

SPANISH VALIDATION OF THE PARENT VERSION OF THE SPENCE CHILDREN'S ANXIETY SCALE (SCAS-P) IN A CLINICAL SAMPLE

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Abstract

The child version of the Spence Children's Anxiety Scale (SCAS-C) has demonstrated good psychometric properties, but research has scarcely focused on the parent version of the questionnaire (SCAS-P). We aimed to validate the Spanish version of the SCAS-P in a clinical sample ($N= 137$) of children and adolescents through their parents' responses. The Spanish version of the SCAS-P showed good internal consistency for the total scale and for most subscales (Cronbach's alpha between .49 y .83) and excellent test-retest reliability for all subscales (r between .71 and .91). Furthermore, convergent and divergent validity were supported by higher correlations with other measures of anxiety ($r= .51$), and lower correlations with measures of depression ($r= .43$) and externalizing problems ($r= .34$). For the first time in an exclusively clinical sample, the original factor structure of the SCAS-P based on six correlated factors was partially confirmed. The validation of the SCAS-P in a clinical sample provides professionals with a tool that better reflects the characteristics of their patients.

KEY WORDS: *anxiety disorders, children, adolescents, validation, assessment.*

Resumen

La versión infantil de la "Escala de ansiedad infantil de Spence" (SCAS-C) posee buenas propiedades psicométricas, pero existe poca investigación sobre la versión para padres. Nuestro objetivo fue validar la versión española del SCAS-P en una muestra clínica ($N= 137$) de niños y adolescentes a través de las respuestas de sus padres. El SCAS-P mostró una buena consistencia interna para la escala total y para la mayoría de las subescalas (α de Cronbach entre 0,49 y 0,83) y una excelente fiabilidad test-retest para todas las subescalas (r entre 0,71 y 0,91). Además, la validez convergente y divergente fueron respaldadas por correlaciones significativas con otras puntuaciones de ansiedad ($r= 0,51$), y correlaciones más bajas con puntuaciones de depresión ($r= 0,43$) y problemas exteriorizados ($r= 0,34$), respectivamente. Por primera vez en una muestra exclusivamente clínica, se

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confirmó parcialmente la estructura factorial original del SCAS-P basada en seis factores correlacionados. La validación del SCAS-P en población clínica aporta a los profesionales una herramienta que refleja mejor las características de sus pacientes.

PALABRAS CLAVE: *trastornos de ansiedad, niños, adolescentes, validación, evaluación.*

Introduction

Anxiety disorders are frequent in childhood and adolescence, with worldwide prevalence rates above 6% (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). Early diagnosis and subsequent intervention are essential to prevent both these anxiety disorders becoming chronic (Dadds et al., 1999; Morgan, Rapee, & Baye, 2016) and other psychiatric disorders developing (Rapee, Schniering, & Hudson, 2009). Therefore, valid screening tools are necessary to identify symptoms.

One of the most used questionnaires for evaluating anxiety disorders is the Spence Children's Anxiety Scale, SCAS (Spence, 1998). The child version of the SCAS (SCAS-C) consists of 45 items designed to measure symptoms for six children and adolescent anxiety disorders of the Diagnostic and Statistical Manual for Mental Disorders (DSM-IV; American Psychiatric Association, 1994). These disorders are panic/agoraphobia, generalized anxiety disorder, social phobia, separation anxiety disorder, obsessive-compulsive disorder, and physical injury fears. The SCAS-C was created by Spence as a self-report questionnaire and has been shown to have excellent psychometric properties in many countries, cultures, and languages in both community and clinical populations (Essau, Sasagawa, Anastassiou-Hadjicharalambous, Guzmán, & Ollendick, 2011; Hernández-Guzmán et al., 2010; Ishikawa, Sato, & Sasagawa, 2009; Muris, Schmidt, Engelbrecht, & Perold, 2002; Tortella-Feliu, Balle, Servera, & de la Banda, 2005; Zhao, Xing, & Wang, 2012). To date, studies of the SCAS-C in different settings have demonstrated excellent internal consistency, good test-retest reliability, adequate convergent and divergent validity, and a factorial structure consistent with the six targeted diagnostic categories. However, concordance in the perception of anxiety symptoms between children and their parents is typically low (Weems, Feaster, Horigian & Robbins, 2010). For this reason, it is highly recommended that symptoms are explored in both children and their parents, especially when children are younger and suffer from internalizing symptoms (Rey, Schrader, & Morris-Yates, 1992; Vidair et al., 2011).

Few studies have sought to validate parent-reported questionnaires for the assessment of anxiety symptoms in children. Nauta et al. (2004) designed the parent version of the SCAS (i.e., the SCAS-P) that comprised 38 items that assessed the same clinical subscales of the original scale. The authors recruited a sample of 484 parents of children with anxiety disorders and 261 parents of healthy control children and found satisfactory to excellent indices of reliability for the subscales, evidence in favor of convergent and divergent validity, and support for the structure of the six -correlated factors of the original SCAS.

Parent versions have also been developed for other questionnaires. For example, the Screen for Child Anxiety Related Emotional Disorders, SCARED (Birmaher et al., 1997) showed good psychometric properties in several countries and languages that remained valid for the parent version (e.g. Runyon, Chesnut & Burley, 2018). This scale measures panic disorder, generalized anxiety disorder, social phobia, separation anxiety disorder, and school phobia. Originally covering 85 items, it has subsequently been reduced to 41, 66, 69, or 71 items. However, the SCAS-P benefits from screening a larger number of subscales that better fit the structure of the DSM-IV, and from having fewer items to administer.

Several studies have validated the SCAS-P in different countries and languages, but most have done so in community populations. However, clinical populations have distinct characteristics (e.g., greater symptom severity and comorbidity with other disorders) that necessitate validation studies. To our knowledge, only five studies have validated the SCAS-P in clinical samples, though these have been combined with community populations. As described above, Nauta et al. (2004) found excellent psychometric properties in the first validation of the SCAS-P. Some of these results were confirmed by Whiteside and Brown (2008) in a North American sample of 85 children from the community and 80 children with clinical anxiety, both with their parent. The authors reported excellent internal consistency (Cronbach's $\alpha = .93$) and good indices of convergent and divergent validity, which were supported by significantly higher correlations with negative affect scores and measures of physiological hyperarousal than with positive affect scores.

Later, DeSousa et al. (2014) studied the psychometric properties of the Brazilian-Portuguese version of the SCAS-P in both community and clinical samples (70 children with anxiety and 712 children from the community, both with parents). They found support for the original model of six correlated factors, excellent internal consistency (Cronbach's $\alpha = .91$), and adequate convergent validity (strong significant correlations with the SCARED parent version). In a Danish sample of 805 parents (537 from a community sample), Arendt, Hougaard, and Thastum (2014) observed that the SCAS-P had excellent internal consistency (Cronbach's $\alpha = .87$) and adequate convergent and divergent validity, with a significantly higher correlation between the total SCAS-P scores and internalizing difficulties and a lower correlation with externalizing difficulties. The confirmatory factor analyses (CFAs) also favored the original model. Finally, Olofsdotter, Sonnby, Vadlin, Furmark, and Nilsson (2016) replicated previous results in a Swedish sample of 104 adolescents and parents (47 from the community).

All previous studies of the SCAS-P have combined both clinical and community samples when exploring its psychometric properties. We consider this to be an important limitation because of the significant differences that exist between these samples. Consequently, no studies have evaluated the psychometric properties of the SCAS-P in a completely clinical population. We therefore wanted to resolve this limitation of existing research by validating the Spanish version of the SCAS-P in a clinical sample of the parents of children and adolescents diagnosed with anxiety disorders.

Our first aim was to study the psychometric properties (internal consistency,

convergent and divergent validity, and test-retest reliability) and to perform a CFA. Secondary aims were to explore the gender and age differences in SCAS-P scores and the concordance between the SCAS-C and SCAS-P.

Method

Participants

The final sample comprised the SCAS-P questionnaires of 137 families. The following inclusion criteria were adopted: age 6 to 17 years; a principal diagnosis of any anxiety disorder detailed in the DSM-IV (APA, 1994); and diagnosis confirmed by the ADIS-P. Accepted diagnoses were separation anxiety disorder, social phobia, generalized anxiety disorder, panic disorder with or without agoraphobia, specific phobia, post-traumatic stress disorder, obsessive-compulsive disorder, adaptive disorder with anxiety, and anxiety disorder not otherwise specified. Parents could read and understand Spanish. Exclusion criteria were the presence of comorbid autism spectrum disorders, substance abuse, psychotic disorders, acute affective disorders, acute organic conditions, or intellectual deficits that could affect comprehension of the assessment.

Instruments

- a) *Anxiety Disorders Interview Schedule, Parent version* (ADIS-P; Silverman & Albano, 1996). The ADIS-P is a semi-structured interview of parents that assesses the presence of the clinical criteria for all anxiety disorders of childhood, together with any comorbidity. We only administered this to the prospective sample.
- b) *Spence Children's Anxiety Scale* (SCAS-P; Nauta et al., 2004). This scale asks parents about recurrence of their child's anxiety symptoms on 4-point scales (0: *never*, 1: *sometimes*, 2: *often*, 3: *always*). The parent version comprises 38 items grouped in six clinical subscales: panic/agoraphobia ("My child suddenly starts to tremble or shake when there is no reason for this"), generalized anxiety disorder ("My child worries about things"), social phobia ("My child feels afraid that (s)he will make a fool of him/herself in front of people"), separation anxiety disorder ("My child would feel afraid of being on his/her own at home"), obsessive-compulsive disorder ("My child has to do certain things in just the right way to stop bad things from happening"), and physical injury fears ("My child is scared of the dark"). The total score can range from 0 to 114. For both the total score and the subscales, higher scores indicate more severity. We used the Spanish version translated and validated by Orgilés et al. (Orgilés, Rodríguez-Menchón, Fernández-Martínez, Morales & Espada, 2019) in a sample of 181 community children. The Spanish SCAS-P showed high internal consistency (Cronbach $\alpha = .58-.91$) and moderate to high test-retest reliability for the subscales ($r = .58-.81$). The convergent validity with other child anxiety questionnaires was moderate ($r = .52-.60$), whereas the divergent

validity with unrelated measures (prosocial and externalizing subscales) was satisfactory ($r = -.27$ to $.19$). The CFA fitted the original six-factor model.

- c) *Child Behavior Checklist* (CBCL) from the *Achenbach System of Empirically Based Assessment* (Achenbach & Rescorla, 2001). This parent measure is used to assess child and adolescent behavior and emotional problems from 6 to 18 years. It comprises 113 items that cover symptoms across eight areas: anxious-depressed, depressed withdrawal, somatic complaints, social problems, thought problems, attention problems, rule-breaking behaviors, and aggressive behaviors. Each item is scored by a parent as 0 (*Never*), 1 (*Sometimes*), or 2 (*Often*) and grouped in three general indices: internalizing (comprised of anxious-depressed, depressed withdrawal, and somatic complaints areas), externalizing (comprised of rule-breaking, and aggressive behaviors areas), and total scores. Secondary grouping of the items showed the probability of fit to DSM clinical diagnoses. Internalizing and anxiety disorders (comprised of 6 items from anxious-depressed and socials problems areas) scores were used to assess convergent validity. Externalizing and affective disorder (comprised of 13 items from anxious-depressed, depressed withdrawal, somatic complaints, and thought problems areas) scores were used to assess divergent validity.

Procedure

The study sample was recruited from among the children and adolescents who attended the Department of Child and Adolescent Psychiatry and Psychology, Hospital Clinic, Barcelona, Spain, between 2010 and 2015. The sample was recruited in two phases. The first phase was prospective from 2012 to 2015, when families and children or adolescents who consulted our department with anxiety problems were assessed by a specialist in clinical psychology or psychiatry using a semi-structured interview with DSM-IV criteria developed by our department and questionnaires of general psychopathology. If the initial principal diagnosis was an anxiety disorder, the patient and family were recruited for the study and the research team checked the inclusion and exclusion criteria, provided information regarding the study's objectives and invited the patient and family to participate. Once the inclusion and exclusion criteria were confirmed, the family was invited by the research team to complete the Anxiety Disorders Interview Schedule, Parent Version, ADIS-P (Silverman and Albano, 1996) and a battery of clinical questionnaires, and to sign the consent document. Seventy-three families completed the recruitment and were invited to answer the SCAS-P for a second time up to two months after its first administration to perform the test-retest analysis. To enlarge the sample it was performed a second phase of recruitment that consisted of the retrospective collection of data from the clinical questionnaires completed by 64 parents of children and adolescents who had previously consulted our department between 2010 and 2012. They had all been diagnosed with an anxiety disorder by a clinical psychologist or psychiatrist following the usual diagnostic procedures, as described above.

All procedures performed in this study were in accordance with the ethical

standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The Ethical Review Board of Hospital Clinic approved the study and the dual recruitment method.

Informed consent was obtained from all individual participants included in the study.

Data analyses

We performed *t*-tests to compare the SCAS-P total and subscale scores between females and males and between children (age ≤ 12 years) and adolescents (age >12 years). Cronbach's α and Pearson's correlations were used to assess the internal consistency, test-retest reliability, and convergent and divergent validities. Using Cohen's classification, correlations of $\geq .50$, $.30$ -. 49 , and $.10$ -. 29 were defined as large, medium, and small respectively. Confirmatory factor analyses were carried out to test which of the four models proposed by Spence [(1) one factor, (2) six uncorrelated factors, (3) six correlated factors, (4) six correlated factors and one higher-order factor] better fit the Spanish adaptation of the SCAS-P. To test the four models we employed maximum likelihood estimation and a covariance matrix of latent variables following previous literature (Orgilés, Méndez, Spence, Huedo-Medina, & Espada, 2012). Since only 115 participants answered to all items, we performed a data imputation procedure tolerating a maximum of 10% missings as indicated in other studies with similar data (Weitkamp, Romer, Rosenthal, Wiegand-Grefe & Daniels, 2010) obtaining a final sample of 128 participants. The imputation method was based on principal component analysis (PCA), a reasonable approach for multivariate data (Josse, Pagès & Husson, 2011) using library *missMDA*. The following indices were used to assess the goodness of fit and parsimony of the models tested. Based on Hu and Bentler (1999) and Byrne (2012), values indicating acceptable model fit were: $\chi^2/df \leq 3$, comparative fit index (CFI), Tucker-Lewis index (TLI), and goodness of fit index (GFI) $\geq .90$, root mean square error of approximation (RMSEA) $\leq .08$, and Akaike's Information Criterion [AIC], and Bayes Information Criterion [BIC] with the smallest value overall representing the best fit. Factor loadings that were statistically significant with standardized values exceeding $.30$ were considered acceptable (Orgilés et al., 2012). Data for reliability and validity were calculated using SPSS 18.0, whereas data for the factor analysis were calculated using R and *lavaan* library version 0.6-3 (R Core Team, 2017).

Results

Demographic and clinical features

The demographic and clinical data for the sample of 137 participants are shown in Table 1. Table 2 shows that there were significant differences by gender in the generalized anxiety subscale ($M_{\text{females}} = 8.04$, $SD = 3.39$; $M_{\text{males}} = 6.67$, $SD = 3.17$; $t(135) = 2.45$; $p = .016$), indicating higher scores in females. When groups

were compared by age, children ($n= 86$) scored significantly higher than adolescents ($n= 51$) in the separation anxiety subscale ($M_{\text{children}}= 8.02$, $SD= 4.31$; $M_{\text{adolescents}}= 5.14$, $SD= 2.78$; $t(134)= 4.24$; $p< .001$). There was a moderate and significant correlation between the total scores of the parent and child versions of the SCAS ($r= .577$, $p< .001$).

Table 1
Socio-demographic variables of the sample ($N= 137$)

Gender: female (%)	67 (48.9%)
Age M (SD)	11.68 (2.68)
Primary diagnostic	
Generalized anxiety disorder	23%
Separation anxiety disorder	19%
Obsessive-compulsive disorder	18%
Social phobia	14%
Unspecified anxiety disorder	8%
Panic disorder	7%
Specific phobia	6%
Panic disorder with agoraphobia	2%
Post-traumatic stress disorder	2%
Number of anxiety disorders	
1	44%
2	32%
3 or more	24%
Anxiety comorbidities	
Specific phobia	18%
Generalized anxiety disorder	14%
Social phobia	7%
Separation anxiety disorder	7%
Obsessive-compulsive disorder	4%
Unspecified anxiety disorder	4%
Panic disorder	2%
Agoraphobia	2%
Post-traumatic stress disorder	1%
Number of other disorders than anxiety	
0	59%
1	35%
2	6%
Comorbidities (no anxiety)	
Attention deficit hyperactivity disorder	21%
Affective disorders	7%
Eating disorders	3%
Oppositional defiant disorder	2%
Learning disorders	2%
Tics/impulse control disorders	2%
Selective mutism	1%

Table 2
Means and total scores and gender/age scores for the Spence Children's Anxiety Scale, parent version (SCAS-P)

SCAS-P	Total	6-12 years	13-18 years
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Total score scale			
<i>M</i>	33.63 (13.76)	34.73 (13.69)	31.70 (13.95)
Females	35.55 (12.84)	34.95 (12.84)	36.70 (13.35)
Males	31.79 (14.43)	34.51 (14.63)	27.44 (13.22)
Panic/agoraphobia			
<i>M</i>	3.66 (3.85)	3.60 (3.59)	3.80 (4.34)
Females	3.91 (3.81)	3.33 (3.11)	5.09 (4.79)
Males	3.43 (3.91)	3.88 (4.03)	2.70 (3.67)
Generalized anxiety			
<i>M</i>	7.34 (3.34)	7.62 (3.33)	6.80 (3.32)
Females	8.04 (3.39)	7.93 (3.38)	8.13 (3.49)
Males	6.67 (3.17)	7.30 (3.28)	5.67 (2.65)
Social phobia			
<i>M</i>	7.40 (4.11)	6.99 (4.00)	8.20 (4.21)
Females	7.58 (4.04)	6.74 (3.81)	9.35 (3.94)
Males	7.23 (4.21)	7.23 (4.23)	7.22 (4.23)
Separation anxiety			
<i>M</i>	6.96 (4.04)	8.02 (4.31)	5.14 (2.78)
Females	7.18 (4.16)	8.16 (4.39)	5.39 (3.13)
Males	6.74 (3.94)	7.88 (4.28)	4.93 (2.48)
Obsessive-compulsive			
<i>M</i>	4.27 (3.38)	4.22 (3.17)	4.28 (3.75)
Females	4.84 (3.55)	4.95 (3.31)	4.48 (4.02)
Males	3.73 (3.15)	3.49 (2.87)	4.11 (3.57)
Physical injury fears			
<i>M</i>	3.99 (2.73)	4.28 (2.87)	3.48 (2.44)
Females	4.00 (2.36)	3.84 (2.49)	4.26 (2.28)
Males	3.99 (3.06)	4.72 (3.22)	2.81 (2.42)

Notes: SCAS-P= Spence Children's Anxiety Scale, parent version. Significant differences between groups at .05 level (2-tailed) are shown in bold.

Internal consistency and subscales correlation

As shown in Table 3, Cronbach's α for the Spanish parent version of the SCAS was .83, indicating good internal consistency for the total scale and most subscales (Cronbach α = .49-.83). Table 3 also shows that high correlations existed between the total and subscale scores.

Table 3
Internal consistency and correlations between total score and subscales of the Spence Children's Anxiety Scale, parent version (SCAS-P)

SCAS-P	Cronbach α	1	2	3	4	5	6	7
1. Total score scale	.83	-	.741	.815	.510	.700	.517	.553
2. Panic/agoraphobia	.83		-	.554	.268	.383	.292	.313
3. Generalized anxiety	.59			-	.327	.525	.355	.390
4. Social phobia	.51				-	.068	.092	.072
5. Separation anxiety	.64					-	.230	.479
6. Obsessive-compulsive	.74						-	.040
7. Physical injury fears	.49							-

Notes: SCAS-P= Spence Children's Anxiety Scale, parent version. Correlations significant at .05 level (2-tailed) are shown in bold.

Test-retest reliability

We assessed the test-retest reliability of the SCAS-P between the initial scores and those obtained up to two months later in a sample of 30 participants. High correlations were found for the total score ($r = .91, p < .001$) and for the different subscales: panic/agoraphobia ($r = .78, p = .001$), generalized anxiety ($r = .85, p < .001$), social phobia ($r = .85, p < .001$), separation anxiety ($r = .90, p < .001$), obsessive-compulsive ($r = .85, p < .001$), and physical injury fears ($r = .71, p < .001$). Thus, the assessed Spanish version of the SCAS-P was reliable across time.

Convergent and divergent validity

The SCAS-P total score correlated significantly with the other questionnaires about anxious symptoms. Correlations were high for the CBCL subscales for anxiety disorders ($r = .51, p < .001$) and internalizing symptomatology ($r = .51, p < .001$), suggesting moderate convergent validity of the questionnaire in this clinical sample. Concerning divergent validity, there were significant moderate correlations between the SCAS-P total score and the CBCL subscales for affective disorders ($r = .43, p < .001$) and externalizing symptomatology ($r = .34, p = .002$). Although these positive correlations were statistically significant, weaker associations were detected with non-anxious symptoms than with anxiety measures.

Confirmatory factor analysis

Factor analysis was carried out in a subsample of 128 participants. Table 4 shows the results for the CFA comparing the four models tested. The model that showed the greatest adjustment was model 3 (six correlated factors), with acceptable values for two fit indices and the best model parsimony as indicated by lower values in AIC and BIC. As shown in table 5, all but three of the factor loadings (item 7 of social phobia, item 15 of separation anxiety, and item 29 of physical injury fears) had standardized values that exceeded .30.

Table 4

Fit indices for factor models of the Spence Children's Anxiety Scale, parent version (SCAS-P)

Model	χ^2/df	CFI	TLI	GFI	RMSEA	AIC	BIC
Model 1: One factor	2.55	.40	.37	.55	.11	11710.10	11926.85
Model 2: Six uncorrelated factors	2.33	.47	.44	.60	.11	11466.86	11775.48
Model 3: Six correlated factors	.07	.60	.57	.66	.08	11385.68	11645.21
Model 4: Six correlated factors and one higher-order factor	2.09	.58	.55	.65	.09	11405.38	11649.24

Notes: CFI= comparative fit index; TLI= Tucker-Lewis index; GFI= goodness of fit index; RMSEA= root mean square error of approximation; AIC= Akaike's Information Criterion; BIC= Bayes Information Criterion.

Table 5

Standardized factor loadings of the six correlated factor for the Spence Children's Anxiety Scale, parent version (SCAS-P)

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Panic/agoraphobia						
12. My child complains of suddenly feeling as if (s)he can't breathe when there is no reason for this	0.658	-	-	-	-	-
19. My child suddenly starts to tremble or shake when there is no reason for this	0.457	-	-	-	-	-
25. My child feels scared if (s)he has to travel in the car, or on a bus or train	0.597	-	-	-	-	-
27. My child is afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds)	0.618		-	-	-	-
28. All of a sudden my child feels really scared for no reason at all	0.614	-	-	-	-	-
30. My child complains of suddenly becoming dizzy or faint when there is no reason for this	0.522	-	-	-	-	-
32. My child complains of his/her heart suddenly starting to beat too quickly for no reason	0.667	-	-	-	-	-
33. My child worries that (s)he will suddenly get a scared feeling when there is nothing to be afraid of	0.663	-	-	-	-	-
34. My child is afraid of being in small closed places, like tunnels or small rooms	0.554	-	-	-	-	-

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Generalized anxiety						
1. My child worries about things	-	0.468	-	-	-	-
3. When my child has a problem, (s)he complains of having a funny feeling in his/her stomach	-	0.438	-	-	-	-
4. My child complains of feeling afraid	-	0.574	-	-	-	-
18. When my child has a problem, s(he) complains of his/her heart beating really fast	-	0.557	-	-	-	-
20. My child worries that something bad will happen to him/her	-	0.656	-	-	-	-
22. When my child has a problem, (s)he feels shaky	-	0.482	-	-	-	-
Social phobia						
6. My child is scared when (s)he has to take a test	-	-	0.635	-	-	-
7. My child is afraid when (s)he has to use public toilets	-	-	0.193	-	-	-
9. My child feels afraid that (s)he will make a fool of him/herself in front of people	-	-	0.716	-	-	-
10. My child worries that he/she will do badly at school	-	-	0.598	-	-	-
26. My child worries what other people think of him/her	-	-	0.679	-	-	-
31. My child feels afraid when (s)he has to talk in front of the class	-	-	0.729	-	-	-
Separation anxiety						
5. My child would feel afraid of being on his/her own at home	-	-	-	0.776	-	-
8. My child worries about being away from us/me	-	-	-	0.611	-	-
11. My child worries that something awful will happen to someone in our family	-	-	-	0.419	-	-
14. My child is scared if (s)he has to sleep on his/her own	-	-	-	0.703	-	-
15. My child has trouble going to school in the mornings because (s)he feels nervous or afraid	-	-	-	0.170	-	-
38. My child would feel scared if (s)he had to stay away from home overnight	-	-	-	0.522	-	-

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Obsessive-compulsive						
13. My child has to keep checking that (s)he has done things right (like the switch is off, or the door is locked)	-	-	-	-	0.344	-
17. My child can't seem to get bad or silly thoughts out of his/her head	-	-	-	-	0.598	-
24. My child has to think special thoughts (like numbers or words) to stop bad things from happening	-	-	-	-	0.659	-
35. My child has to do some things over and over again (like washing his/her hands, cleaning or putting things in a certain order)	-	-	-	-	0.506	-
36. My child gets bothered by bad or silly thoughts or pictures in his/her head	-	-	-	-	0.669	-
37. My child has to do certain things in just the right way to stop bad things from happening	-	-	-	-	0.634	-
Physical injury fears						
2. My child is scared of the dark	-	-	-	-	-	0.612
16. My child is scared of dogs	-	-	-	-	-	0.339
21. My child is scared of going to the doctor or dentist	-	-	-	-	-	0.394
23. My child is scared of heights (eg. Being at the top of a cliff)	-	-	-	-	-	0.412
29. My child is scared of insects or spiders	-	-	-	-	-	0,190

Note: Factor loadings significant at .05 level (2-tailed) are shown in bold.

Discussion

This is the first validation study of the Spanish version of the SCAS-P in a clinical sample of children and adolescents with diagnosed DSM-IV anxiety disorders. Our sample of 137 participants was characterized by a high comorbidity of both anxiety and non-anxiety disorders (more than half of the sample had two or more anxiety disorders, and 41% suffered one or two disorders other than anxiety). As expected, overall, parent reports for females were higher than for males, although the differences were only significant for the generalized anxiety subscale. Moreover, parent reported scores for children younger than 13 years were significant higher in the separation anxiety subscale compared with those for older peers. In the remaining subscales, there were no significant differences, except for a tendency for adolescents to score higher than children on the social phobia subscale. Furthermore, we found a moderately significant correlation

between the total scores of the SCAS-P and SCAS-C, which conflicts with a previous report of a low correlation (Weems et al., 2010). The increased concordance in our study can be explained by the more intense and evident symptoms that result from using a clinical sample.

The Spanish adaptation of the SCAS-P showed good internal consistency, as reported in studies combining clinical and community samples (Arendt et al., 2014; DeSousa et al., 2014; Nauta et al., 2004; Olofsdotter et al., 2016; Whiteside and Brown, 2008;). Nevertheless, we noted differences in subscale reliability, with those for physical injury fears and social phobia showing the lowest internal consistency and those for panic/agoraphobia, generalized anxiety, and obsessive-compulsive symptoms showing good internal consistency and better loading over the SCAS-P total score. A lower internal consistency in the physical injury fears subscale has been detected in previous studies, with some consensus among researchers that it could be the result from assessing the fear of very different objects/situations (Arendt et al., 2014; Nauta et al., 2004; Whiteside and Brown, 2008). By contrast, several high correlations were found between SCAS-P subscales, with the most notable for the relation between generalized anxiety and total scores.

We also showed that the Spanish version of the SCAS-P had good convergent validity in the subscales for anxiety disorders and internalizing symptomatology when using an internationally validated questionnaire of child psychopathology. Other validation studies of the SCAS-P have found similar results in reports of combined clinical and community samples (Arendt et al., 2014; DeSousa et al., 2014; Nauta et al., 2004; Olofsdotter et al., 2016; Whiteside and Brown, 2008). The correlation between the SCAS-P and the CBCL externalizing subscale score in our clinical sample, although significant, was lower than those obtained between the SCAS-P and the anxiety and the internalizing subscale scores. Again, this could be explained by the characteristics of our clinical sample, with a high proportion of cases with comorbid externalizing conditions (up to 21%). The correlation with the affective disorder subscale was even greater, indicating that analysis of divergent validity for affective symptoms in the Spanish SCAS-P was insufficiently evidenced in this clinical sample compared with previous research.

The test-retest reliability of the Spanish SCAS-P in our sample was excellent for all subscales two months after the initial assessment. Only one previous validation study in a community sample has calculated the test-retest reliability (Arendt et al., 2014). They tested at two-week and three-month intervals, producing good scores that were slightly lower than ours. Thus, good temporal stability of the Spanish SCAS-P has been evidenced for detecting anxious symptomatology in clinical samples.

The CFA partially supported the fit for the six correlated factors model. Although three previous studies in combined clinical and community populations have confirmed these results (Arendt et al., 2014; DeSousa et al., 2014; Nauta et al., 2004), this is the first evidence in an exclusively clinical sample. To date, researchers performing CFAs have reported similar conclusions to those originally reported by Spence (1998), supporting the six-factor model. Although our data support the original model, the adjustment was not as robust as in previous

studies with samples from both clinical and community settings (as indicated by the goodness of fit indices). Indeed, some items showed factor loadings below .30: item 7 of the social phobia factor, item 15 of the separation anxiety factor, and item 29 of the physical injury fears factor. Nauta et al. (2004) also found low factor loadings for items 7 and 29, as did Arendt et al. (2014) with item 29. However, as stated, because the items of the physical injury fears subscale measure very dissimilar phobic objects, combining them in the same scale could explain the low factor loadings.

We clearly detected that the panic/agoraphobia scale had the best fit in our study. Moreover, only item 15 (on the separation anxiety subscale) did not adjust significantly in its factor; an explanation for this may be that, as mentioned above, there were significant differences between children and adolescents in the separation anxiety scores. Therefore, some items of this factor may not be representative to all ages (e.g., in adolescence). Finally, we can state that the SCAS-P shows a factorial structure that “resists” even when used in a clinical sample with a very different profile from that for which it was originally created (i.e., most of our participants had clinically relevant comorbid disorders, including anxiety and non-anxiety disorders).

The main strengths of our study are the recruitment of a large clinical sample and the requirement of formal diagnostic assessment. We also performed an extensive study of psychometric properties, including analyses that have not appeared frequently in previous research, such as test-retest reliability and CFA. However, our study has several limitations. Notably, the sample involved prospective and retrospective sampling methods because we could not achieve the required sample size by prospective recruitment. The retrospective sample failed to include the ADIS-P (which could have meant an underdiagnosis of mild comorbid disorders) and it extended the recruitment period for several years. Another limitation is that, despite reasonable attempts to contact families, we lost a considerable part of the sample in the retest analysis. Moreover, although the use of estimators for the CFA such as weighted least square mean and variance adjusted (WLMSV) and diagonally weighted least squares (DWLS) have been recommended for this type of questionnaire, our sample was too small to perform these analyses. However, we use maximum likelihood estimation following other SCAS validations (Orgilés et al. 2012). Future studies would have to compare the use of these estimators with larger samples. Furthermore, although good convergent validity was found, the values for divergent validity were not so robust since the SCAS-P correlated with affective and externalizing symptomatology scales. We consider that this may be due to the high comorbidity of the sample. Also, our results showed some factors with low internal consistency (physical injury fears, social phobia, and generalized anxiety), although, as mentioned above, these data already appeared in the previous literature and could be explained by the non-specificity of the symptoms that these factors contain. Finally, we did not record the identity of the person who answered the questionnaires (mothers, fathers, or other primary caregiver) or their demographic characteristics. Nonetheless, moderate to high levels of mother-father agreement have been reported in previous research (Reardon et al., 2018).

In conclusion, our data shows that the Spanish adaptation of the SCAS-P has similar psychometric properties to those described in previous reports and provides new evidence for its use in clinical samples. The SCAS-P showed good reliability and validity to assess child anxiety in clinical populations based on parent reports. Although we found a weaker factorial structure for the six correlated factors, we attribute this in part to the fact that all prior validation studies used community samples or a combination of community and clinical samples (with a low percentage of the latter). Future studies will have to explore a factorial structure that fits better in clinical populations. Finally, if we think about the importance of reports provided by different informants, as well as the manifestation of the anxiety symptoms in the different contexts, there is a need to develop an adaptation of the SCAS for completion by teachers. The only one adaptation we are aware of for teachers is for use with pre-school children.

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