Ross, L., Swinson, R. P., & Drenfeld, D. M. (1998). A comparison of social phobia outcome measures in cognitive-behavioral group therapy. *Behavior Modification*, 22, 285–297.
- Degonda, M., & Angst, J. (1993). The Zurich Study XX. Social phobia and agoraphobia. *European Archives of Psychiatry and Clinical Neuroscience*, 243, 95–102.
- DiNardo, P. A., Brown, T. A., & Barlow, D. H. (1994). *Anxiety Disorders Interview Schedule for DSM-IV (Lifetime version)*. San Antonio, TX: Psychological Corporation.
- DiNardo, P. A., Brown, T. A., Lawton, J. K., & Barlow, D. H. (1995). *The Anxiety Disorders Interview Schedule for DSM-IV Lifetime Version: Description and initial evidence for diagnostic reliability*. Paper presented at the meeting of the Association for Advancement of Behavior Therapy, Washington, DC.
- DiNardo, P. A., Moras, K., Barlow, D. H., Rapee, R. M., & Brown, T. A. (1993). Reliability of DSM-III-R anxiety disorders categories: Using the Anxiety Disorders Interview-Schedule Revised (ADIS-R). *Archives of General Psychiatry*, 50, 251–256.
- Francis, G., Last, C. G., & Strauss, C. C. (1992). Avoidant disorder and social phobia in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31, 1086–1089.
- Ginsburg, G. S., La Greca, A. M., & Silverman, W. K. (1998). Social anxiety in child with anxiety disorders: Relation with social and emotional functioning. *Journal of Abnormal Child Psychology*, 26, 175–185.
- Goldfried, M. R., & D'Zurilla, T. J. (1969). A behavioral-analytic model for assessing competence. In C. D. Spielberger (Ed.), *Current topics in clinical psychology* (Vol. 1, pp. 151–196). New York: Academic Press.
- Heimberg, R. G., (1996). Social phobia, avoidant personality disorder and the multiaxial conceptualization of interpersonal anxiety. In P. M. Salkovskis (Ed.), *Trends in cognitive and behavioural therapies* (pp. 43–61). New York: John Wiley and Sons.
- Herbert, J. D., Hope, D. A., & Bellack, A. S. (1992). Validity of the distinction between generalized social phobia and avoidant personality disorder. *Journal of Abnormal Psychology*, 101, 332–339.
- Holt, C. S., Heimberg, R. G., & Hope, D. A. (1992). Avoidant personality disorder and the generalized subtype of social phobia. *Journal of Abnormal Psychology*, 101, 318–325.
- Kushner, M. G., Sher, K. J., & Beitman, B. D. (1990). The relation between alcohol problems and the anxiety disorders. *American Journal of Psychiatry*, 147, 685–695.
- La Greca, A. M. (1998). *Manual of the Social Anxiety Scales for Children and Adolescents*. Miami, FL Author.
- La Greca, A. M. (1999). The peer group: Friends or foes? In W. K. Silverman & P. A. Treffers (Eds.), *Anxiety disorders in children: Theory, research and practice*. London: Cambridge University Press.
- La Greca, A. M., & López, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology*, 26, 83–94.

- La Greca, A. M., & Stone, W. L. (1993). The Social Anxiety Scale for Children-Revised: Factor structure and concurrent validity. *Journal of Clinical Child Psychology, 22*, 17–27.
- Last, C. G., Perrin, S., Hersen, M., & Kazdin, A. E. (1992). DSM-III-R anxiety disorders in children: Sociodemographic and clinical characteristics. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 928–934.
- Lépine, J. P., Lellouch, J., Lovell, A., Téhérani, M., & Pariente, P. (1993). L'épidémiologie des troubles anxieux et dépressifs dans une population générale française. *Confront Psychiatriques, 35*, 139–161.
- Lépine, J. P., & Péliissolo, A. (1998). Social phobia and alcoholism: a complex relationship. *Journal of Affective Disorders, 50*, 523–528.
- Olivares, J., & García-López, L. J. (1999). *Reliability and validity of the Anxiety Disorders Interview Schedule for DSM-IV in a Spanish speaking population*. Manuscript in preparation.
- Olivares, J., García-López, L. J., Hidalgo, M. D., Turner, S. M., & Beidel, D. C. (1999). The Social Phobia and Anxiety Inventory: Reliability and validity in an adolescent Spanish population. *Journal of Psychopathology and Behavioral Assessment, 21*, 67–78.
- Olivares, J., García-López, L. J., Hidalgo, M. D., Turner, S. M., & Beidel, D. C. (2000). *Normative data for two social anxiety measures: The Social Phobia and Anxiety Inventory and the Social Anxiety Scale for Adolescents*. Manuscript submitted for publication.
- Olivares, J., Ruiz, J., Hidalgo, M. D., & García-López, L. J. (1999, November). *Un análisis de la estructura factorial de la Escala de Ansiedad Social para Adolescentes (SAS-A) en población española [A analysis of the factor structure of the Social Anxiety Scale for Adolescents (SAS-A) in Spanish population]*. Paper presented at the I Iberoamerican Meeting of Clinical and Health Psychology, Granada, Spain.
- Perrin, S., & Last, C. G. (1993, March). *Comorbidity of social phobia and other anxiety disorders in children*. Paper presented at the Association for Advancement of Behavior Therapy Annual Convention, Charleston, SC.
- Ries, B. J., McNeil, D. W., Boone, M. L., Turk, C. L., Carter, L. E., & Heimberg, R. G. (1998). Assessment of contemporary social phobia verbal report instruments. *Behaviour Research and Therapy, 36*, 983–994.
- Schneier, F. R., Johnson, J., Horning, C. D., Liebowitz, M. R., & Weissman, M. M. (1992). Social phobia: Comorbidity and morbidity in an epidemiologic sample. *Archives of General Psychiatry, 49*, 282–288.
- Schneier, F. R., Spitzer, R. L., Gibbon, M., Fyer, A. J., & Liebowitz, M. E. (1991). The relationship of social phobia subtypes and avoidant personality disorder. *Comprehensive Psychiatry, 32*, 496–502.
- Seipp, B. (1991). Anxiety and academic performance. A meta-analysis of findings. *Anxiety Research, 4*, 27–41.
- Stein, M. B., Tancer, M. E., Gelernter, C. S., Vittone, B. J., & Uhde, T. W. (1990). Major depression in patients with social phobia. *American Journal of Psychiatry, 147*, 637–639.
- Taylor, S., Woody, S., McLean, P. D., & Koch, W. J. (1997). Sensitivity of outcome measures for treatments of generalized social phobia. *Assessment, 4*, 181–191.
- Turner, S. M., Beidel, D. C., Dancu, C. V., & Stanley, M. A. (1989). An empirically derived inventory to measure social fears and anxiety: The Social Phobia and Anxiety Inventory. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 1*, 35–40.
- Turner, S. M., Beidel, D. C., & Townsley, R. M. (1992). Social phobia: A comparison of specific and generalized subtypes and avoidant personality disorder. *Journal of Abnormal Psychology, 101*, 326–331.
- Turner, S. M., Stanley, M. A., Beidel, D. C., & Bond, L. (1989). The Social Phobia and Anxiety Inventory: Construct validity. *Journal of Psychopathology and Behavioral Assessment, 33*, 448–457.
- Villa, H., Botella, C., Quero, S., Ruipérez, M. A., & Gallardo, M. (1998, November). *Propiedades psicométricas de dos medidas de autoinforme en fobia social: Miedo a la evaluación negativa (FNE) y escala de evitación y ansiedad social (SADS) [Psychometric properties of two self-reports measures in social phobia: the Fear of Negative Evaluation (FNE) and the Social Avoidance and Distress and Scale (SADS)]*. Poster presented at the I International Symposium on Anxiety Disorders, Granada, Spain.
- Walters, K. S., Caster, J. B., & Inderbitzen, H. M. (1996, November). *The Social Anxiety Scale for Children-Revised: Normative data for an adolescent population*. Paper presented at the Annual Meeting of the American Association of Behavior Therapy, New York, NY.
- Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*, 448–457.