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ORIGINAL CONTRIBUTION

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Psychometric properties and diagnostic ability of the separation anxiety scale for children (SASC)

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Abstract This research describes the psychometric properties of a new child self-report measure, the separation anxiety scale for children (SASC), which assesses the frequency of symptoms of separation anxiety in children from 8 to 11. The factor solution with a sample of 1,201 children from 8 to 11, isolated three factors, discomfort from separation, worry about separation, and calm at separation, tested by confirmatory factor analysis, which accounted for 32.80% of the total variance. Results indicated that the SASC has a high internal consistency ($\alpha = 0.83$). The results revealed a high test-retest reliability of the instrument, and a high number of correctly diagnosed cases. The correlation of scores with other anxiety measures shows that the variable most associated with separation anxiety is trait–anxiety.

Key words assessment – children – construct validity – self-report – separation anxiety

Introduction

Anxiety in children through separation from affective figures constitutes a protection mechanism, and it is considered a normal characteristic of child development [7]. The frequency of separation anxiety symptoms without clinical significance is very high, over 50% in children [15]. The separation anxiety disorder (SAD) is the only anxiety disorder included in the DSM-IV-TR [1] as a childhood or adolescent disorder. The onset occurs around 7–12-year-old, with a peak at 7–9-year-old, but it may also appear in adolescence [16, 18]. There are differences due to age for specific symptoms, so nightmares related to separation are more frequent in children (5–8 years), distress upon separation in preadolescents (9–12 years), and physical complaints on school days in adolescents (13–16) [11]. Epidemiological studies estimate that the prevalence for SAD is from 3 to 5% [2, 3, 6]. Approximately

half the children with SAD are diagnosed with another anxiety disorder, especially overanxious disorder, specific phobia and depression [5, 17, 24].

Child self-report measures are one of the most used instruments to assess separation anxiety in the framework of a multimethod-multisource assessment. They are easy to administer, useful in assessing treatment progress, and require little therapist time and effort. An additional advantage is that they are valuable for epidemiological research. There are several self-report measures of child anxiety that have shown good psychometric properties: the screen for child anxiety related emotional disorders (SCARED) [4] includes an eight-item separation anxiety scale, the multidimensional anxiety scale for Children (MASC) [19] has the Separation Anxiety/Panic scale with nine items, and the spence children's anxiety scale (SCAS) [26] includes a six-item Separation Anxiety Disorder scale. However, these scales have been developed to assess child anxiety in general or a set of anxiety disorders. The separation anxiety symptom inventory (SASI) [22] is another instrument that evaluates the separation anxiety that adults felt when they were children. So there are few child scales to assess anxiety separation specifically. One specific instrument for separation anxiety disorder is the Separation Anxiety Assessment Scale (SAAS) [10], with two versions: Child and Adolescent (SAAS-C) and Parent (SAAS-P). It is made up of 34 items and a four-point-rating scale (from never to all the time). The SAAS is used with children and adolescents and juxtaposes dimensions of separation anxiety with triggers, such as the frequency of calamitous events. It was necessary to develop a specific scale of separation anxiety for children because the prevalence of SAD is highest in children and the symptoms are different from those in adolescents [11]. The age range selected responds to the average age for the onset of SAD, which is 8 [16] and that the symptoms of separation anxiety reached a peak at 9–10 years.

To date there is no instrument to assess anxiety disorder in Spanish-speaking children between 8 and 11, so the objective of this study is to develop and validate a cultural adapted scale to assess the disorder in this age range. Because of the lack of questionnaires for specifically assessing separation anxiety in children, the separation anxiety scale for children (SASC) is a new scale to detect possible SAD cases in order to subsequently carry out a more extensive individual evaluation. We carried out a study to investigate the reliability and validity of the instrument. It is examined the temporary stability of the SASC as well as its diagnostic capacity (predictive validity) with respect to several anxiety measures and to the separation anxiety section of a semi-structured interview, in a sample of Spanish-speaking children.

Method

Construction of the items

A pilot study was carried out with a small random sample of 78 children between 8 and 11, (M = 9.45; SD = 1.08), (53.8% girls and 46.2% boys). A large item bank was drawn up from the clinical characteristics of the disorder as defined by the main classification systems (DSM-IV-TR and ICE-10), from the literature review, and the clinical experience of the authors. The 82 items generated were submitted to be evaluated by six experienced clinical psychologists. These judges were asked to independently determine the pertinence of each item to evaluate SAD, with a four-point rating scale. Two criteria were assumed for the item selection: (1) average rates of three or over on the pertinence scale, and (2) agreement in the rates by at least five of the six judges. After the valuation the item bank was reduced to 40. The analysis of the pilot study data showed that the item-test correlations of 14 items were under .30, so they were eliminated in accordance with statistical criteria, therefore, the number of items was reduced to 26, some of the eliminated items were "do you accept invitations to sleep at a friends house?" or "do you forget your mother and father when you are at school?"

Participants

One thousand three hundred and ninety one children from the third to sixth year attending 15 primary public schools in two south-eastern counties in Spain were recruited. The sample was composed by the scholars from 3 to 6 grade of 12 schools randomly selected. Twenty-eight subjects (2.01%) were eliminated due to data incompletion and 162 (11.60%) for being 12-year-old or over. The sample was made up of 1,201 subjects, 623 boys (51.87%) and 578 girls (48.13%), with the ages of 8 (85 boys and 97 girls), 9 (164 boys and 136 girls), 10 (192 boys and 171 girls) and 11 (182 boys and 174 girls). The average age was 9.74 (SD = 1.04). Participants were homogeneously distributed in function of gender and age (χ^2 = 3.117; P = 0.374). All the participants were Spanish, with a wide range of socioeconomic level, which was determined according to the neighborhood of the schools, and homogeneously distributed. Comparison between schools didn't reveal any significant differences.

Procedure

The research team contacted the schools to explain the goals of the investigation and ask for their col-

laboration. Written information was given to the principals. A letter was sent to the parents, informing and asking them for written authorization. The subjects completed the scale collectively (groups of 20–30) during class time. The instructions were read aloud to the children by the research assistants. Two researchers went around the class during the test sessions providing individual help to any student who was having difficulty. In order to avoid bias, researcher were asked not to report the objective of the scale until subjects had all finished

To calculate the test-retest reliability, 343 children, randomly selected from the total sample, completed self-report measures after 4 weeks. The ages were 8 (44 boys and 41 girls), 9 (43 boys and 50 girls), 10 (58 boys and 33 girls) and 11 (33 boys and 33 girls).

To calculate the diagnosis validity of the scale, a sub-sample with the subjects that had obtained scores equal to or higher than 80 was used. This cut-off point was calculated from the average in the SASC, plus the value of a standard deviation in the first 500 subjects codified (M = 62.9; SD = 17.11). Thus, the number of subjects with scores over 80 was 159. The sample was completed with a control group of 82 subjects with scores below and above 80, including scores which were close to or far from this score. The sub-sample constituted a total of 241 subjects, 117 boys (48.5%) and 124 girls (51.5%). The gender and ages were 8 (29 boys and 39 girls), 9 (30 boys and 35 girls), 10 (40 boys and 30 girls) and 11 (18 boys and 20 girls). These subjects were given a diagnostic interview based on the criteria of the DSM-IV-TR for SAD. Four interviewers (psychologists with more than 5 years experience in carrying out clinical activity) participated in the interview phase. The interrater agreement was calculated using 18 arbitrarily selected cases, and the result was 100%.

Measures

SASC. This scale was developed by Espada, Méndez, Orgilés, and Hidalgo for assessing separation anxiety among children from 8 to 11 years old. The SASC contains 26 items, rated using a 5-point scale according to the frequency of the situation presented in the item. The range of the test is 26–130 and administration time is approximately 15 minutes.

School Fears Survey Scale–Form II (SFSS) [19]. Form II is employed to assess children from 8 to 12 years old, and contains 28 items and one open question at the end. Each item is rated on a three-point scale. The total score can be obtained by adding up the scores for the items, and can range from 0 to 54. It can be used for individuals or collectively. Administration time is approximately 15 min. The internal consistency of the scale (alpha of Cronbach) is 0.91.

State–Trait Anxiety Inventory for Children (STAIC) [29]. The questionnaire is made up of 40 items with three alternative answers and is derived from the STAI (the anxiety inventory for adults and adolescents). It can be used individually or collectively with 9- to 15-year-old children (or with smaller children who are able to read and have sufficient comprehension) and was designed by the same authors. Application time oscillates between 15 and 20 min. The Spanish version of the STAIC has a high reliability coefficient (0.89) and a concurrent validity coefficient as other scales with high-quality psychometric properties (0.75).

Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV-C) [25]. It is based on the DSM criteria, and has an average degree of structuring. It is an adaptation of the anxiety disorders interview schedule [9] for children and adolescents and there is also a validated Spanish version [23]. In this study the section dedicated to SAD was used, which consists of 17 questions that examine compliance with the diagnostic criteria for this disorder. Application time was approximately 30 min.

Data analysis

In order to explore the underlying structure of the scale, an iterative principal axis factorial analysis with varimax rotation was conducted using the statistical package SYSTAT 10.0. The models tested by confirmatory factor analysis were assessed using the statistical program LISREL, version 8.12. To calculate the correlations between each item and the scores for its respective subscale and the total score on the scale, a classical item analysis was performed, using the program TESTAT 2.0. The internal consistency of subscales was calculated with Cronbach's alpha coefficient [8]. Moreover, the test-retest reliability coefficient was calculated with product-moment correlation coefficient. A discriminant analysis was performed in order to obtain evidence of criterion validity. Finally, the analysis of differences according to gender and age was conducted by means of variance analysis (ANOVA) inter-subjects 2 × 4 (gender x age) with scores on the scale and the sub-scales of the SASC.

Results

Exploratory factor analysis

The criteria to obtain the factorial solution were: (a) to retain factors with eigenvalue of 1 or over, (b) to assign items loading .30 or over to each factor, and (c)

to include at least five items in each factor. Measures were explored using iterative principal axis factor analysis with the total sample. Three factors were found with eigenvalue higher than 1 (Kaiser criterion for factor retention), which accounted for 32.80% of the variance. Two items were eliminated one because the saturation was lower than 0.30 and another one because it saturated in two factors and included redundant information. Finally the scale was made up of 26 items. Factor 1, discomfort from separation, is related with the psycho physiological and motor responses that appear in the child when he/she is separated from his/her parents. This factor is made up of 16 items which accounted for 18.42% of the variance. Factor 2, worry about separation, includes child uneasiness for the possible that negative events that may take place during the separation, and predominantly assesses cognitive aspects. It is made up of five items which accounted for 8.43% of the variance. Factor 3, calm at separation, is related to the confidence the child feels when he is separated from his/her parents. It is made up of five items which accounted for 5.95% of the variance.

Confirmatory factor analysis

Four alternative models were assessed: (1) the null or independent model; (2) the one-factor model, in which all 26 scale items were forced to load on a general separation anxiety factor; (3) the three-factor model; and (4) the three factor model allowing intercorrelations among factors. The estimation method was maximum likelihood.

To study the adequacy of the assessed models we used five fit indexes, the Normed Fit Index (NFI), the Goodness of Fit Index (GFI), the Adjusted Goodness of Fit Index (AGFI), and the Comparative Fit Index (CFI) as well as the Chi-square statistic. Hu and Bentler [14] consider a value between 0.90 and 0.95 acceptable for the CFI and NFI, close to 0.08 for SRMR, as well as using a combination of fit indexes in order to reduce both type I and II errors. For the other indexes, the recommended criteria are: Goodness of Fit Index (GFI) equal to or greater than 0.80, and AGFI equal to or greater than 0.85 (Table 1).

Although, a non-significant chi-square statistic represents a good fit, this test is fairly sensitive to sample size, then additional fit indexes were take account. The best relative fit of the four models was found for the three-factor model allowing intercorrelations among them, with values 0.09 for SRMR, 0.93 for GFI and 0.91 for CFI. The factor solutions for each item of the factor are shown in Table 2.

Internal consistency and item analysis

Internal consistency reliability coefficients (Cronbach's alpha) were .83 for SASC, .85 for factor 1, discomfort from separation, 0.72 for factor 2, worry about separation, and 0.63 for factor 3, calm at separation. Item-subscale correlations were acceptable, ranging from 0.44 to 0.79. Only 15% of the items obtained an item-test correlation lower than 0.30, indicating good behaviour for most items. Table 3 shows the item-subscale correlation (IS-R), the corrected item-subscale correlation (IS-R_c), the item-test correlation (IT-R), the corrected item-test correlation (IT-R_c), the mean (M), and the standard deviation (SD) of the 26 items of SASC.

Test-retest reliability

Using Pearson product-moment correlation, the test-retest reliability for the complete scale SASC (26 items) was $r = 0.98$. Sub-scale discomfort from separation was $r = 0.98$, sub-scale worry by separation was $r = 0.98$, and for calm at separation the correlation index was $r = 0.96$.

Convergent and discriminant validity

The coefficients of the correlation of the sub-scales and the total score of the SASC with the STAIC and the SFSS were calculated (see Table 4). The correlation between the total score in the SASC and the score in the sub-scale trait–anxiety was .46, considered an average relationship. Factor 1, discomfort from separation, presents a 0.38 correlation, and factor 2, worry about separation 0.37, both considered average

Table 1 Fit statistics for confirmatory factor models

Model	χ^2	df	*P*	SRMR	GFI	AGFI	NFI	CFI
Null model	38137.13	325	0.00	–	–	–	–	–
1-factor	8812.46	299	0.00	0.12	0.90	0.88	0.85	0.86
3-factors	4641.04	299	0.00	0.14	0.85	0.82	0.79	0.80
3-factors*	5206.90	296	0.00	0.09	0.93	0.92	0.90	0.91

*Three correlated factors model; χ^2: Chi-Square test; *df*: Degrees of freedom, *P* Probability, *SRMR* Standardized-Root Mean Square Residual, *GFI* Goodness of Fit Index, *AGFI* Adjusted Goodness of Fit, *NFI* Normed Fit Index, *CFI* Comparative Fit Index

Table 2 Confirmatory factor analysis of SACS

Item	Factor 1	Factor 2	Factor 3
15. Do you feel bad at school because your mum or your dad aren't with you?	0.80	–	–
14. Do you feel sad when you are separated from your mum or your dad?	0.79	–	–
6. Do you feel like crying if you aren't with your mum or your dad?	0.77	–	–
23. Is hard for you to separate from your mum or your dad when she/he leaves you at school?	0.73	–	–
26. Do you feel like crying when your mum or your dad say goodbye to you at school?	0.71	–	–
3. Do you have headache when you have to separate of your mum of your dad?	0.71	–	–
16. Do you have stomachache when you have to separate from your mum or your dad?	0.69	–	–
7. Do you have nightmares in which someone forces you to separate from your mum or your dad?	0.68	–	–
12. Do you try to convince your mum or your dad to cancel her/his trip?	0.68	–	–
19. Do you have nightmares where something bad happens to your mum or your dad?	0.62	–	–
4. Do you want your mum or your dad to sleep with you at night?	0.59	–	–
18. Are you disappointed when your mum or your dad go out at night?	0.57	–	–
22. Are you bothered when you stay at home with a babysitter?	0.54	–	–
2. Do you try to phone to your mum or your dad if she/he isn't with you?	0.52	–	–
5. Do you protest when your mum or your dad say to you she/he is going out?	0.49	–	–
9. Do you think about going back home while you stay at school?	0.40	–	–
8. Are you worried about something bad preventing you from meeting again with your mum or your dad?	–	0.79	–
20. Are you worried about getting lost?	–	0.77	–
21. Are you worried about something bad happening to your mum or your dad?	–	0.71	–
25. Are you worried about your mum or your dad having an accident?	–	0.58	–
13. Are you concerned about your mum's or dad's health?	–	0.48	–
11. Are you calm when your mum or your dad aren't with you?	–	–	0.74
1. Do you stay calm when your mum or your dad travel?	–		0.68
17. Are you calm in case you couldn't talk by the phone your mum or your dad?	–	–	0.62
10. Do you feel calm when you get up to go to school?	–	–	0.37
24. Are you calm when it gets dark and your mum or your dad isn't with you?	–	–	0.33

Table 3 Item analysis of SACS

Items	IS-R	IS-R_c	IT-R	IT-R_c	M	SD
Factor 1: discomfort from separation						
14	0.69	0.61	0.65	0.58	2.04	1.44
15	0.67	0.61	0.55	0.51	1.41	0.98
6	0.63	0.57	0.56	0.51	1.45	1.00
12	0.63	0.54	0.58	0.52	1.98	1.45
7	0.60	0.53	0.53	0.48	1.48	1.05
3	0.58	0.51	0.47	0.42	1.37	0.97
16	0.57	0.50	0.46	0.41	1.38	0.96
19	0.57	0.48	0.51	0.44	1.77	1.28
23	0.56	0.49	0.45	0.40	1.35	0.97
26	0.56	0.49	0.43	0.38	1.36	1.20
18	0.55	0.45	0.52	0.45	1.99	1.39
22	0.54	0.42	0.48	0.39	2.27	1.63
4	0.52	0.45	0.46	0.41	1.47	1.03
5	0.51	0.42	0.48	0.41	1.69	1.16
2	0.50	0.39	0.51	0.43	2.32	1.42
9	0.44	0.31	0.41	0.32	2.24	1.54
Factor 2: worry about separation						
21	0.79	0.64	0.36	0.27	4.16	1.33
25	0.72	0.56	0.28	0.19	4.30	1.29
13	0.70	0.51	0.23	0.15	4.21	1.35
8	0.64	0.39	0.47	0.39	2.50	1.56
20	0.62	0.35	0.51	0.42	2.58	1.59
Factor 3: calm at separation						
11	0.71	0.48	0.44	0.35	2.75	1.67
17	0.67	0.43	0.38	0.28	3.19	1.64
1	0.62	0.37	0.44	0.35	2.67	1.61
24	0.61	0.35	0.22	0.11	3.21	1.66
10	0.56	0.28	0.26	0.15	2.61	1.66

IS-R Item-scale correlation, *IS-R_c* Corrected correlation item-scale, *IT-R* Item-test correlation, *IT-R_c* Corrected correlation item-test, *M* Mean, *SD* Standard deviation

Table 4 Concurrent validity

	STAIC-S	STAIC-T	SFSS
SASC			
Discomfort from separation	0.35**	0.38**	0.29**
Worry about separation	−0.02	0.37**	0.30**
Calm at separation	0.30**	0.20**	0.19**
Total	0.34**	0.46**	0.37**

SASC separation anxiety scale for children, STAIC-S state-trait anxiety inventory for children, subscale state - anxiety; *STAIC-T* state-trait anxiety inventory for children, subscale trait anxiety, *SFSS* scholar fears survey schedule
*$P \leq 0.05$ **$P \leq 0.01$

relationships. Factor 3, calm at separation presents a correlation coefficient of 0.19, considered low. Thus, coefficient r of Pearson between sub-scale STAIC anxiety-state and the total score of the SASC is 0.8 with factor 1 is 0.38 with factor 2 is -0.02 and with factor 3 is 0.30. The correlations of the SASC with scale STAIC-S are all higher than 0.30, considered average relationships, except for the factor worry about separation, which presents a low negative correlation. The correlations with the SFSS are low for the factor discomfort from separation ($r = 0.29$), medium for the factor worry about separation ($r = 0.30$), low for the factor calm at separation ($r = 0.19$) and medium for the total scale ($r = 0.37$).

Diagnostic ability

Forty-eight subjects were diagnosed with SAD using the interview ADIS-IV, which represents 19.9% of the sub-sample used for this analysis. A step by step discriminant analysis was made, in which the independent variables were the different factors of SASC. The model with factors 1 and 2 were statistically the most appropriate. The inclusion of the third factor did not provide substantial improvement to the model. Lambda of Wilks was 0.56 ($\chi^2{}_2 = 139.32$; $P < 0.00$), and the standardized coefficients were 0.939 for factor 1, and 0.268 for factor 2. 45 of the 48 subjects were diagnosed correctly (93.8%), with 6.3% false negatives and 11.4% false positives. On the other hand, using solely factor 1, 89.6% were correctly classified, with 14% false positives. In the model for two factors, the cut-off point for SAD diagnosis is jointly set at the score of 45 for factor 1 and 11 for factor 2, therefore, the subjects with a score greater or equal to 45 (factor 1) and 11 (factor 2) will be diagnosed with SAD.

The capacity of diagnosis from the total score in the test was also analyzed. The univariant discriminant analysis showed a Lambda of Wilks of .57 ($\chi^2{}_1 = 130.70$; $P < 0.00$). The SASC diagnosed 97.9% of the cases correctly with the cut-off score diagnosis set at 85. In addition, 11.9% false positives and 2.1% false negatives were obtained. The diagnosis of SAD in the total sample ($N = 1201$) was 3.9%. The prevalence of separation anxiety was analyzed based on the age variable and out of the total sample ($N = 1201$), it was found that the diagnosis of SAD occurs in 7.69% of 8-year-old children, 4.33% of 9-year-old children, 4.96% of 10-year-old children, and .84% of 11-year-old children. The diagnosis of SAD based on the gender variable, was prevalent in 22 boys (3.53% of the total sample) and 26 girls (4.50%). Differences for age and gender were not significant.

Discussion

This study provides empirical support for using the SASC. Results indicate good psychometric properties; high reliability and a multidimensional structure for the SASC (construct validity). The SASC has a multifactor structure with three factors. Hahn et al. [12], using the SAAS, found four key symptom dimensions for anxiety separation: (a) fear of being alone; (b) fear of abandonment; (c) somatic complaints/fear of physical illness; and (d) worry about calamitous events. The first two dimensions are more specific for separation anxiety, while the two last dimensions are in common with other anxiety disorders, such as generalized anxiety disorder. Other studies [13] have found that 75 and 83% of a child sample with SAD showed fear of being alone and fear of being abandoned respectively, whereas only 31 and 63% of another child sample with other anxiety disorders presented similar fears. The SASC factor, discomfort from separation, encompasses the first three dimensions of the SAAS, factor worry about separation is similar to the last dimension of SAAS whereas factor calm at separation does not have an equivalent in SAAS. On the other hand, this factor explains the lowest amount of variance and has the lowest reliability, which establishes the possibility of reformulating it, including items which assess the relief from anxiety that the child experiences when the separation comes to an end and he/she is reunited with his/her parents. The Alpha Coefficients indicate satisfactory values of internal consistency for the SASC and their factors except factor 3. Regarding the instrument, the situations which generate higher frequency of anxiety symptoms are included in factor, worry about separation. The items with the highest scores refer to the possibility of the parents having an accident (item 25), or health problems (item 13) or negatives events in general (item 21).

The analysis of test-retest stability shows high indexes of correlation 4 weeks after the first admin-

istration of the questionnaire (0.98). It is possible to conclude that SASC, in the global score as well as in the three subscales, presents high test-retest reliability. Compared to other instruments, we observe that SASC presents equal or higher temporary stability. In a period of 4 weeks, it was found [20] a test-retest correlation of the RCADS in the subscale that evaluates separation anxiety as 0.81, and 0.79 in a reduced version of the questionnaire. The temporary stability of the separation anxiety factor in the MASC, after 3 weeks and after 3 months, was 0.89 and 0.93, respectively [18]. In the same way, test-retest reliability after 12 weeks, found in the subscale of separation anxiety of the SCAS, was 0.52 in a sample of children from 13 to 14 [28] and 0.57 in children of 8 to 12 years old with a measurement taken 6 months later [27].

The correlations of the total scale of SASC with the other instruments administered reveal that the variable most associated with separation anxiety is trait–anxiety (.46). In previous studies, correlations between measures of separation anxiety and trait–anxiety have also been found. The correlation of the separation anxiety subscale from the RCADS with the trait–anxiety measurement from the STAIC oscillated between 0.55 and 0.72 [20]. A correlation of the separation anxiety subscale from the SCAS with the trait–anxiety from the STAIC of 0.58 was also found [21]. The SASC, nevertheless, does not correlate with the measurement in state-anxiety and for this reason we can conclude that the anxiety characteristic, as with the stable characteristic of the subject, is a variable that positively correlates with other specific upheavals of anxiety, as in the case of our study with the SAD. The correlation between separation anxiety and school fears in our sample was of 0.37, considered an average correlation. In several studies, the SAD has been related to school phobia. Thus, Last and Strauss [17] found that 75% of the children diagnosed with SAD also presented school rejection. The data gathered in our study confirms the hypothesis that a relationship between both problems exists. In fact, part of the symptomatology of SAD involves school rejection in related behaviours.

In the study of the diagnostic capacity of SASC, a contrast was made between the highest scores obtained in the questionnaire and the information successfully obtained through a structured and highly reliable interview, where the diagnostic criteria is compiled for the SAD of the DSM-IV-R. For the calculation of predictive validity, although the models that included one, two and three SASC factors were verified, the most appropriate according to statistical criteria proved to be the one that considered two factors. The diagnostic capacity of the instrument was high, with 97.7% correctly diagnosed cases. In the whole test, the cut-off point established for the diagnosis is 85. A total of 48 subjects were diagnosed with SAD according to the ADIS-IV interview. The prevalence of SAD found in the diagnosis out of the total sample ($N = 1201$) was 3.9%. Separation anxiety was observed as being more frequent in girls (4.5%) in comparison to boys (3.53%), and decreased with age; these results agree with the data from the scientific bibliography.

This study presents some methodological limitations. The sample was recruited from a school setting, and for this reason the results cannot be generalized to clinical samples. In future investigations it would be beneficial to verify whether the questionnaire presents the same factorial structure in children diagnosed with SAD and its relation with other anxiety disorders in clinical samples. It is also recommendable to include depression measures in future studies in order to value the relationship between mood and anxiety by separation. Also, future studies should investigate the accuracy of the SASC, using the complete version of the diagnostic interview to calculate the sensitivity and specificity of the scale. The inclusion of other sources of information on the degree of the disorder would be appropriate, as well as the comparison of the information provided by the children with that offered by their parents.

We can conclude that the SASC presents a high temporary stability and predictive validity or capacity diagnoses, for this reason it can be considered as an instrument that provides reliable information on the degree of separation anxiety in children. Its main application is to evaluate the degree of anxiety caused by separations in children from 8- to 11-year-old, with the purpose of identifying the most problematic areas and planning effective treatment programs. Moreover, the SASC provides more detailed information than the subscales of other instruments in order to plan treatment, i.e. high scores for the factor discomfort from separation recommend the inclusion of relaxation training, while high scores for the factor worry about separation suggest applying cognitive restructuring.

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