



Social Anxiety Scale for Adolescents (SAS-A): Psychometric properties in a Spanish-speaking population¹

José Olivares² (*University of Murcia, Spain*), Juana Ruiz (*University of Murcia, Spain*), María Dolores Hidalgo (*University of Murcia, Spain*), Luis Joaquín García-López (*University Miguel Hernández Elche, Spain*), Ana Isabel Rosa (*University of Murcia, Spain*), and José Antonio Piqueras (*University of Murcia, Spain*)

(Recibido 1 de julio 2004 / Received July 1, 2004)

(Aceptado 29 de septiembre 2004 / Accepted September 29, 2004)

ABSTRACT. The objective of this instrumental study was to investigate the factor structure and the psychometric properties of the Social Anxiety Scale for Adolescents (SAS-A) in a Spanish-speaking population. The participants were 2407 subjects (1263 boys and 1144 girls), with an average age of 15 years approximately, attending nine public high schools in a medium size county in Spain. The results obtained support the three-factor structure proposed by the original authors (FNE, SAD-New, SAD-General). Significantly, interscale correlations and high levels of internal consistency for the SAS-A subscales were found. There were significant gender effects on the SAS-A/Total score and its subscales, with girls scoring higher. Although significant age differences were only found in the FNE subscale, no interaction effects between the two factors were obtained. Findings provide initial support for the use of the SAS-A among a Spanish-speaking adolescent population. Limitations and suggestions for future research are discussed.

KEYWORDS. Social phobia. Adolescents. Assessment. Factor structure. Reliability. Validity. Instrumental study.

¹ I should like to thank Annette M. La Greca for including professor José Olivares among «several international colleagues have developed translations of one or more of the Social Anxiety Scales» (La Greca, 1998; p. 23).

² Correspondence: Departamento de Personalidad, Evaluación y Tratamiento Psicológicos. Facultad de Psicología. Universidad de Murcia. P.O. Box. 4021. 30080 Murcia (España). E-Mail: jorelx@um.es.

RESUMEN. El objetivo de este estudio instrumental fue estudiar la estructura factorial y propiedades psicométricas de la Escala de Ansiedad Social para Adolescentes (SAS-A). Participaron 2407 adolescentes (1263 chicos y 1144 chicas), con una edad media de 15 años, alumnos de nueve institutos de la región de Murcia. Los resultados obtenidos apoyan la estructura tri-factorial propuesta por los autores de la escala (FNE, SAD-New, SAD-General). Se encontraron correlaciones interescalas significativas y niveles de consistencia interna elevados para las subescalas, así como respecto de los efectos del sexo en la puntuación SAS-A/Total y en sus subescalas, alcanzando las chicas las puntuaciones más elevadas. Sólo se hallaron diferencias significativas para la edad en la subescala FNE y no se constataron efectos de interacción entre los dos factores. Estos hallazgos parecen avalar el uso de la SAS-A en población adolescente de habla española.

PALABRAS CLAVE. Fobia social. Adolescentes. Evaluación. Estructura factorial. Fiabilidad. Validez. Estudio instrumental.

RESUMO. O objectivo deste estudo instrumental foi estudar a estrutura factorial e propriedades psicométricas da Escala de Ansiedade Social para Adolescentes (SAS-A). Participaram 2407 adolescentes (1263 rapazes e 1144 raparigas), com uma idade média de 15 anos, alunos de nove institutos da região de Múrcia. Os resultados obtidos apoiam a estrutura tri-factorial proposta pelos autores da escala (FNE, SAD-New, SAD-General). Encontraram-se correlações interescalas significativas e níveis de consistência interna elevados para as subescalas. Encontraram-se efeitos de género significativos na SAS-A/Total e nas suas subescalas, com as raparigas a obter pontuações mais elevadas. No entanto, só se encontraram diferenças significativas em função da idade na subescala FNE e não se verificaram efeitos de interacção entre os dois factores. Estes resultados parecem suportar o uso da SAS-A na população adolescente de língua espanhola.

PALAVRAS CHAVE. Fobia social. Adolescentes. Avaliação. Estructura factorial. Fiabilidade. Validade. Estudo instrumental.

Introduction

Social phobia was first introduced as a diagnostic entity in the DSM-III (American Psychiatric Association, 1980), and later in the World Health Organization's mental disorder and behavior classification system (International Classification of Diseases, ICD-10; World Health Organization, 1992). Although, in the past, it was labelled as the «the neglected anxiety disorder» (Liebowitz, Gorman, Fyer, and Klein, 1985), since that time there has been a growing interest in its assessment and treatment (Norton, Cox, Asmundson, and Maser, 1995). Research into instruments designed to identify social phobia has also increased, and new instruments and investigations into the reliability and validity of various scales have been published (for a review, see Clark *et al.*, 1997, or Taylor, Woody, McLean, and Koch, 1997). Social phobia is one of the three most common behavioural disorders among adults (Davidson, Hughes, George, and Blazer, 1993) and the one most frequently diagnosed in adolescents (Albano, Dibartolo, Heimberg,

and Barlow, 1995). Different studies have shown that social phobia usually begins in adolescence (Davidson *et al.*, 1993; Jiménez, Sáiz, Bascarán, and Iglesias, 1999; Schneier, Johnson, Horning, Liebowitz, and Weissman, 1992; Wittchen, Lieb, Schuster, and Oldehinkel, 1999) and that its course is persistent and increases the possibility of negative consequences among adolescents (for a review, see Beidel and Turner, 1998). However, in spite of these effects on the adolescent population, to date there are only two instruments designed to assess the social anxiety responses in adolescence: the Social Phobia and Anxiety Inventory (SPAI) (Turner, Beidel, Dancu, and Stanley, 1989) and the Social Anxiety Scale for Adolescents (SAS-A) (La Greca and Lopez, 1998). The SPAI was developed for adults among the North American population (Turner *et al.*, 1989) and has recently been validated for English-speaking (Clark, Turner, Beidel, Donovan, Kirisci, and Jacob, 1994) and Spanish-speaking adolescents (Olivares, García-López, Hidalgo, Turner, and Beidel, 1999). Furthermore, cut-off scores have recently been reported for Spanish-speaking samples (Olivares, García-López, Hidalgo, La Greca, Turner, and Beidel, 2002).

The SAS-A is an adaptation of the Social Anxiety Scale for Children-Revised (SASC-R) (La Greca and Stone, 1993) for an adolescent population (La Greca and Lopez, 1998). The conceptual basis of this instrument of evaluation originates from the works of Watson and Friend (1969) and Leary (1983). The former identified two aspects of social anxiety: fear of negative evaluation by others (Fear Negative Evaluation, FNE), and social avoidance and distress experienced in the presence of others (Social Avoidance and Distress, SAD). For his part, Leary differentiates between the subjective experience of anxiety and its behavioral consequences: social avoidance and inhibition. This distinction would appear to be important in view of the fact that some people with subjective social anxiety can act satisfactorily in social contexts, while others experience increased distress and social avoidance (La Greca and Stone, 1993). The SAS-A contains 22 items: 18 describe self-statements (such as «I worry about what others say about me») and 4 filler items (for example, «I like to play sports»). Each item is rated on a 5-point Likert 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). The scores can be obtained from the sum of the items which make up each one of the subscales, or from a Total score from the sum of all the items except the 4 neutral ones. Therefore, the scores range from 1 to 40 for the FNE subscale, from 1 to 30 for the SAD-New subscale, from 1 to 20 for the SAD-General subscale, and from 1 to 90 for the Total score.

Various studies have found that this scale provides a valid and reliable social anxiety measure for either clinical or community samples (Ginsburg, La Greca, and Silverman, 1997; La Greca and Lopez, 1998; Storch, Eisenberg, and Roberti, 2003). Although the SAS-A has shown good test-retest reliability and construct validity for both English and Spanish-speaking populations (García-López, Olivares, Hidalgo, Beidel, and Turner, 2001; La Greca and Lopez, 1998; Olivares, Ruiz, Hidalgo, and García-

López, 1999), there are no data to support the psychometric properties and factor structure of this instrument for measuring social anxiety in an adolescent Spanish-speaking population.

The objective of this instrumental study (Montero and León, 2005) was to carry out a cross-cultural study to determine the SAS-A psychometric properties for Spanish-speaking adolescents. Confirmatory factor analysis was used to confirm the factorial structure proposed by La Greca and Lopez (1998).

For drawing up this article, we followed the proposal by Ramos-Álvarez y Catena (2004).

Method

Subjects

The initial sample consisted of 2,478 students in the 10th and 11th grades attending nine public high schools in a medium size county in Spain. Three subjects (.12%) chose not to participate in the study and 56 (2.26%) were excluded for being 18 years old or over. Of the remaining 2,419 subjects, 12 (.5%) were eliminated due to data incompleteness. The final sample of 2,407 subjects was composed of 1,263 boys (52.47%) and 1,144 (47.53%) girls. The sample ranged in age from 14 to 17 years old ($M = 15.08$, $SD = .88$).

Procedure

Research assistants were trained during a week. Training sessions included instructions, modeling, conduct rehearsals and role-plays. The subjects completed the scale during the class period, collectively and totally voluntarily. Research assistants circulated among the students during the test sessions providing individualized help to any student who experienced difficulty. The rejection level was .12%. In order to avoid bias in scale administration, subjects were asked not to report the objective of the scale until they had all finished. The average time to administer the SAS-A was fifteen minutes.

Results

Descriptive characteristics

Given that the subscales have a different number of items, item means per scale were calculated. Table 1 shows the item means and standard deviations obtained in the total scale and the subscales according to the variables of age and gender. The Analyses of Variance (ANOVA) for the four age groups and gender found a non-significant main effect for age on the Total score [$F(3, 2399) = 1.642$; $p = .178$], the subscale SAD-New [$F(3, 2399) = .776$; $p = .507$], or the subscale SAD-General [$F(3, 2399) = .322$; $p = .809$]. There was a significant effect for the subscale FNE [$F(3, 2399) = 3.568$, $p = 0.014$]. Due to the high sample size and in order to obtain more interpretable results,

an effect size measure was calculated. The difference magnitudes were small in each comparison since they were lower than .20, the value suggested by Cohen (1988) as being the lowest limit of a small effect size. Thus, the magnitudes found were $-.11$ (age 14 vs 15), $.07$ (age 14 vs 16), $-.01$ (age 14 vs 17), $.18$ (age 15 vs 17), $.09$ (age 15 vs 17), and $-.08$ (age 16 vs 17). With regard to the gender variable, we found significant effect on the Total SAS-A score [$F(1, 2399) = 23.716; p = .000$] and a low effect size ($d = .26$), on the FNE subscale [$F(1, 2399) = 38.994; p = .000$] and a low effect size ($d = .33$), and on the SAD-New subscale [$F(1, 2399) = 9.456; p = .002$] and a low effect size ($d = .17$) with girls obtaining higher scores. However, there was no significant effect for the gender variable on the SAD-General subscale [$F(1, 2399) = 2.997; p = .084$]. The effects of the two-way interaction were not significant on the Total SAS-A score [$F(3, 2399) = .543; p = .653$], the FNE subscale [$F(3, 2399) = .298; p = .827$], the SAD-New subscale [$F(3, 2399) = 1.131; p = .335$], or the SAD-General subscale [$F(3, 2399) = .503; p = .680$].

TABLE 1. Item Means and Standard Deviations for SAS-A and its subscales.

| | FNE | SAD-N | SAD-G | SAS-A | n (%) |
|---------------|------------|------------|------------|------------|--------------|
| <i>Gender</i> | | | | | |
| <i>Boys</i> | 2.42 (.83) | 2.41 (.76) | 1.94 (.73) | 2.31 (.69) | 1263 (52.47) |
| <i>Girls</i> | 2.70 (.88) | 2.55 (.83) | 2.00 (.80) | 2.50 (.74) | 1144 (47.53) |
| <i>Age</i> | | | | | |
| <i>14</i> | 2.53 (.82) | 2.49 (.77) | 1.95 (.74) | 2.39 (.68) | 666 (27.67) |
| <i>15</i> | 2.62 (.88) | 2.50 (.80) | 1.97 (.76) | 2.44 (.72) | 1070 (44.45) |
| <i>16</i> | 2.47 (.88) | 2.43 (.83) | 1.97 (.81) | 2.34 (.76) | 493 (20.48) |
| <i>17</i> | 2.54 (.93) | 2.45 (.77) | 2.00 (.80) | 2.39 (.74) | 178 (7.39) |
| <i>TOTAL</i> | 2.56 (.87) | 2.48 (.80) | 1.97 (.77) | 2.40 (.72) | 2407 (100) |

FNE: Fear of Negative Evaluation; SAD-New: Social Anxiety and Distress-New; SAD-General: Social Anxiety and Distress-General; SAS-A: Scale of Social Anxiety for Adolescents.

In Table 2, the means and standard deviations for the three subscales and the total SAS-A scale obtained with adolescents in this study and those in a study conducted by La Greca and Lopez (1998) are compared. Analysis of these data reveal a similar pattern, since in both countries: (a) girls reported more total social anxiety than boys, (b) girls display greater fear of negative evaluation from peers, (c) girls display more social avoidance and distress in new situations, (d) the magnitude of these differences were relatively small. However, Spanish adolescents scored significantly higher in total social anxiety [$t(2655) = 4.77; p < .05$], in fear of negative evaluation from peers [$t(2665) = 7.94; p > .05$] and in the SAD-General Scale [$t(2655) = 4.69; p < .05$].

Although the magnitude of these differences was relatively small for the total SAS-A ($d = .31$) and SAD-G ($d = .31$), it was not for the FNE ($d = .53$). This pattern was similar for boys and girls. Thus, Spanish adolescent boys scored significantly higher in total social anxiety [$t(1362) = 3.57$; $p < .05$], in fear of negative evaluation from peers [$t(1362) = 5.41$; $p > .05$] and in the SAD-General Scale [$t(1362) = 3.72$; $p < .05$]. Although the magnitude of these differences was relatively small for the total SAS-A ($d = .37$) and SAD-G ($d = .39$), for the FNE ($d = .55$) it was average. Finally, Spanish adolescent girls scored significantly higher in total social anxiety [$t(1291) = 3.86$; $p < .05$], in fear of negative evaluation from peers [$t(1291) = 6.72$; $p > .05$] and in the SAD-General Scale [$t(1291) = 3.23$; $p < .05$]. Although the magnitude of these differences was relatively small for the total SAS-A ($d = .34$) and SAD-G ($d = .28$), it was not for the FNE ($d = .59$).

TABLE 2. Means and Standard Deviations for SAS-A and its subscales.

| | FNE | SAD-N | SAD-G | SAS-A | N (%) |
|----------------------|--------------|--------------|-------------|---------------|--------------|
| <i>Gender- Spain</i> | | | | | |
| Boys | 19.35 (6.64) | 14.48 (4.56) | 7.76 (2.92) | 41.61 (12.41) | 1263 (52.47) |
| Girls | 21.63 (7.05) | 15.29 (4.96) | 7.98 (3.22) | 44.91 (13.32) | 1144 (47.53) |
| <i>Gender-USA</i> | | | | | |
| Boys | 15.75 (5.8) | 14.65 (4.2) | 6.65 (2.4) | 37.07 (10.7) | 101 |
| Girls | 17.52 (6.8) | 15.86 (4.9) | 7.08 (3.0) | 40.46 (12.7) | 149 |
| <i>Age</i> | | | | | |
| 14 | 20.20 (6.55) | 14.95 (4.61) | 7.79 (2.95) | 42.92 (12.18) | 666 (27.67) |
| 15 | 20.94 (7.01) | 14.98 (4.80) | 7.88 (3.05) | 43.83 (13.02) | 1070 (44.45) |
| 16 | 19.72 (7.01) | 14.57 (4.97) | 7.88 (3.22) | 42.17 (13.60) | 493 (20.48) |
| 17 | 20.29 (7.40) | 14.68 (4.63) | 7.99 (3.21) | 42.96 (13.37) | 178 (7.39) |
| TOTAL-Spain | 20.44 (6.93) | 14.87 (4.77) | 7.86 (3.07) | 43.17 (12.95) | 2407 (100) |
| TOTAL-USA | 16.81 (6.4) | 15.37 (4.7) | 6.91 (2.8) | 39.09 (12.0) | 250 |

FNE: Fear of Negative Evaluation; SAD-New: Social Anxiety and Distress-New; SAD-General: Social Anxiety and Distress-General; SAS-A: Scale of Social Anxiety for Adolescents.

Internal consistency indexes

The internal consistency of the Social Anxiety Scale for Adolescents (total score and subscales) was calculated with Alpha coefficient (Cronbach, 1951). The internal consistency values were .91 for the total scale, .94 for the FNE subscale, .87 for the SAD-N subscale, and .80 for the SAD-G subscale. The item-test correlation was over .40 in all cases, ranging from .47 to .74 (see Table 3).

TABLE 3. Reliability Indicators of the SAS-A items.

| <i>Items</i> | <i>Mean</i> | <i>Standard Deviation</i> | <i>Item-test Correlation</i> | <i>Reliability Index</i> |
|--------------|-------------|-------------------------------|----------------------------------|------------------------------|
| 1 | 2.767 | 1.061 | .615 | .653 |
| 3 | 2.973 | 1.234 | .640 | .789 |
| 4 | 2.758 | 1.194 | .671 | .801 |
| 5 | 2.317 | 1.167 | .469 | .548 |
| 6 | 2.351 | 1.128 | .506 | .571 |
| 8 | 2.851 | 1.305 | .679 | .887 |
| 9 | 2.494 | 1.152 | .741 | .853 |
| 10 | 2.303 | 1.094 | .703 | .769 |
| 12 | 2.813 | 1.283 | .714 | .916 |
| 13 | 2.408 | 1.178 | .658 | .775 |
| 14 | 2.700 | 1.247 | .730 | .910 |
| 15 | 2.360 | 1.053 | .618 | .651 |
| 17 | 1.988 | .976 | .604 | .590 |
| 18 | 2.273 | 1.195 | .663 | .792 |
| 19 | 2.049 | 1.102 | .673 | .741 |
| 20 | 2.314 | .984 | .632 | .622 |
| 21 | 1.508 | .865 | .474 | .410 |
| 22 | 1.949 | 1.063 | .631 | .670 |

Scores for the FNE, SAD-N and SAD-G were computed by adding up the 5-point ratings for the items that comprised each subscale and then interscale correlations were calculated. The results were consistent with those given by the authors of the scale (La Greca and Lopez, 1998), thus the SAS-A subscales were significantly interrelated. These correlations were .64 (FNE and SAD-N), .59 (FNE and SAD-G) and .69 (SAD-N and SAD-G).

Factor Structure of the SAS-A

Since the objective of our study was to verify that the scale has an identical structure to the one found by the authors of the scale, the factor structure has been analyzed by a Confirmatory Factor Analysis. Five alternative models were assessed: 1) the null or independent model; 2) a one-factor model, in which all 18 scale items were forced to load on a general social anxiety factor; 3) a two-factor model: FNE and SAD; 4) the three-factor model proposed by La Greca and Lopez (1998): FNE, SAD-N and SAD-G, where the factors in the CFA were specified as uncorrelated; and 5) a three-factor model allowing intercorrelations among the factors, given the high inter-subscale correlations reported by La Greca and Lopez (1998). We analyzed the correlation matrix and derive fit indexes from maximum likelihood estimation. To study the adequacy of the assessed models we used five fit indexes, the Standardized Root Mean Square Residual (SRMR), the Goodness of Fit Index (GFI), the Adjusted Goodness of Fit

Index (AGFI), Root Mean Square Error of Approximation (RMSEA), and the Comparative Fit Index (CFI) as well as the Chi-square statistic. Hu and Bentler suggest cutoffs close to .95 for the CFI, close to .06 for RMSEA, close to .08 for SRMR, as well as using a combination of fit indexes in order to reduce both type I and II errors. For the others indexes, the recommended criteria are: Goodness of Fit Index (GFI) equal to or greater than .80, and AGFI equal to or greater than .85. The models were assessed using the statistics program LISREL, version 8.12 (Jöreskog and Sörbom, 1993).

TABLE 4. Fit statistics for confirmatory factor models.

| MODELS | χ^2 | d.f. | <i>p</i> | SRMR | GFI | AGFI | RMSEA | CFI |
|--|----------|------|----------|------|-----|------|-------|-----|
| Null | 18903.64 | 153 | .00 | .360 | .29 | .20 | .38 | .00 |
| One Factor | 4026.06 | 135 | .00 | .070 | .80 | .74 | .13 | .79 |
| Two Factors | 2439.41 | 134 | .00 | .062 | .89 | .86 | .09 | .88 |
| Three Factors- uncorrelated factors | 4983.64 | 135 | .00 | .270 | .74 | .76 | .12 | .81 |
| Three Factors- correlated factors | 2271.65 | 132 | .00 | .059 | .89 | .86 | .09 | .89 |
| La Greca and Lopez (1998) | 341.4 | 132 | .01 | .048 | .91 | --- | — | — |

χ^2 : Chi-Square test; d.f.: Degrees of freedom; *p*: Probability; SRMR: Standardized-Root Mean Square Residual; GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index; RMSEA: Root Mean Square Error of Approximation; CFI: Comparative Fit Index.

Results showed that the probability levels of all chi-square statistics were lower than .001, indicating a rather poor absolute fit (see Table 4). The most likely cause for this is the large sample size. In large samples, the chi-square statistic is very powerful, and even quite a good model fit will produce significant differences.

TABLE 5. Confirmatory Factor Analysis of the Social Anxiety Scale for Adolescents (SAS-A).

| | Factors | | |
|---|---------|-----|-----|
| | I | II | III |
| Fear of Negative Evaluation (FNE) | | | |
| I worry about what others say about me (12) [<i>Me preocupa lo que los demás digan de mí</i>] | .81 | - | - |
| I worry that others don't like me (14) [<i>Me preocupa no gustar a los demás</i>] | .80 | - | - |
| I worry about what others think of me (8) [<i>Me preocupa lo que los demás piensen de mí</i>] | .78 | - | - |
| I'm afraid that that others will not like me (9) [<i>Pienso que no gustaré a los demás</i>] | .75 | - | - |
| I worry about being teased (3) [<i>Me preocupa ser evaluado por los demás</i>] | .64 | - | - |
| If I get into an argument, I worry that the other person will not like me (18) [<i>Si en un debate doy mi opinión, me preocupa no gustar a los demás</i>] | .60 | - | - |
| I feel that others make fun of me (17) [<i>Creo que los demás se burlan de mí</i>] | .54 | - | - |
| I feel that my peers talk about me behind my back (6) [<i>Creo que mis compañeros hablan de mí a mis espaldas</i>] | .47 | - | - |
| Social Avoidance and Distress in New Situations/with strangers (SAD-N) | | | |
| I get nervous when I talk to peers I don't know very well (10) [<i>Me pongo nervioso cuando hablo con gente de mi edad que no conozco bien</i>] | - | .75 | - |
| I feel shy around people I don't know (4) [<i>Me da vergüenza estar rodeado de personas que no conozco</i>] | - | .71 | - |
| I get nervous when I meet new people (13) [<i>Me pongo nervioso cuando me presentan a personas desconocidas</i>] | - | .68 | - |
| I feel nervous when I'm around certain people (20) [<i>Me pongo nervioso cuando estoy con algunas personas</i>] | - | .65 | - |
| I worry about doing something new in front of others (1) [<i>Me preocupa hacer algo que nunca he hecho delante de los demás</i>] | - | .61 | - |
| I only talk to people I know really well (5) [<i>Sólo hablo con personas que conozco bien</i>] | - | .47 | - |
| Social Avoidance and Distress experienced Generally/with acquaintances (SAD-G) | | | |
| I'm afraid to invite others to do things with me because they might say no (19) [<i>Me da miedo pedir a los demás que hagan cosas conmigo ya que podrían decirme que no</i>] | - | - | .75 |
| It's hard for me to ask others to do things with me (22) [<i>Me cuesta trabajo pedir a los demás que hagan cosas conmigo</i>] | - | - | .73 |
| I'm quiet when I'm with a group of people (15) [<i>Me quedo callado cuando estoy con un grupo de personas</i>] | - | - | .60 |
| I feel shy even with peers I know well (21) [<i>Me da vergüenza incluso cuando estoy con gente que conozco bien</i>] | - | - | .51 |

According to the results, the best relative fit of the three models was found for the three-factor model [$\chi^2(132) = 2271.65$; $p = .000$], with a SRMR = .06, GFI = .89, AGFI = .086, RMSEA = .09, and CFI = .89. Moreover, the three-factor model with correlated factors represented a significant improvement on the two-factor model (test of difference

between the two models $\chi^2(2) = 167.76$; $p < .001$), and a significant improvement on the three-factor model with uncorrelated factors (test of difference between the two models $\chi^2(2) = 2711.99$; $p < .001$). The factor solutions to each item of the subscale are shown in Table 5. The correlations between factors were: .74 for FNE and SAD-N; .68 for FNE and SAD-G; and .84 for SAD-N and SAD-G.

Discussion

This study supports the use of the SAS-A as an instrument to measure social anxiety in a different culture and language (Spanish-speaking adolescents). One of the objectives of the study was to examine the differences in social anxiety levels among adolescents, according to gender and age. The results indicate significant differences for gender on the Total score, the FNE subscale and SAD-N subscale, with girls scoring higher. This is consistent with the results given by the authors of the scale (La Greca and Lopez, 1998) and independent investigators (Inderbitzen and Walters, 2000; Inderbitzen, Walters, and Bukowski, 1997; Olivares *et al.*, 1999; Walters, Caster, and Inderbitzen, 1996). Furthermore, compared to young boys, young girls present higher levels of social anxiety (Crick and Ladd, 1993; La Greca, Dandes, Wick, Shaw, and Stone, 1988; La Greca and Stone, 1993) and adolescent girls worry more about the opinions of others (Inderbitzen *et al.*, 1997; Venberg, Abwender, Ewell, and Beery, 1992). Based on these data, it is possible that girls are more vulnerable to experiencing social anxiety than boys.

Although the results from the study of Inderbitzen and Walters (2000) are consistent with literature suggesting that social anxiety trends to increase with age in the child and adolescent populations (Albano, 1995; Kashani and Orvaschel, 1990; Sandín, 1997), there are previous studies that suggest that social anxiety trends to decrease with age (La Greca *et al.*, 1988; La Greca and Lopez, 1998; Sandín, Valiente, Chorot, Santed, and Sánchez-Arribas, 1999; Walters *et al.*, 1996). In our study, significant age differences were only found in the FNE subscale, but in view of these results it cannot be assumed that this fear of negative evaluation by others increases or decreases with age. In all subscales and the Total score, there is a reduction in scores at the age of 16, followed by an increase at the age of 17. This has also been found by García-López *et al.* (2001), La Greca (1998) and La Greca and Lopez (1998), but there were no significant effects for age. In our study, as in those of La Greca and Lopez (1998) and García-López *et al.* (2001), there were no significant effects of the interaction between the two factors.

The factor structure obtained in the adolescent Spanish-speaking population supported the results obtained in the North American population (Inderbitzen and Walters, 2000; La Greca, 1998). The Confirmatory Factor Analysis allowed us to verify that the best fit data to model was of the three factors. The three factors obtained could match the three factors defined in the original study (FNE, SAD-G, and SAD-N). The correlations between subscales were high, similar to those found by Inderbitzen and Walters (2000) and La Greca and Lopez (1998), which might suggest that the subscales are dependent on measuring different aspects of the same construct: social anxiety. This is consistent with a previous study (Olivares, Garcia-Lopez, Hidalgo, and Caballo, 2004).

Finally, the Alpha coefficients were very similar to those obtained by the authors of the scale. It must be noted that the subscale FNE has systematically obtained a higher internal consistency value in all studies, followed by the SAD-New subscale and the SAD-General. This might be attributable to the number of items in each subscale: 8 for FNE, 6 for SAD-New and 4 for SAD-General.

To sum up, the results support the three-factor structure and indicate higher values of internal consistency for the SAS-A subscales and total score, providing support for the use of the SAS-A among the Spanish-speaking adolescent population. To our knowledge, this study is the first contribution that reports psychometric data for using the Spanish version of SAS-A in an adolescent community sample. Future studies should determine its psychometric properties among Spanish-speaking clinical samples.

References

- Albano, A.M. (1995). Treatment of social anxiety in adolescents. *Cognitive and Behavioral Practice*, 2, 271-298.
- Albano, A.M., DiBartolo, P.M., Heimberg, R.G., and Barlow, D.H. (1995). Children and adolescents: Assessment and treatment. En R.G. Heimberg, M.R. Liebowitz, D.A. Hope, and F.R. Schneier (Eds.), *Social Phobia: Diagnosis, assessment and treatment* (pp. 387-425). New York: Guilford Press.
- American Psychiatric Association (1980). *Diagnostic and Statistical Manual of Mental Disorder, 3rd ed.* (DSM-III). Washington, DC: Author.
- Beidel, D.C. and Turner, S.M. (1998). *Shy children, phobic adults. Nature and treatment of social phobia*. Washington, DC: American Psychological Association.
- Clark, D.B., Feske, U., Masia, C.L., Spaulding, S.A., Brown, C., Mammen, O., and Shear, M.K. (1997). Systematic assessment of social phobia in clinical practice. *Depression and Anxiety*, 6, 47-61
- Clark, D.B., Turner, S.M., Beidel, D.C., Donovan, J.E., Kirisci, L., and Jacob, R.G. (1994). Reliability and validity of the Social Phobia and Anxiety Inventory for adolescents. *Psychological Assessment*, 6, 135-140.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd Ed.)*. Hillsdale: Erlbaum.
- Crick, N.R. and Ladd, G.W. (1993). Children's perceptions of their peer experiences: Attributions, loneliness, social anxiety, and social avoidance. *Developmental Psychology*, 29, 244-254.
- Cronbach, L. (1951). Coefficient alpha and the internal consistency of tests. *Psychometrika*, 16, 297-334.
- Davidson, J.R.T., Hughes, D.L., George, L.K., and Blazer, D.G. (1993). The epidemiological of social phobia: Findings from the Duke Epidemiological Catchment Area Study. *Psychological Medicine*, 23, 709-718.
- García-López, L.J., Olivares, J., Hidalgo, M.D., Beidel, D.C., and Turner, S.M. (2001). 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 sample. *Journal of Psychopathology and Behavioral Assessment*, 23, 51-59.
- Ginsburg, G., La Greca, A.M., and Silverman, W.S. (1997, november). *The Social Anxiety Scale for Adolescents (SAS-A): Utility for youth with anxiety disorders*. Presented at the annual meeting of the Association for the Advancement of Behavior Therapy, Miami Beach, FL.

- Inderbitzen, H.M. and Walters, K.S. (2000). Social Anxiety Scale for Adolescents: Normative data and Further Evidence of Construct Validity. *Journal of Clinical Child Psychology*, 29, 360-371.
- Inderbitzen, H.M., Walters, K.S., and Bukowski, A.L. (1997). The role of social anxiety in adolescent peer relations: Differences among sociometric status groups and rejected subgroups. *Journal of Clinical Child Psychology*, 26, 338-348.
- Jiménez, L., Sáiz, P.J., Bascarán, M.T., and Iglesias, C. (1999). Epidemiología del trastorno por ansiedad social. In J. Bobes, González, M.P., Sáiz, P.A., and M. Bousoño (Eds.), *Abordaje actual del trastorno por ansiedad social* (pp. 3- 14). Barcelona: Masson.
- Jöreskog, K.G. and Sörbom, D. (1993). *LISREL 8. User's reference guide*. Chicago: Scientific Software.
- Kashani, J. and Orvaschel, H. (1990). A community study of anxiety in children and adolescents. *American Journal of Psychiatry*, 147, 313-318.
- La Greca, A.M. (1998). *Manual of the Social Anxiety Scales for Children and Adolescents*. Miami, FL: Author.
- La Greca, A.M., Dandes, S.K., Wick, P., Shaw, K., and Stone, W.L. (1988). Development of the Social Anxiety Scale for Children: Reliability and concurrent validity. *Journal of Clinical Child Psychology*, 17, 84-91.
- La Greca, A.M. and Lopez, N. (1998). Social anxiety among adolescents: Linkage with peer relations and friendships. *Journal of Abnormal Child Psychology*, 26, 83-94.
- La Greca, A.M. and Stone, W.L. (1993). The Social Anxiety Scale for Children-Revised: Factor structure and concurrent validity. *Journal of Clinical Child Psychology*, 22, 17-27.
- Leary, M.R. (1983). A brief version of the Fear of Negative Evaluation Scale. *Personality and Social Psychology Bulletin*, 9, 371-375.
- Liebowitz, M.R., Gorman, J.M., Fyer, A.J., and Klein, D.F. (1985). Social phobia: Review of a neglected disorder. *Archives of General Psychiatry*, 49, 729-736.
- Montero, I. and León, O.G. (2005). Sistema de clasificación del método en los informes de investigación en Psicología. *International Journal of Clinical and Health Psychology*, 5, 115-127.
- Norton, G.R., Cox, B.J., Asmundson, G.J.G., and Maser, J.D. (1995). The growth of research on anxiety disorders during the 1980s. *Journal of Anxiety Disorder*, 9, 75-85.
- Olivares, J., García-López, L.J., Hidalgo, M.D., and Caballo, V.E. (2004). Relationships among social anxiety measures and its invariance. A confirmatory factor analysis. *European Journal of Psychological Assessment*, 20, 172-179.
- Olivares, J., García-López, L.J., Hidalgo, M.D., La Greca, A.M., Turner, S.M., and Beidel, D.C. (2002). A pilot study on normative data for two social anxiety measures: The Social Phobia and Anxiety Inventory and the Social Anxiety Scale for Adolescents. *Revista Internacional de Psicología Clínica y de la Salud/International Journal of Clinical and Health Psychology*, 2, 467-476.
- Olivares, J., García-López, L.J., Hidalgo, M.D., Turner, S.M., and 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., Ruiz, J., Hidalgo, M.D., and García-López, L.J. (1999, November). *An analysis of the factor structure of the Social Anxiety Scale for Adolescents (SAS-A) in Spanish population*. Paper presented at the Iberoamerican Meeting of Clinical and Health Psychology. Granada, Spain.
- Ramos-Alvarez, M. M. y Catena, A. (2004). Normas para la elaboración y revisión de artículos originales experimentales en Ciencias del Comportamiento. *International Journal of Clinical and Health Psychology*, 4, 173-189.

- Sandín, B. (1997). *Ansiedad, miedos y fobias en niños y adolescentes*. Madrid: Dykinson.
- Sandín, B., Valiente, R.M., Chorot, P., Santed, M.A., and Sánchez-Arribas, C. (1999). Escala de Ansiedad Social para Niños-Revisada (SASC-R): Fiabilidad, validez y datos normativos. *Análisis y Modificación de Conducta*, 25, 827-847.
- Schneier, F.R., Johnson, J., Horning, C.D., Liebowitz, M.R., and Weissman, M.M. (1992). Social phobia: Comorbidity and morbidity in an epidemiologic sample. *Archives of General Psychiatry*, 49, 282-288.
- Storch, E.A., Eisenberg, P.S., and Roberti, J.W. (2003). Reliability and validity of the Social Anxiety Scale for Children-Revised for Hispanic children. *Hispanic Journal of Behavioral Sciences*, 25, 410-422.
- Taylor, S., Woody, S., McLean, P.D., and 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., and Stanley, M.A. (1989). An empirically derived inventory to measure social fears and anxiety: The Social Phobia and Anxiety Inventory. *Psychological Assessment*, 1, 35-40.
- Venberg, E.M., Abwender, D.A., Ewell, K.K., and Beery, S.H. (1992). Social anxiety and peer relationships in early adolescence: A prospective analysis. *Journal of Clinical Child Psychology*, 21, 189-196.
- Walters, K.S., Caster, J.B., and 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, Nueva York, NY.
- Watson, D. and Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology*, 33, 448-457.
- Wittchen, H.U., Lieb, R., Schuster, P., and Oldehinkel, A.J. (1999). When is onset? Investigations into early developmental stages of anxiety and depressive disorders. In J.L. Rapoport (Ed.), *Childhood Onset of «Adult» Psychopathology. Clinical and Research Advances* (pp. 259-302). Washington, DC.: American Psychiatry Press.
- World Health Organization (1992). *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines (10th revision)* (CIE-10). Geneva: Author.