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Validation of the Teacher and Classmate Support Scale in A Population of Spanish Adolescents

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Abstract

Background/purpose. The concept of perceived social support has been related to numerous educational and psychological variables. However, its measurement in the field of education has not been very precise. Therefore, the aim of this study is to validate the Teacher and Classmate Support Scale (TCSS) in a population of Spanish adolescents.

Materials/methods. The study sample consisted of 618 students aged 12 to 16 (M = 14.04, SD = 1.34). A confirmatory factor analysis was conducted to test factorial invariance across genders. A classical item analysis was conducted, accounting for item correlations and criterion validity.

Results. The results confirmed the scale's bi-dimensional structure, with both correlated factors showing good fit indices (CFI = .96, RMSEA = .059, SRMR = .029, and LTI = .965), and obtained configurational, metric, and scalar invariance, except for strict invariance.

Conclusion. This study provides a reliable measuring instrument for educators to measure perceived social support.

1. Introduction

For years, the concept of social support has been a subject of research interest. Originally, Cobb (1976) defined social support as the information permitting an individual to feel loved, valued, and part of a network of communication and mutual obligations. Subsequently, Tardy (1985) suggested that social support could be understood through five different dimensions: direction, disposition, description/evaluation, content and network. Barrera (1986) structured this concept into three main categories: social embeddedness, perceived social support, and enacted support. In particular, authors such as Shumaker et al. (1984) and Cohen & Syme (1985) described social support as the exchange of resources provided by others, with the goal of improving the recipient's well-being. Thus, generally speaking, social support may be said to involve the availability and use of resources provided by the environment that improve an individual's well-being and can be perceived, received, or integrated into an individual's social network.

The objective scale used in this study, the Teacher and Classmate Support Scale (TCSS; (Torsheim et al., 2000) is a brief instrument whose main characteristic is its focus on the educational field, exclusively emphasizing the two dimensions found in the school context: classroom peers and teachers, unlike other similar scales mentioned previously which broaden the scope to other social groups and do not focus so much on fully educational support. For this reason, it stands out when measuring the impact of perceived social support in the classroom. In addition, this instrument has been used for several years within the framework of the Health Behaviour in School-aged Children (HBSC; Moreno et al., 2025) study, an international study classified as a World Health Organization Collaborative Study. It is used to analyze students' lifestyles and their evolution every four years, with the last edition held in 2022. This study was currently carried out in a total of 45 countries, but the TCSS scale has only been validated in 7 of these (Torsheim et al., 2012): Austria, with a sample of $N = 1584$ ($M = 12.8$) for 13-year-old students and of $N = 1298$ ($M = 14.8$) for 15-year-olds; Canada, with a sample of $N = 1513$ ($M = 13.8$) for 13 year-old students, and of $N = 1207$ ($M = 15.7$) for the 15-year-olds; England, with a sample of $N = 2069$ ($M = 13.9$) for the 13-year-old students, and of $N = 1773$ ($M = 15.9$) for the 15-year-olds; Poland, with a sample of $N = 2131$ ($M = 13.7$) for the 13-year-old students, and of $N = 2152$ ($M = 15.7$) for the 15-year-olds; Slovenia, with a sample of $N = 1413$ ($M = 13.7$) for the 13-year-old students, and of $N = 1069$ ($M = 15.8$) for the 15-year-olds; Norway, with a sample of $N = 1739$ ($M = 13.5$) for the 13-year-old students, and of $N = 1624$ ($M = 15.5$) for the 15-year-olds; Lithuania, with a sample of $N = 1873$ ($M = 13.7$) for the 13-year-old students, and of $N = 1905$ ($M = 15.7$) for the 15-year-olds (Currie et al., 2001). Leaving this study aside, the TCSS was also originally validated in a sample of 13-year-old ($N = 315$) and 15-year-old ($N = 366$) students. Recently, a validation study was conducted on a Taiwanese population (Hung et al., 2023) using a sample of students aged 13 to 18 ($N = 474$; $M = 15.37$, $SD = 2.06$).

Given the increasing recognition of social support as a key factor in mental health, self-efficacy, and overall well-being (Algethami, 2025; Martono et al., 2025; Sariyatun et al., 2025), it is essential to ensure that instruments measuring this construct are valid and culturally appropriate. The TCSS stands out for its exclusive focus on educational support from teachers and classmates, making it particularly relevant for school-based interventions. Despite its widespread use in the HBSC study across 45 countries, the scale has only been validated in seven of them (Torsheim et al., 2012), with Spain notably absent. This gap highlights the urgent need for culturally grounded validation among the Spanish population to ensure accurate assessment and comparability of data. By addressing this need, the present study contributes to international literature and supports the development of evidence-based strategies to enhance social support in schools.

Therefore, the objective of this study is to validate the Teacher and Classmate Support Scale (TCSS; Torsheim et al., 2000) among Spanish adolescents. It is anticipated that this Spanish version will maintain the bidimensional structure originally proposed by the authors and achieve good values

for internal consistency and goodness of fit. These values are expected to remain the same regardless of the students' gender. Likewise, regarding criterion validity, it is expected that the scale being validated will obtain positive correlations with Positive Affect and negative ones with Negative Affect.

2. Literature Review

In the field of education, it has been found that student-perceived social support has significant effects on their adaptation and academic performance. Wright et al. (2024) found that perceived social support from friends is positively associated with school readiness and academic achievement, but negatively associated with classroom misbehavior, absenteeism, and behavioral problems. Similarly, Mackenzie et al. (2024) demonstrated that students reporting higher levels of support from their science teachers also experienced higher levels of self-efficacy in that area. Furthermore, Mahfud et al. (2024) confirmed that students' confidence in their creative abilities increased when they experienced social support from teachers, classmates, and family members.

Perceived social support influences various aspects of students' lives. Firstly, on an educational level, many studies have demonstrated its relationship with academic performance, educational commitment, or absenteeism (Chen et al., 2024; Lee et al., 2025; Lin et al., 2024; Mackenzie et al., 2024; Mahfud et al., 2024; Wright et al., 2024). Also, in light of the recent rise in interest in bullying, some authors have examined the impact of social support on the manifestation and intensity of bullying (Dias-Viana et al., 2023; Maor et al., 2024; Vargas-Madriz et al., 2023; Wu et al., 2025; Yin et al., 2024). Finally, beyond a purely educational context, evidence suggests that perceived social support improves the overall well-being of both adolescents and adults, revealing a relevant relationship in aspects such as suicidal ideation, stress, satisfaction with life and school, motivation, loneliness and affection (Cao et al., 2019; Di Fabio & Palazzeschi, 2016; Galindo-Domínguez & Losada Iglesias, 2023; Gustafsson et al., 2025; Hoferichter et al., 2024; Holliman et al., 2022; Huang & Zhang, 2022; Mitchell et al., 2025; Skoric et al., 2023; Wimmer et al., 2025). Therefore, for some time, attempts have been made to measure this construct using the distinct perspectives of the theories that define it. First came the Social Support Scale for Children (SSSS; Harter, 1985), designed to assess and understand social support provided by four different sources: parents, teachers, close friends, and classroom peers. Subsequently, the Student Social Support Scale (SSSS; Malecki & Elliott, 1999) and the Child and Adolescent Social Support Scale (CASSS; Malecki & Demaray, 2002) assessed these same dimensions, but classifying social support based on the following: emotional, assessment-based, informative, and instrumental, according to Tardy's theory (1985) and extending it to the primary education period. On the other hand, one of the most frequently used instruments to measure subjective social support is the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988), which narrows the measurement of this construct a bit more, focusing on measuring the support of families, friends, and other important people. Finally, some current scales further specify additional dimensions of this factor, such as the Perceived Teacher Support Scale (PTSS; Wu et al., 2024), which exclusively assesses perceived teacher support.

Therefore, based on the reviewed literature and the identified gaps in validation studies of the Teacher and Classmate Support Scale (TCSS), particularly within the Spanish context, the present study seeks to address the following two research questions: Is the Teacher and Classmate Support Scale (TCSS) a valid and reliable instrument for assessing perceived social support among Spanish adolescents? And does the factor structure of the TCSS replicate in a Spanish sample, confirming the two-dimensional model of teacher and classmate support?

3. Methodology

3.1. Participants

Table 1 presents the characteristics of the study sample, which consisted of 618 Spanish adolescents aged 12 to 16 years, selected through a cluster-random sampling procedure from 10 secondary education schools located in different municipalities of the province of Alicante. The initial sample comprised 671 students, of whom 31 were excluded for not providing written informed consent, 14 for insufficient proficiency in Spanish, and 8 for having special educational needs that prevented them from understanding the questionnaire items. The final sample had a mean age (M) of 14.04 years and a standard deviation (SD) of 1.34. To examine whether the observed distribution fitted the expected one, a chi-square test was conducted, yielding $\chi^2 = 4.80$, $p = 0.78$, indicating a uniform distribution across the analyzed categories.

Table 1. Sample participants grouped by gender and age.

	12 years	13 years	14 years	15 years	16 years	Total
Boys	46	73	67	66	67	319
	7.4%	11.8%	10.8%	10.7%	10.8%	51.6%
Girls	51	66	68	65	45	295
	8.3%	10.7%	11%	10.5%	7.3%	47.7%
Total	97	140	136	132	113	618
	15.7%	22.7%	22%	21.4%	18.3%	100%

3.2. Instruments

The *Teacher and Classmate Support Scale* (TCSS; Torsheim et al., 2000) assesses the support perceived by students across two dimensions, each composed of 4 items, totalling 8 items in the original version. Thus, the originally proposed model consists of two distinct factors: Support from Teachers, comprising 4 Likert-like response items, each rated on a 5-point scale ranging from “completely agree” to “completely disagree”. On the other hand, the second factor corresponds to Support from Classroom Peers, which consists of 4 Likert-like response items, each rated on a 5-point scale ranging from “Always” to “Never”. In the model proposed for this study, the order of both response scales was reversed to facilitate participant responses. As for internal validation, the original study had adequate model fit for the proposed two-dimensional model through confirmatory factor analysis, in which both constructs were correlated, with CFI values of .96 for the 13-year-old sample and .99 for the 15-year-old sample. Reliability was determined using test-retest, with Pearson’s r values of .69 and ICC = .68 for the teacher subscale, and .74 and .73 for the peers subscale, respectively. The external validity was determined, on the one hand, through criterion validity, correlating the TCSS with the *HBSC-Symptom Checklist* (HBSC-SCL, Torsheim et al., 2000) and the *Negative/Positive School Motivation Scale* (Olweus, 1994). On the other hand, convergent validity was assessed by correlating the instrument with the *HBSC Perceived Availability of Support Scale* (HBSC-PASS; Wold et al., 1994) and the *School-class Network* scale (Torsheim et al., 1997). According to Cronbach’s alpha, the internal consistency of this scale was .81 for the group of 13-year-olds, and the Pearson’s r correlations for the teacher and peer subscales were -.18 and -.23, respectively. For the group of 15-year-olds, the consistency was .74, and the correlations for the teacher subscale were not significant. For the peers, a correlation of -.13 was found.

The Spanish version of the *Positive and Negative Affect Schedule* (PANAS; López-Gómez et al., 2015) is an instrument that measures Positive and Negative Affect on two distinct subscales of 10

items each. It uses 5-point Likert-like responses, ranging from “Very little or nothing” to “A lot or extremely”. The Positive Affect items include emotions such as “enthusiastic”, “interested”, or “active”, whereas items on Negative Affect include states such as “nervous”, “fearful”, or “irritable”. For this study, the reliability of each of the factors of the PANAS was .85 for Positive Affect and .86 for Negative Affect.

3.3. Procedures

According to the ITC Guidelines for Translating and Adapting Tests (International Test Commission, 2017), a thorough process was undertaken to ensure accurate cultural and contextual adaptation of the TCSS scale for use in Spain. Initially, the Spanish version of the TCSS was created using the reverse translation method. Therefore, four bilingual experts in Education and Psychology Sciences translated the terminology from the original TCSS into Spanish. The original and reverse-translated versions were carefully compared and analyzed by bilingual experts who produced the final Spanish version. No items were removed or significantly altered during the translation process, and no significant changes were found. The expert evaluators concluded that the final version was easy to implement and that all items were appropriate.

This study protocol was presented to and approved by the University of Alicante’s Ethics Committee (UA-2025-05- 20_1). In addition, authorization was granted by the Ministry of Education, Universities and Employment, the competent regional government body regarding educational issues. The School Councils of each participating educational institution accepted it. Finally, the written informed consent was obtained from the parents and/or legal guardians of the participating students.

The study began with a meeting held with the management teams of the collaborating schools. At this meeting, the study objectives and the tools to be used were presented. Likewise, informed consent was obtained from the families to administer the questionnaire to students.

All the volunteer participants completed the instrument simultaneously in the classroom. Initially, a member of the research team offered a brief introduction and explanation to ensure that the questionnaire was completed correctly. This included a section on collecting demographic data (age, grade, and gender) and the TCSS questionnaire.

3.4. Data analysis

This study employed a quantitative, cross-sectional design to validate the Teacher and Classmate Support Scale (TCSS) in a Spanish adolescent population. The approach was guided by psychometric principles, including confirmatory factor analysis to assess construct validity and reliability testing to evaluate internal consistency. Data were collected through self-report questionnaires administered in educational settings, following ethical approval and standardized protocols to ensure consistency and anonymity.

The following statistics were considered for the confirmatory factor analysis: Chi-squared (χ^2) and degrees of freedom (*d.f.*), with adequate values in the $\chi^2/d.f.$ Ratio being those that were less than or equal to 3 (Schreiber et al., 2006); mean square error (*RMSEA*) and standardized root mean square residual (*SRMR*) with good values being close to .06 and .08, respectively (Hu & Bentler, 1999); Tucker-Lewis Index (*TLI*), considering a good model fit as of .95 (Tucker & Lewis, 1973); and comparative fit index (*CFI*) with adequate values also being those above .95 (Hu & Bentler, 1999).

For gender invariance, configural, metric, scalar, and strict invariance models were calculated. Non-significant values were taken into account for the chi-square difference between models ($\Delta \chi^2(p) > .05$) (Cheung & Rensvold, 2002) and overall *RMSEA* values less than .015 and *CFI* values below .010 (F. F. Chen, 2007).

The relationship coefficients between the items of the scale were classified as small when the Pearson's r values were between .10 and .29, moderate when the values were between .30 and .49, and high when the values were greater than .50 (Cohen, 1988).

The internal consistency of the scale and its factors was measured using Cronbach's α , with values above .70 considered acceptable (Nunnally, 1978). The factorial loads of the items were also measured, with values greater than or equal to .32 being considered acceptable (Tabachnick & Fidell, 2007). Finally, composite reliability (CR) values were considered adequate as of .7 (Hair et al., 2009).

Finally, criterion validity was analyzed to assess the relationship between the affective constructs and the main study scale. Correlations between the PANAS factors and the scores obtained on the scale being validated were analyzed.

All statistical analyses were performed using IBM SPSS Statistics 26.0 and AMOS.

4. Results

4.1. Confirmatory factor analysis

Table 2 presents the statistics obtained for each model proposed in the confirmatory factor analysis of the TCSS. The first model (M0) consists of the instrument without factors. The second model (M1) establishes a single factor. The third (M2) proposes two factors. The final model (M3) consists of 2 factors that are correlated with one another. This last model presents the best results, with RMSEA = .059, SRMR = .029, TLI = .965, and CFI = .977.

Table 2. Fit indices for the evaluated TCSS models.

Model	χ^2	<i>d. f.</i>	<i>p</i>	$\chi^2/d.f.$	RMSEA 90% I.C	SRMR	TLI	CFI
M0	1747.072	28	<.001	62.395	.315 (.303-.328)	.335		
M1	601.444	20	<.001	30.072	.217 (.202-.232)	.149	.526	.662
M2	130.424	20	<.001	6.521	.095 (.085-.110)	.143	.910	.936
M3	59.326	19	<.001	3.122	.059 (.042-.046)	.029	.965	.977

Note. M0= Without factors; M1= Model with one factor; M2 = Model with two factors, without correlations; M3 = Model with two correlated factors; χ^2 = Chi-squared; *d.f.* = Degrees of freedom; RMSEA = Root mean square error of approximation; SRMR = Standardized root mean square residual; TLI = Tucker-Lewis coefficient; CFI = Comparative fit index.

4.2. Factorial invariance based on gender

Table 3 shows the goodness-of-fit values for factorial invariance across gender for the proposed TCSS model. First, a configural invariance-free model is proposed, in which only the instrument factors are proposed. Thus, the factorial loads, intercepts, and error variances are left to be chosen freely, with values deemed adequate ($\chi^2/df = 1.979$, TLI = .968, and CFI = .978). Second, metric invariance is tested, in which the factor loadings are also restricted, and its fit is assessed by comparing it to the previous model. Here, once again, adequate values are found ($\Delta \chi^2(p) = .364$, $\Delta RMSEA = -.003$, $\Delta CFI = .0$). Subsequently, the scalar invariance was tested, including the restriction of the intercepts. Again, a good fit was revealed ($\Delta \chi^2(p) = .053$, $\Delta RMSEA = -.002$, $\Delta CFI = .006$). Finally, strict invariance was measured, including, in addition to the previous measures, the variances of the items' errors. In this case, adequate values were revealed for $\Delta RMSEA$ (.001) and ΔCFI (.008), but not for $\Delta \chi^2(p)$ (.016).

Table 3. Fit indices for the TCSS M3 model based on gender.

	χ^2	<i>d.f</i>	χ^2/df	<i>TLI</i>	<i>CFI</i>	<i>RMSEA</i>	$\Delta\chi^2(p)$	$\Delta RMSEA$	ΔCFI
Boys	43.730	19	2.302	.955	.969	.064 (.039-.089)			
Girls	31.477	19	1.657	.980	.986	.047 (.012-.076)			
M0	75.207	38	1.979	.968	.978	.040 (.027-.053)			
M1	81.765	44	1.858	.972	.978	.037(.024-.050)	6.559(.364)	.003	.000
M2	97.082	52	1.866	.970	.972	.039 (.028-.050)	15.317(.053)	.002	.006
M3	122.157	63	1.938	.968	.964	.040(.030-.050)	25.065(.016)	.001	.008

Note. M0 = free model (configurational invariance); M1 = Model 0 with factorial loads (metric invariance); M2 = Model 1 with intercepts (scalar invariance); M3 = Model 2 with error invariance (strict invariance); χ^2 = Chi-squared; *d.f.* = Degrees of freedom; *TLI* = Tucker-Lewis Index; *RMSEA* = Root mean square error of approximation; *CFI* = Comparative fit index; *TLI* = Tucker-Lewis coefficient.

4.3. Correlation coefficients

On the one hand, the two TCSS factors have a moderate positive correlation ($r = .33$). On the other hand, Table 4 presents the correlations among the instrument items. Items 1 to 4 correspond to the first factor (teachers) and have mostly high r values. The largest relationship size is found between item 2 and item 3 (.61). In contrast, the smallest is found between item 1 and item 3 (having a moderate size (.49)). Items 5 to 8 correspond to the second factor (peers), among which, the largest relationship exists between item 5 and item 6 (.56) and the smallest is between item 5 and item 8 (.42).

Table 4. Correlation indices between items.

	I1	I2	I3	I4	I5	I6	I7	I8
I1	1							
I2	.53**	1						
I3	.49**	.61**	1					
I4	.60**	.52**	.59**	1				
I5	.15**	.18**	.20**	.27**	1			
I6	.22**	.19**	.21**	.30**	.56**	1		
I7	.16**	.16**	.22**	.22**	.45**	.52**	1	
I8	.18**	.20**	.22**	.27**	.42**	.54**	.47**	1

4.4. Classical item analysis

Regarding internal consistency, the scale as a whole obtained the following values: $M = 27.93$, $SD = 5.44$, $\alpha = .81$, $\Omega = .90$, Composite reliability (CR) = .90. Table 5 is collected for each of the items with respect to the factor to which they belong and the total scale.

The mean score of the items ranged from 3.27 (item 1) to 3.95 (item 7), and the standard deviation ranged from 0.98 (item 5) to 1.12 (item 1). The lowest asymmetry value corresponded to item 1 (-.270) and the highest corresponded to item 7 (-.948). On the other hand, kurtosis obtained the lowest result on item 1 (-.64) and the highest on item 2 (-16).

Factor I (teachers) obtained values of $M = 13.61$, $SD = 3.43$, $\alpha = .83$, $\Omega = .84$ and $CR = .84$. The lowest factor loading was obtained for item 1 (.71). In contrast, the highest was found in item 4 (.78). The highest item-subscale correlation was obtained by two items, 3 and 4, with a score of .82, both with a score of .82. The lowest correlation was found for item 2, with .80. In the case of the corrected item-subscale correlation, once again items 3 and 4 had the highest score (.48) but, in this case, it was item 1 that obtained the lowest (.42). Finally, the value α of the scale without the item was not exceeded when eliminating any of the items, with the highest value appearing after eliminating item 1 (.80) and the lowest after eliminating items 3 and 4 (.78).

Factor II (peers) obtained values of $M = 14.32$, $SD = 3.26$, $\alpha = .80$, $\Omega = .80$ and $CR = .80$. In this case, the lowest factor loading was obtained for item 7 (.6), and the highest was found in item 6 (.80). The highest item-subscale correlation was found for item 6 (.86), and the lowest for item 5 (.76). The highest corrected item-subscale correlation was also obtained by item 6 (.46), and the lowest by item 7 (.34). Finally, the value α of the scale without the item was not exceeded, with the highest value being .76 for two items (5 and 6) and the lowest for item 6 (.71)

Finally, the highest item-total and corrected item-total ratio values were .72 (.61 corrected) for item 4, and the lowest were .61 (.47 corrected) for items 5 and 7. The α of the scale without each of the items was not exceeded, obtaining the highest alpha of .79 upon individually eliminating items 1, 2, 5, 7, and 8, and the lowest of .78 upon eliminating items 3 and 6.

Table 5. Statistics for each item with respect to its factor and the overall scale.

No. items	<i>M</i>	<i>SD</i>	<i>A</i>	<i>K</i>	<i>FL</i>	<i>RIE</i>	<i>RIEc</i>	α -ie	<i>RIT</i>	<i>RITc</i>	α -it
Factor I: <i>M</i> = 13.61; <i>SD</i> = 3.43; Alpha = .83; Omega = .84; CR = .84											
I1	3.27	1.12	-.270	-.644	.71	.81	.42	.80	.65	.50	.79
I2	3.68	1.00	-.684	.161	.73	.80	.44	.79	.64	.51	.79
I3	3.37	1.02	-.443	-.215	.77	.82	.48	.78	.68	.55	.78
I4	3.29	1.04	-.284	-.341	.78	.82	.48	.78	.72	.61	.77
Factor II: <i>M</i> = 14.32; <i>SD</i> = 3.26; Alpha = .80; Omega = .80; CR = .80											
I5	3.64	.98	-.538	.153	.68	.76	.35	.76	.61	.47	.79
I6	3.36	1.03	-.333	-.205	.80	.83	.46	.71	.67	.55	.78
I7	3.95	1.01	-.948	.486	.66	.77	.34	.75	.61	.47	.79
I8	3.38	1.10	-.364	-.471	.67	.78	.35	.76	.64	.49	.79

Note. *M* = mean; *SD* = standard deviation; *A* = Asymmetry; *K* = Kurtosis; *FL* = Factor loading; *CR* = Composite reliability; *RIE* = item-subscale correlation; *RIEc* = corrected item-subscale correlation; α -ie = alpha scale if eliminating an item; *RIT* = item-total correlation; *RITc* = corrected item-total correlation; α -it = alpha on the test if eliminating the item.

4.5. Criterion validity

Regarding the instrument's validity, criterion validity of the Teacher Support and Peer Support subscales was examined by correlating them with the Positive Affect and Negative Affect dimensions of the PANAS. The results reveal positive and significant correlations with Positive Affect: .27 for the teacher subscale and .25 for the peers, representing a small-moderate effect size, according to Cohen's criteria (1988). Regarding Negative Affect, significant negative correlations of $-.19$ and $-.18$ are observed, respectively. This corresponds to a small effect size. All the correlations were statistically significant ($p < .001$), supporting the instrument's criterion validity.

5. Discussion

The original internal validity of the TCSS yielded CFI values of .96 for the 13-year-old sample and .99 for the 15-year-old sample (Torsheim et al., 2000). In the Spanish version, the CFI for the sample aged 12 to 16 was .98. This value was appropriate for this index, according to Hu & Bentler (1999). Furthermore, other indices not reported in the original study were included to reinforce the instrument's validity (RMSEA, SRMR, and LTI). These values were also adequate (.059, .029, and .965, respectively) (Hu & Bentler, 1999; Tucker & Lewis, 1973).

On the other hand, the multigroup confirmatory factor analysis by gender showed good fit indices for the configurational, metric, and scalar invariance levels (with strict invariance the only one not fully achieved), and the differences were statistically significant ($\Delta \chi^2(p) = .016$). Overall, invariance is partially supported by gender, as the other indices (Δ RMSEA and Δ CFI) were within the appropriate ranges in all comparisons (Chen, 2007).

The internal consistency of a form is based on the relationships among its items, between the items and the factors, and among the factors themselves (Cook & Beckman, 2006). This internal consistency determines whether the instrument is valid (Oviedo & Campo-Arias, 2005). In line with the criteria of Cohen (1988) and Hair et al. (2009), in this study, the values of Cronbach's α were .81 for the overall scale and .90 for peer CR. Both factors, teachers and peers, had a Cronbach's α of .83 and .90, and of .84 and .80, respectively, for CR.

Finally, the criterion validity with the Positive Affect factor was .27 for the teacher's subscale and .25 for the students, while negative correlations were found for the Negative Affect factor ($-.19$ and $-.18$, respectively). Statistical significance was found for both factors. These results are congruent with past studies that have examined the relationship with these constructs (Cao et al., 2019; Di Fabio & Palazzeschi, 2016; Huang & Zhang, 2022). Torsheim et al. (2000) calculated this validity based on motivation and health problems. Perceived Social Support is positively related to motivation, while individuals with a greater sense of support score lower on different symptoms of health problems (headache, stomachache, backache, irritability, nervousness, etc.) (Fletcher, 1991). Thus, similar criterion validity results were obtained for the relationship between Social Support and Motivation (.33 and .35 for teachers and peers in the 13-year-old range and .36 and .18 for the 15-year-olds). The relationship between Social Support and the presentation of major health problems was negative ($-.18$ and $-.23$ for 13-year-olds and unknown and $-.13$ for 15-year-olds), as in the results obtained in this research.

These findings reinforce the psychometric robustness of the TCSS within the Spanish adolescent population and align with previous international validations. The strong internal consistency and confirmatory factor analysis results support the scale's structural integrity, while the criterion validity correlations with affective dimensions mirror those reported in earlier studies, such as those by Torsheim et al. (2000) and Fletcher (1991). Moreover, the inclusion of additional fit indices and the multigroup analysis by gender provides a more comprehensive validation framework than previous studies. This expanded approach contributes to the literature by offering culturally relevant evidence

of the scale's applicability in Spain, addressing a notable gap in the HBSC framework where Spain had not previously validated this instrument. By doing so, the study not only confirms the reliability and validity of the TCSS in a new context but also enhances the comparability of international data on perceived social support in educational settings.

6. Conclusion

The main objective of this study was to validate the *Teacher and Classmate Support Scale* (TCSS; Torsheim et al., 2000) in an adolescent Spanish population. Once the statistical analyses were conducted, the original two-dimensional structure established by Torsheim et al. (2000) was validated in Spanish adolescents, establishing two distinct factors, one for teachers and one for peers. Both consist of the same four items found in the original study, correlating both factors to obtain a better fit.

This study has certain limitations. Although invariance based on gender was assessed, the results should be considered with caution, given the possible existence of latent differences that are not captured by the model. On the other hand, the sample consists exclusively of adolescents from the province of Alicante, limiting the generalization of these results to other national or international contexts. Finally, the use of self-reporting is another factor to consider, given the subjective bias existing in these types of instruments.

Despite its limitations, this study has a relevant practical impact, since it is the first recent validation using a Spanish adolescent population of a widely used instrument to measure perceived social support. It offers evidence of reliability for future use, permitting more accurate diagnoses of this construct. Based on these diagnoses, it may be possible to design teacher training programs that are more aligned with students' real needs for social support. Thus, teachers may benefit from specific tools to identify deficits and promote more inclusive and cohesive school environments, favoring the school climate and the relationships existing in the classroom. It will also facilitate the implementation of interventions aimed at strengthening support networks among peers, families, and schools, since the results obtained with the validated instruments will enable a more precise identification of the most vulnerable groups or contexts. All of this may have a positive impact on other related educational variables such as school rejection, academic performance, or bullying (Chen et al., 2024; Dias-Viana et al., 2023; Lee et al., 2025; Lin et al., 2024; Mackenzie et al., 2024; Mahfud et al., 2024; Maor et al., 2024; Vargas-Madriz et al., 2023; Wright et al., 2024; Wu et al., 2025; Yin et al., 2024)

7. Suggestion

Future studies may wish to validate a version of the TCSS for primary education populations. These works could also expand upon the validation to the family environment or to close friends of the adolescents. This may help develop a more comprehensive and applicable instrument by conducting longitudinal studies on perceived social support during compulsory education.

Declarations

Author Contributions. A.A.: Writing – original draft; Conceptualization; Investigation. C.G.: Writing – review and editing; Supervision; Formal analysis; Funding acquisition; Project administration. M.P.M.: Writing – review and editing; Supervision; Data curation. M.P.A.F.: Writing – review and editing; Supervision; Methodology.

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Data Availability Statement. Access to the data is available upon request from the corresponding author, as it contains information about minors.

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