Psicothema

Comparison between the spanish and catalan versions of the Supports Intensity Scale for Children (SIS-C)

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Abstract

Background: The new socio-ecological model of disability directs attention to the importance of the environment in understanding individual functioning and promotes the provision of support from an early age. Following on from that thinking, the SIS-C (Supports Intensity Scale for Children) has been developed as an innovative assessment tool focused on designing individualized support plans. The aim of this study was to establish a comparison between the psychometric properties of the Spanish and Catalan versions of this scale. **Method:** The SIS-C allows us to assess the support needs of children (5-16 years old) with intellectual disabilities to fully participate in 61 daily activities within seven different contexts. The Spanish version was administered to 814 participants and the Catalan version to 949. **Results:** Findings show that both versions have adequate psychometric properties, such as high levels of internal consistency and criterion validity. In terms of scale structure, adjustment indices derived from factor analysis showed that both versions reproduced a correlational model composed of seven factors better than unidimensional or hierarchical models. **Conclusions:** Although the Spanish version of the scale showed better statistical indices, both versions are similarly suitable for accurately assessing the support needs of this population.

Keywords: intellectual disability, support needs, assessment, scales, psychometric properties.

Resumen

***Comparación entre las versiones en castellano y catalán de la Escala de Intensidad de Apoyos para niños y adolescentes (SIS-C).* Antecedentes:** la nueva concepción socioecológica de la discapacidad centra su mirada en la importancia del entorno para comprender el funcionamiento individual y promueve la provisión de apoyos desde edades tempranas. Surge así la SIS-C (Supports Intensity Scale for Children) como herramienta de evaluación innovadora para diseñar planes de apoyo personalizados. El objetivo del presente estudio consistió en establecer una comparación entre las propiedades psicométricas de las versiones castellana y catalana de esta escala. **Método:** la SIS-C permite evaluar las necesidades de apoyo de niños y adolescentes (5-16 años) con discapacidad intelectual para participar satisfactoriamente en 61 actividades diarias desarrolladas en siete contextos diferentes. La versión castellana fue administrada a 814 participantes y la catalana a 949. **Resultados:** los datos reflejan que ambas versiones poseen adecuadas propiedades psicométricas, obteniéndose elevados índices de consistencia interna y validez. En relación a su estructura, los índices de ajuste derivados de los análisis factoriales realizados mostraron que las dos versiones reproducen mejor un modelo correlacional de siete factores que un modelo unidimensional o de segundo orden. **Conclusiones:** aunque estadísticamente la versión castellana de la escala presentó mejores datos, ambas versiones lingüísticas obtuvieron resultados similares para evaluar adecuadamente las necesidades de apoyo de esta población.

Palabras clave: discapacidad intelectual, necesidades de apoyo, evaluación, instrumento, propiedades psicométricas.

Children and adolescents with intellectual disabilities, just like all children and young people, must be guaranteed their health, safety, respect, educational participation, and possibility of contributing to society (McConachie, Colver, Forysth, Jarvis, & Parkinson, 2006). Social inclusion assumes that diversity must be accepted and dealt with in all contexts, rendering inclusive education crucially important (Arnaiz, 2003; Muntaner, 2010).

Colver (2005) claims that interventions should aim to improve children's participation at school, at home and in community life. Currently, providing individualized interventions from very young ages is one of the key features in the participation, inclusion, and welfare of individuals with disabilities throughout their lives (Schalock et al., 2010).

In recent years, this has been reflected in a shift in the conception of disability, and support is becoming more important since it facilitates harmony between people and their environments (Wehmeyer et al., 2008) and are a natural, efficient and continuous means of increasing these individuals' independence/ interdependence, productivity, integration in the community, and satisfaction. With the advent of this new paradigm of support, disability ceases to be understood as an internal feature and is

instead conceptualized as a discrepancy between one's own capacities and the demands of the environment, such that individuals with intellectual disabilities are distinguished from their peers without disabilities by the nature and intensity of the support they need to participate in community life (Schalock et al., 2010). For this reason, it is necessary to turn service providers into bridges to the community through person-centered planning, which provides individualized support and involves their users in the evaluation of the services provided (van Loon, 2009).

Consequently, there is an increasing interest in understanding and evaluating different areas in the functioning of individuals with ID. In this sense, one prominent tool is the Supports Intensity Scale for Adults (SIS-A) (Thompson et al., 2004; Thompson, Bryant et al., 2016), which has been adapted and applied internationally in 13 languages, including Spanish (Verdugo, Arias, & Ibáñez, 2007; Verdugo, Arias, Ibáñez, & Schalock, 2010) and Catalan (Giné et al., 2006; Giné et al., 2007), with numerous guarantees of reliability and validity (Schalock et al., 2008).

With regard to children, the evaluation has traditionally been focused on school performance (Witkin, 1984). However, the evaluation and implementation of individualized supports should not solely focus on academic factors but instead should also allow children and adolescents with disabilities to perform in their daily lives, fostering better learning of adaptive skills and avoiding risks (Greenspan, 2012). Bearing in mind professionals' demands to be able to develop this social undertaking with this population, a scale similar to the SIS-A was developed, targeted specifically at measuring the supports need intensity in children and adolescents. This scale already has plenty of preliminary evidence of its importance internationally (Thompson et al., 2014), and its arrival is expected to serve as a reference for the design of individualized support plans starting at early ages.

Currently in Spain, the Supports Intensity Scale for Children (SIS-C) has been translated, adapted, and validated in both Spanish and Catalan, thus providing continuity to the avenues of research previously developed in this context to validate the SIS-A. The purpose of this study is to check the psychometric properties of these two language versions of the scale, including a comparative analysis between both of them.

Method

Instrument

The SIS-C is an evaluation tool aimed at learning about the support needs of children and youth aged 5-16 with intellectual disabilities so they can participate satisfactorily in everyday activities. It emerged as an international initiative of the American Association on Intellectual and Developmental Disabilities (AAIDD) in view of the lack of instruments based on the current model of the supports paradigm which are capable of reliably and validly measuring the supports that this population needs.

The content of the SIS-C is organized into two parts, similar to the SIS-A, although its content was modified to adapt to children. In the first part, *Needs for exceptional medical and behavioral supports* is evaluated via a list of 18 medical conditions and another list with 13 behavioral problems, making a total of 31 items evaluated. The second part, the core of the instrument, gathers information on *Support needs* to fully participate in 61 activities related to contexts regarded as common in the life of any child/adolescent. These needs are grouped into seven subscales (Home Life, Community & Neighborhood, School Participation, School Learning, Health & Safety, Social, and Advocacy), each of which contains 8 or 9 items. The support needs referring to each of these 61 items are evaluated following three measurement indexes: type, frequency, and daily support time. Each of these indexes is measured using a multiple-choice scale with five options (0-4) in which higher scores reflect more intense supports. The scores assigned to each index yield a single score for each item by adding the three indexes evaluated. In turn, the sum of each of the items on each subscale yields the direct score of the corresponding subscale, which is transformed via scales into standardized scores, which in turns allows a general score of support needs to be generated (Verdugo, Arias et al., 2016).

Thompson and Viriyangkura (2013) state that in addition to providing an objective score, the importance of an instrument like the SIS-C lies in the fact that it allows professionals to reflect and personalize the plans to be developed (Thompson et al., 2009) so that they fit the reality of the individual and are aimed at improving their quality of life.

In Spain, the SIS-C has been developed and validated simultaneously in two languages: Spanish and Catalan. The validation process was performed in parallel with the group of researchers from the United States and other participating countries. Finally, this adaptation and validation process of the scale, agreed to with the international AAIDD team, was carried out following the steps proposed by Tassé and Craig (1999). The original version of the scale in English was recently published (Thompson et al., 2016), demonstrating a deep process of analysis which guarantees its reliability and validity (Seo et al., 2016; Shogren et al., 2016; Thompson et al., 2014). The Spanish and Catalan versions were the first adaptations to be validated and are about to be published. After making the first translations and the corresponding pilot studies (Adam-Alcocer & Giné, 2013; Guillén et al., 2015; Verdugo, Arias, Guillén, & Vicente, 2014), minor adjustments were made which ensured that the instrument was linguistically, culturally, and contextually appropriate. This article outlines the final results of the reliability and validity of the instrument in both versions.

Participants

The sample used to validate the Spanish version of the SIS-C was made up of 814 children/adolescents with ID in 11 autonomous communities (Andalucía, Aragón, Canary Islands, Cantabria, Castilla-León, Castilla La Mancha, Madrid, Valencia, Extremadura, Galicia and Murcia). The sample used to validate the Catalan version was made up of 949 participants from all four provinces in Catalonia (Barcelona, Gerona, Lérida and Tarragona).

The sociodemographic data of all the participants are shown in Table 1.

In both processes, the participants were selected based on incidental sampling, considering age (5-16 years old) and the presence of an intellectual disability (mild, moderate, severe, or profound) as the main inclusion criteria. Interviews were carried out by the researchers on the team and other professionals who had previously been trained in how to use the instrument. To do so, we requested the assistance of two informants (one professional and one family member, if possible) who knew the person being evaluated well and had had the chance to observe them in two or

more settings for more than three months. We should stress the high participation by teachers (Spanish version = 72%; Catalan version = 61%) and mothers (Spanish version = 85%; Catalan version = 65%) as the main informants in the evaluation process.

Procedure

To assemble both samples used to validate the instrument, contact was made by telephone or email with numerous schools, associations, and organizations which work with individuals with intellectual disabilities between the ages of 5 and 16. In Catalonia, the contact with schools, professionals, and educational services was initiated via the government's own education administration.

After initial contact with the more than 100 entities that expressed an interest in the research, we provided the families of the children/adolescents with ID who attend those centers with a letter explaining the study. In line with the ethical considerations approved by the Bioethics Committee of the reference universities, the families were asked to sign an informed consent which reflected their voluntary participation and knowledge of: (a) the purpose of the project, (b) the anonymity and confidentiality of the data, and (c) their right to leave the study at any time. Once the participation of the professionals and families was confirmed, the centers were in charge of organizing times and spaces where the interviews could be held.

Data analysis

The statistical evidence on the violation of the normality assumption for the general score on support needs obtained which were yielded from the Kolmogorov-Smirnov test (K-$S_{Spanish}$ = .78, p<.001; K-$S_{Catalan}$ = .38, p<.001) made it necessary to use

non-parametric tests and robust methods in the violation of this assumption. For the initial analyses performed to ascertain whether there were significant differences between the scores on each subscale and in the total sample, we used the Mann-Whitney U test (similar to the Student T test). To check whether there were differences within the samples in both versions with regard to different sociodemographic variables, we used both the Mann-Whitney U test (for dichotomous variables such as gender) and the Kruskal-Wallis test, similar to the *ANOVA* (for variables with three or more categories, such as age and level of intellectual disability). Below we present the internal consistency of both versions of the instrument analyzed via Cronbach's alpha. These alphas were compared using Feldt's W statistic. Likewise, with the goal of examining the criterion validity, we show the Spearman correlation coefficients (which can be interpreted the same way as Pearson correlations) of the scores on each subscale with an external criterion and the estimate of the intensity of supports given by the informants prior to the administration of the instrument. The differences between the correlation coefficients in the Spanish and Catalan versions were examined with Fisher's Z test. The program used to perform these analyses was IBM SPSS v.23.0.

To analyze the construct validity, we performed a confirmatory factorial analysis (CFA) using the program Lisrel 8.8. The purpose was to check whether the Catalan version fit the correlational model found in the Spanish version and posited theoretically.

In turn, we used the FACTOR program (Lorenzo-Seva & Ferrando, 2015) to find complementary results such as McDonald's coefficient omega as an indicator of internal consistency, as well as to perform an exploratory factorial analysis with Procrustes rotation.

Results

Firstly, we analyzed the mean scores with both samples and the values obtained in the Mann-Whitney U test for each sub-scale and for the instrument as a whole (Table 2). Both samples showed significantly different scores in both the overall instrument score and in the majority of its subscales.

To determine whether there were differences in the overall score on the scale in relation to the influence of personal variables like gender, age, and level of disability, a comparative analysis of means was performed (Mann-Whitney U test for the overall scores and Kruskal Wallis for the variables of age and level of disability). In both versions, we found no significant differences based on gender ($U_{Spanish}$= 72194.00, p= .340; $U_{Catalan}$=99578.50, p= .256), but we did find significant differences in relation to the six age groups ($\chi^2_{Spanish}$= 43.98, p<.001; $\chi^2_{Catalan}$= 33.79, p<.001) and the three levels of disability ($\chi^2_{Spanish}$= 374.53, p<.001; $\chi^2_{Catalan}$= 206.71, p<.001).

Bearing in mind that both samples were not equal in terms of the variables, which were significantly influenced by the support needs (e.g., age and level of disability), we performed a second analysis controlling for these variables. To do so, we randomly chose 360 subjects from each sample following the double stratified method, ensuring the presence of 60 subjects per sample for each age pair (5-6; 7-8; 9-10; 11-12; 13-14; 15-16), which in turn were compared by 'disability level' (20 mild, 20 moderate and 20 severe/profound). In this case, no significant differences were found in the overall scores on the instrument. At the subscale level, significant differences were only found in 'Home Life' and 'Health & Safety.'

Variables	Spanish version		Catalan version	
	n	%	n	%
Gender				
Male	528	64.6	604	63.6
Female	286	35.1	345	36.4
Missing data	3	0.4	0	0
Age				
5-6 years old	110	13.5	191	20.1
7-8 years old	108	13.3	192	20.2
9-10 years old	100	12.3	181	19.1
11-12 years old	148	18.2	184	19.4
13-14 years old	195	24.0	123	13.0
15-16 years old	153	18.8	78	8.2
Disability Level				
Mild	206	25.3	427	45.0
Moderate	290	35.6	203	21.4
Severe/Profound	195	24.0	200	21.1
Missing data	123	15.1	119	12.5
Type of Classroom Placement				
Special classes	493	60.6	371	39.1
Regular classes	179	22.0	544	57.3
Others	129	15.9	29	3.1
Missing data	13	1.6	5	0.5
TOTAL	**814**	**100**	**949**	**100**

Table 1
Sociodemographic characteristics (N= 1763)

Table 2
Scores comparisons

SIS-C	Spanish version (n= 814)		Catalan version (n= 949)		U
	M	Dt	M	Dt	
A. Home Life	54.29	30.06	42.98	27.77	301948.0**
B. Community & Neighborhood	60.09	24.66	52.35	26.23	317700.0**
C. School Participation	66.28	28.64	57.78	27.01	314911.0**
D. School Learning	81.84	22.98	80.69	20.83	365130.0
E. Health & Safety	62.30	24.22	48.20	25.49	263901.5**
F. Social	67.00	29.20	56.23	28.38	301759.5**
G. Advocacy	71.39	27.46	61.89	28.01	310081.0**
TOTAL	**463.20**	**173.96**	**400.11**	**162.49**	**301031.5****

SIS-C	Spanish version (n= 360)		Catalan version (n= 360)		U
	M	Dt	M	Dt	
A. Home Life	54.08	29.15	46.13	29.06	56883.0**
B. Community & Neighborhood	58.11	24.48	56.41	26.57	62647.0
C. School Participation	64.59	27.91	61.05	27.57	59559.0
D. School Learning	79.83	23.25	83.72	21.16	58635.0
E. Health & Safety	59.72	24.69	51.80	26.15	53431.5**
F. Social	64.39	29.21	59.42	29.74	58327.0
G. Advocacy	68.59	27.33	65.67	27.50	61031.5
TOTAL	**447.31**	**172.36**	**424.20**	**168.09**	**59522.5**

** p<.01

Internal consistency

The Cronbach's alpha for the entire SIS-C revealed that it has outstanding internal consistency in both the Spanish version (α = .991) and the Catalan version (α = .984). All the coefficients obtained exceeded the value of .90 (Table 3), the minimum established to deem that a scale to be used professionally has the right level of consistency (Nunally & Bernstein, 1994). However, we also observed that generally speaking, the values are significantly higher in the Spanish version.

We also analyzed McDonald's coefficient omega, a reliability index based on the model, which can be interpreted as the square of the correction between the score on the scale and the latent variable common to all the indicators in the infinite universe of indicators, of which the indicators on the scale are a subset (McDonald, 1999). Coefficients of .992 and .985 were obtained in the Spanish and Catalan versions, respectively, indicating high internal consistency.

Construct validity

To ascertain the degree to which the entire set of components of the scale (meant as observed variables) represent the theoretical construct that it seeks to evaluate, we performed a confirmatory factorial analysis (CFA). Bearing in mind the theoretical model of the construct of support needs, as well as the previous results found in the CFA performed in the Spanish version (Verdugo, Guillén, Arias, Vicente, & Badia, 2016), we checked whether the Catalan version matches a seven-factor correlational construct (represented by the seven subscales of the instrument).

Due to the high number of items on the scale, we deemed it relevant to use parcels (groups of homogeneous items taken together as a continuous variable which acts as observable indicators of the latent variables) in order to simplify the estimates and optimize the use of the CFA (Arias, 2008; Little, Rhemtulla, Gibson, & Schoemann, 2013). Maintaining identical parcel criteria in both versions, we made groups of two or three similar items in a correlative fashion following the order of appearance and taking care to group items that belonged to the same subscale. Thus, in each version we identified, 21 parcels (three in each subscale), for which we evaluated: (a) one-dimensionality (the first eigenvalue in all cases exceeded the value 1 and explained more than 60% of the variance, the value of the first eigenvalue was 4 times higher than the second, and the difference between the amount of variance explained by the first and sector factor was higher than 40),

Table 3
Comparison of Alphas across versions

SIS-C	Cronbach's α		
	Spanish version	Catalan version	Feldt's W
A. Home Life	0.96	0.93	0.57**
B. Community & Neighborhood	0.97	0.94	0.50**
C. School Participation	0.96	0.92	0.57**
D. School Learning	0.96	0.93	0.57**
E. Health & Safety	0.95	0.94	0.83**
F. Social	0.96	0.93	0.57**
G. Advocacy	0.97	0.95	0.60**
TOTAL	**0.99**	**0.98**	**0.50****

**p<.01

and (b) the suitability (the Kaiser-Meyer-Olkin analysis showed results higher than 0.5 and the Barlett sphericity test showed a *p* significant at 1% in all cases).

We thus had an overidentified model (168 degrees of freedom) with 231 observed variables and 63 parameters to estimate (21 mean error variances of the indicators, 7 factor variances, 21 covariances among the factors and 14 direct effects of the factors in the indicators). Regarding the method of estimating parameters, we chose a method which resists violation of the assumption of normality, specifically the diagonally weighted least squares (DWLS) method on the polychoric variance-covariance and the estimation of asymptotic covariance.

Bearing in mind the data obtained in the Spanish version, the mean errors fluctuated between .07 and .27. Based on this result, we can claim that the proportion of variance of the observed variables which can be explained by the exogenous latent variable fluctuates between .93 and .73. The covariances between the latent variables fluctuates between .76 (Home Life-School Learning) and .95 (Advocacy-Health & Safety). All the factorial saturations showed values higher than .85.

In the Catalan version, the mean errors obtained fluctuated between .09 and .44 and the proportion of variance of the observed variables explained by the exogenous latent variable fluctuates between .91 and .66. Finally, covariances between the latent variables fluctuated between .65 (Home Life-School Learning) and .90 (Advocacy-Health & Safety; Community & Neighborhood-School Participation). All the factorial saturations showed values higher than .82.

To ascertain the scale's fit with the correlational model proposed, we initially considered the absolute fit index χ^2, which checks that there are no significant differences between the empirical and theoretical data. However, this criterion tends not to be fulfilled when working with large samples, since the significance tends to decrease as the number of participants increases (Hu & Bentler, 1999). In these cases, the magnitude of χ^2 should be taken into account (reflecting a lower fit as it decreases) along with other partial indexes (Arias, 2008; Kline, 2010) such as: (a) root mean square error of approximation (RSMEA); (b) standardized root mean residual (SRMR), which must be lower than .05 (although values under .08 can be accepted); (c) the Tucker-Lewis (TLI); and (d) the comparative fit index (CFI), both of which must be higher than .95. Bearing in mind these partial indexes (Table 4), we can conclude that the Catalan version of the SIS-C, just like the Spanish version, more approximately fits a correlational structure than a one-dimensional or second-order hierarchical structure.

Just as we did for the Spanish version (Verdugo, Guillén et al., 2016), we checked the fit of the Catalan version of the SIS-C

with another of the theoretically plausible factorial hypotheses: a one-dimensional structure (χ^2= 5019.56, *p*<.001; RMSEA=.16; SRMR= .06; TLI= .95; CFI= .95) and a hierarchical structure (χ^2= 1588.98, *p*<.001; RMSEA= .09 [.076-.085]; SRMR= .04; TLI= .98; CFI= .98); these indexes were lower than those obtained in the correlational model.

Another factorial analysis was performed, in this case exploratory, using unweighted square extraction followed by a semispecified Procrustes rotation. The target matrixes were the different factorial solutions previously proposed in the CFA, and the method of unweighted square minimums with promin rotation was used (Lorenzo-Seva, 1999). Even though this kind of semi-confirmatory procedure showed a good fit for the seven-factor correlational model (the GFI was .99 and .98 in Spanish and Catalan, respectively, and the RMCR was lower than .05 in both cases), this required a redistribution of several of the indicators to factors different to those located in the theoretical model, recommending the extraction of only two main dimensions.

Criterion validity

This validity is defined as the degree to which the measurements of a test are consistent with other similar external measurements, including expert opinion (Holman & Bruininks, 1985). In our case, the external criterion was determined to be an estimate of the support needs provided by the informants prior to the administration of the instrument. They had to score the needs of the person with disabilities on each subscale and as a whole between 1 and 5 (1 meaning needs no support and 5 meaning needs total support).

We correlated each estimation with its real score on the scale via the Spearman coefficient. The results showed moderate correlations (between .60 and .80) which were significant in all cases (Table 5), with the highest correlations in both versions in 'Home' and the lowest in 'School Learning.' The correlations obtained in the Spanish sample were significantly higher, except for the subscales 'Home Life,' 'Community & Neigborhood,' and 'Health & Safety.'

Conclusions

The purpose of this study was to analyze the psychometric characteristics of the Spanish and Catalan versions of the SIS-C by performing a comparative analysis of the psychometric properties identified.

Table 4
Goodness of fit indices (correlational models)

Goodness of fit indices	Spanish version	Catalan version
χ^2 (gl)	981.57 (168)	1200.35 (168)
p	<0.001	<0.001
RMSEA	0.077	0.080
RMSEA Interval (90%)	(0.073-0.082)	(0.076- 0.085)
SRMR	0.020	0.028
TLI	0.99	0.99
CFI	0.99	0.99

Table 5
Criterion validity comparison

SIS-C	Spearman's correlation		Fisher's Z
	Spanish version	**Catalan version**	
A. Home Life	0.79	0.76	1.57
B. Community & Neighborhood	0.73	0.70	1.28
C. School participation	0.74	0.67	2.91**
D. School learning	0.67	0.55	4.40**
E. Health & Safety	0.73	0.67	2.47
F. Social	0.71	0.64	2.69**
G. Advocacy	0.67	0.58	3.09**
TOTAL	0.84	0.72	6.55**

** p<.01

The first analyses performed revealed a pronounced lack of normality in the data from both versions, which determined the subsequent use of non-parametric analyses. When we performed mean comparison analyses, we found significant differences in the scores of the subjects from both samples, even when we controlled for the sociodemographic variables that influence support needs (such as age and degree of disability) in the dimensions 'Home Life' and 'Health & Safety.'

Regarding the psychometric characteristics, the results obtained allow us to state that both versions of the instrument have sufficient guarantees in terms of their internal consistency as measured via the Cronbach's alpha, as well as other aspects such as the criterion validity, obtained from the correlation of the points on the scale with a previous estimate by experts. Comparatively speaking, the psychometric properties of the Spanish version seem more robust, although we should stress that both scales show enough evidence of acceptable reliability and validity. We also detected several common patterns in both versions. In terms of internal consistency, both have a higher Cronbach's alpha on 'Advocacy' and 'Community & Neighborhood,' while in terms of criterion validity, both show higher correlations in 'Home life' and lower in 'School Learning.'

We subsequently performed an approximation to the validity of the SIS-C construct via a CFA. The high number of items on the scale made it necessary to use parcels, despite the possible limitations posed by using them (Bandalos, 2002; Coffman & MacCallum, 2005; Meade & Kroustalis, 2006). The lack of normality determined the use of estimation methods robust to the violation of this assumption (e.g., the DWLS). We can observe that the Catalan version of the SIS-C, just like the Spanish version (Verdugo, Guillén et al., 2016), fits better with a correlational model than with a one-dimensional or second-order hierarchical model. These results are also consistent with those found previously in the CFA performed with the SIS-A (Schalock et al., 2008; Verdugo et al., 2007). Furthermore, both versions showed very high levels of covariance among the factors, with the lowest correlations between "Home Life" and "School Learning" and the highest ones between "Advocacy" and "Health & Safety". Generally speaking, we observed high levels of collinearity, which mean that this avenue requires further investigation. Likewise, another future avenue of research is a more exhaustive analysis of the differential functioning of the items and the measurement invariance, with the goal of checking whether there are truly differences between the two versions of the instrument and understanding why these differences might exist.

The SIS-C is an innovative international resource for evaluating the support needs of children and adolescents with intellectual disabilities from a socioecological perspective. This study has reflected high reliability and validity in the two versions of the SIS-C used in Spain, proving that it is appropriate to use in the development and implementation of individualized plans.

Acknowledgements

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