

Multidimensionality of Social Competence: Measurement of the Construct and its Relationship With Bullying Roles

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ABSTRACT

The aims of this paper were two-fold: to validate the AMSC-Q (Adolescent Multidimensional Social Competence Questionnaire) and to examine the social competence of those involved in bullying. The representative sample was composed of 4047 Andalusian secondary school students (48.2% girls). Two measures were used: the AMSC-Q and the EBIPQ (European Bullying Intervention Project Questionnaire). The AMSC-Q measure yielding a 5-factor structure (prosocial behaviour, social adjustment, normative adjustment, cognitive reappraisal and social efficacy) and revealed adequate reliability and validity. Victims presented greater prosocial behaviour and normative adjustment but low social adjustment and social efficacy. Bullies and bully victims demonstrated worse normative adjustment and less developed cognitive reappraisal but similar social adjustment and social efficacy. The social competence characteristics of those involved and non-involved in bullying are discussed.

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Multidimensionalidad de la competencia social: medición del constructo y su relación con los roles del bullying

RESUMEN

Los objetivos de este trabajo fueron dos: validar el AMSC-Q (Cuestionario Multidimensional de Competencia Social para Adolescentes) y examinar la competencia social de los distintos implicados en acoso escolar. La muestra representativa estuvo compuesta por 4047 escolares andaluces de educación secundaria (48.2% niñas). Se utilizaron dos instrumentos: el AMSC-Q y el EBIPQ (European Bullying Intervention Project Questionnaire). El AMSC-Q reflejó una estructura de 5 factores (conducta prosocial, ajuste social, ajuste normativo, reevaluación cognitiva y eficacia social) y mostró una adecuada fiabilidad y validez. Las víctimas presentaron una mayor conducta prosocial y ajuste normativo, aunque un ajuste social y eficacia social baja. Los agresores y agresores victimizados mostraron un peor ajuste normativo y una reevaluación cognitiva menos desarrollada, aunque similar ajuste social y percepción de eficacia social. Se discuten las características en términos de competencia social de los implicados o no en este fenómeno violento.

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Palabras clave:

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Introduction

The study of social competence, defined as the effectiveness in social interaction, has evolved considerably in the last decades, moving towards more inclusive theoretical models that embrace developmental processes and which look beyond traditional social skills (Rose-Krasnor, 1997). It has been recognized that social competence is a multidimensional concept which includes different di-

mensions: social and emotional skills, mainly prosocial behaviour and ability of emotion regulation; the skill to adapt to the rules and conventions of the immediate social environment; perceived acceptance by others or social adjustment; and the perceived efficacy in social interactions (Dirks, Treat, & Weersing, 2007; Santos, Peceguina, Daniel, Shin, & Vaughn, 2013). The study of these dimensions show that prosocial behaviour is a social skill recognized as a primary component of social competence and is key to promoting positive social interaction (Padilla-Walker, Fraser, Black, & Bean, 2015). Among emotional skills, the emotion regulation has been identified as a necessary element to ensure positive social development. Spe-

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cifically, the cognitive reappraisal strategy has shown to be one of the most effective and positive approaches, because it allows one to anticipate the emotional consequences of a given situation, thus maximizing personal gains and interests (Gómez-Ortiz, Romera, Ortega-Ruiz, Cabello, & Fernández-Berrocal, 2016). To be and feel accepted by peers is also a very important indicator of satisfactory interpersonal relationships (Zhang et al., 2014). Moreover, the presence of behaviours adapted to the basic rules to get a harmonious school climate and cohabitation is a relevant aspect in social competence (Junttila, Voeten, Kaukiainen, & Vauras, 2006). Finally, it is necessary to consider the assessment of one's sense of efficacy in social interaction as an indicator of social competence (Connolly, 1989; Dirks et al., 2007; Rose-Krasnor, 1997).

The procedures and questionnaires currently available to assess adolescent social competence use self-report items to evaluate components belonging to this complex construct, focusing on personal skills of a social nature. It is the case of the scale devised by Harter (2012), which assesses the ability to be accepted by peers and the Perceived Social Competence Scale (Anderson-Butcher et al., 2014), which takes into account prosocial behaviours mainly. The Adolescent Social Self-Efficacy Scale (Connolly, 1989) measures social self-efficacy, defined as self-expectations of one's ability to perform specific behaviours underlying interpersonal relationships. The AECS (Actitudes y Estrategias Cognitivas Sociales) scale (Moraleta, González, & García-Gallo, 1998) also measures positive social behaviours related to social conformity, help and collaboration, confidence in one's own possibilities and prosocial leadership. The Social-Emotional Learning Scale (Coryn, Spybrook, Evergreen, & Blinkiewicz, 2009) includes three aspects of social-emotional learning: task articulation, peer relationships and self-regulation. However, none of the aforementioned instruments consider the assessment of these skills, good social results, self-efficacy in social situations and normative adjustment, together in the same measure. These dimensions are deemed essential from different perspectives of social competence analysis, especially from the educational point of view (Dirks et al., 2007; Rose-Krasnor, 1997).

In educational context, it has been recognized the importance of social competence to favour the social development of teenagers. Its promotion is included in many intervention programs whose aim is to improve interpersonal relationships in school and prevent problems, such as bullying. In this line, some studies have recognized different social characteristics depending on the assumed role in this violent phenomenon (Cerezo, Sánchez, Ruiz, & Areñse, 2015; Romera, Cano, García-Fernández, & Ortega-Ruiz, 2016). However, these investigations have taken into account only some of the social competence dimensions. Regarding the role of victim, current studies reveal similar trends relative to the lack of peer social acceptance and social skills, mainly assertiveness (Fox & Boulton, 2005; Sentse, Kretschmer, & Salmivalli, 2015). The social profile of bullies, however, is not so clear; whereas some studies identify them as rejected students who have adjustment problems, others have shown them to experience a fair amount of social acceptance or sociometric status (MacEvoy & Leff, 2012; Reijntjes et al., 2013; Wang et al., 2012). From this perspective, it has been reported that dominant behaviours lead to benefits, namely social popularity; this in turn motivates bullies to keep up this arrogant behaviour, which has little relation to social skills deficits (Berger & Caravita, 2016; Olthof, Goossens, Vermande, Aleva, & Van der Meulen, 2011). On an emotional level, victims are described as having difficulties with emotional acknowledgment, expression and understanding, whereas bullies seem to experience problems linked to emotional regulation (Elipse, Ortega, Hunter, & Del Rey, 2012). In bully-victims are recognized the lowest levels of social acceptance and socio-emotional skills (Cerezo et al., 2015).

Understanding the relationship between bullying and social competence requires instruments that assess social competence in ado-

lescence, briefly and concisely, including all the components present in its operational definition. The first aim of this study has been to create a valid and reliable measure of perceived social competence for adolescents. The second aim was to analyze the social competence differences among the different roles directly and indirectly involved in bullying situations (bully, bully-victim, victim and uninvolved students). Our hypotheses were:

1. The designed measure will yield acceptable psychometric properties with the 5 theoretical dimensions identified.
2. There will be differences between the varying social competence dimensions belonging to each of the roles.

Method

Participants

The reference population used to conduct this study comprised male and female students in ESO (Compulsory Secondary Education) from the Andalusian region (southern Spain). A random, stratified, cluster-based, probabilistic, monoetapic sampling with proportional allocation was performed (Cea D'Ancona, 2004). The strata were identified as geographical area (western or eastern Andalusia), type of centre (public or private), and municipal population (less than 10.000 inhabitants, between 10.001 and 100.000 inhabitants and more than 100.000 inhabitants, corresponding to small, medium and big populations, respectively). All of the categories of the strata are relevant indexes in Spain.

The final sample was made up of 4047 students (48.2% girls) who belong to 39 different high schools. The students were aged between 12 and 19 years ($M = 14.58$; $SD = 1.45$). There was a 35.6% who studied in high school located in small villages, 32.8% in a town with medium populations and 31.6% in big cities. 64.1% of teenagers studied in a public centre and 35.9% in a private high school.

Measures

Adolescent Multidimensional Social Competence Questionnaire

The AMSC-Q (Adolescent Multidimensional Social Competence Questionnaire) contains 26 items scored on a 1-7 Likert scale (1 = completely false; 7 = completely true). These items measure five key domains of social competence: prosocial behaviour, emotional self-regulation, social efficacy, social adjustment among peers and normative adjustment. When devising this instrument, items and scales were taken from different questionnaires: Adolescent Social Self-Efficacy Scale (Connolly, 1989); Cuestionario de Convivencia Escolar (Ortega, Del Rey, & Sánchez, 2011) and Emotion Regulation Questionnaire (Gómez-Ortiz et al., 2016).

European Bullying Intervention Project Questionnaire

The EBIPQ (European Bullying Intervention Project Questionnaire) self-report (Ortega-Ruiz, Del Rey, & Casas, 2016) is a self-report that comprises 14 Likert-type items, each with 5 possible responses (0 = no; 1 = yes, once or twice; 2 = yes, once or twice a month; 3 = yes, about once a week; and 4 = yes, more than once a week). It has 2 dimensions: *victimization*, composed of 7 items (e.g., "Someone has hit, kicked, or pushed me") and *aggression*, also composed by 7 items (e.g., "I threatened someone"). Assessed with McDonald's Omega, the internal consistency of each dimension (aggression, $\Omega = .86$; victimization, $\Omega = .86$; total, $\Omega = .89$) was adequate in our sample.

Procedure

Prior to the data collection, informed consent was obtained from students' families. Students were informed of the anonymous, confi-

dential and voluntary nature of their participation. The concept of school bullying was explained to the students, according to 3 defining characteristics (Olweus, 1999). The average completion time of the questionnaire varied between 20 and 30 min.

Data collection process was developed in two phases. A first data collection was conducted in a representative sample of Andalusia ($n = 2060$) to study the psychometric properties of the designed questionnaire and to select the definitive items. The first version of the questionnaire was composed of 50 items. The dimensional structure of the definitive version of AMSC-Q (with 26 items) was validated using a second representative sample of the region ($n = 1987$). This second sample was also used to test the validity and reliability of the questionnaire. To accomplish the second aim of the study both samples were used ($N = 4047$). The first sample was collected in the academic course 2013-2014 and the second in the course 2015-2016.

The study was not reviewed nor approved by any institutional review board because retrospective research designs do not need approval of an ethics committee.

Data analysis

A lack of randomness in missing data, MNAR (missing not at random) pattern (Little's MCAR test: 2484.9 (1936); $p < .001$) was observed. However, as the percentage of missing values for each variable ranged between 0.3% and 1%, we decided to perform the analysis without such data (Bennett, 2001). N was specified in all analyses.

In order to proceed with the validation of the questionnaire, the first representative sample was divided into 2 parts randomly, taking gender as the selection variable with a proportional number of boys and girls. To obtain evidence concerning the dimensionality of the AMSC-Q and to select the final items, an exploratory factor analyses (EFA) were performed using the Factor 9.3 statistical software, adopting the ULS (Unweighted Least-Squares) estimation method and based on the polychoric correlation matrix, recommended when working with non-normal distribution samples and ordinal items (Bryant & Satorra, 2012). Different pattern matrices factor are offered in the results section, where the choice of oblique (Promin) or orthogonal (Weighted Varimax) rotation method for the interpretation of the results of the EFA is justified.

The following items were excluded of analysis: items in the EFA with a factor loading and communalities below .32 and .40 respectively and high cross-loadings (Worthington & Whittaker, 2006).

The number of factors to retain was decided taking into account Hull Method recommendation, comparison of results from different confirmatory factor analyses (CFAs) with different numbers of factors and previous theoretical considerations (Lorenzo-Seva, Timmerman, & Kiers, 2011).

To confirm the factorial structure, a CFA using the DWLS (Diagonally Weighted Least Squares) estimation method was performed. This approach is suggested for large samples with non-normal distribution (Mardia's coefficient normalized = 122.73; $p \leq .001$) and when the univariate distribution of the items are asymmetric or show excessive kurtosis, as it is reflected in Table 1 (Byrne, 2014; Flora & Curran, 2004). The fit of the model was assessed by taking into account the significance value of the Satorra-Bentler chi-square ($S-B\chi^2$) test—values greater than .01 indicate a good fit—; Comparative Fit Index (CFI); Non-normed Fit Index (NNFI)—values equal to or greater than .95 indicate a good fit—; Standardized Root Mean Square Residual (SRMR); Root Mean Square Error of Approximation (RMSEA)—values less than .08 indicate a good fit—; and the Expected Cross-Validation Index (ECVI)—better when the value is small compared with of other models—(Byrne, 2014; Hu & Bentler, 1999). This analysis was performed using Lisrel 9.1.

Convergent validity was examined revising the value of the standardized factor loadings (values higher than .40 indicated that the items were reliable; Worthington and Whittaker, 2006) and their statistical significance (the *Student's t* value of the item must be higher than the critical value of t). To estimate the construct reliability, composite reliability (CR), maximal reliability (MR) (coefficient H of Hancock & Mueller), McDonald's coefficient omega (Ω) and Cronbach's alpha (α) of each dimension were calculated. The cut-off point for these indexes is .70 (Geldhof, Preacher, & Zyphur, 2014).

Discriminant validity, was examined comparing the average of average variance extracted (AVE) between pairs of latent variables to shared variance (square of the correlation between pairs of variables). If the first is higher than the last indicator, the questionnaire will show a good discriminant validity (Fornell & Larcker, 1981). Finally, to examine the instrument's temporal stability, Spearman's correlation coefficient was used.

With respect to the second aim, non-parametric analyses (Kruskal-Wallis H test and Mann-Whitney U test) were performed to analyse social competence differences among the different bullying roles. The effect size of the differences was calculated using the $r = Z/\sqrt{n}$ formula. These analyses were carried out using SPSS 18.0. For calculating the roles of bullying behaviours, the EBIPQ was used. Participation and repetition were considered according to the criteria established by Olweus (1999). Thus, victims were identified with scores equal or higher than 2 (once a month) in any of the items of victimization and with scores equal or lower than 1 (once or twice) in all of the items of aggression. Aggressors were those subjects with scores equal or higher than 2 (once a month) in any of the items of aggression and ≤ 1 (once or twice or never) in all of the items of victimization. As bully-victim have been identified those subjects with a score in any of the items of both aggression and victimization with a score equal or higher than 2 (once a month). Non-involved have been identified with scores in any of the items of both aggression and victimization with a score equal or lower than 1 (once or twice) in all of the items of aggression and victimization.

Results

Regarding the first aim, the KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy, with a value of .90, and the statistically significant Bartlett's test of sphericity [$\chi^2 (325) = 8301.5$; $p < .01$] confirmed the benefits of conducting an EFA. Moreover, the Hull method, recommended selecting 5 common factors. The total explained variance with a 5-factor model was 62.28%. Results about the interpretation of EFA were very similar taking into account the data offered by Promin or Weighted Varimax rotation method, being the solution offered by the Promin rotation method more parsimonious because there were less cross-loadings (Figure 1). Therefore, the interpretation of EFA was made taking into account the Promin rotation method solution.

The first factor, entitled *cognitive reappraisal*, yielded an explained variance of 32.22% and comprised 4 items that describe the ability to regulate emotions by cognitively modifying the situation linked to creating the feeling. The second factor, *social adjustment*, with an explained variance of 11.26%, was made up of 8 items related to perceived social acceptance and friendship, as well as the individual's attitude in social interactions. The third factor, *prosocial behaviour*, yielded an explained variance of 8.10% and comprised 5 items referring to offering different types of help to peers. The fourth factor, *social efficacy*, presented an explained variance of 6.12%. It comprised 4 items referring to the subject's perceived efficacy in different social relationships. The fifth and final factor, entitled *normative adjustment*, with an explained variance of 4.56%, was made up of 5 items corresponding to adherence to general and specific rules of school cohabitation. With respect to communalities, these ranged between

Table 1
Items and Dimensions of the Adolescent Multidimensional Social Competence Questionnaire with Communalities, factor loadings of the exploratory factor analysis, standardized factor loading of the confirmatory factor analysis (R^2), skewness and kurtosis value and eigenvalues

Item	F1	F2	F3	F4	F5	Co.	Sk	K	R^2
1. When faced with a stressful situation, I try to think about it in a way that helps me to keep calm	.35 ^a .47 ^b .41 ^c	.06 ^a .29 ^b .27 ^c	.08 ^a .29 ^b .16 ^c	.06 ^a .36 ^b .11 ^c	.17 ^a .36 ^b .11 ^c	.29	.90	.10	.71
2. When I want to increase my positive emotions, I change how I think about the situation	.77 ^a .73 ^b .73 ^c	-.02 ^a .17 ^b .07 ^c	-.00 ^a .12 ^b .03 ^c	-.07 ^a .22 ^b .02 ^c	-.02 ^a .17 ^b -.02 ^c	.55	.47	.45	.69
3. I control my emotions by changing how I think about the situation I find myself in	.78 ^a .74 ^b .75 ^c	-.05 ^a .13 ^b 0.8 ^c	-.04 ^a .08 ^b -.00 ^c	-.01 ^a .23 ^b -.01 ^c	-.01 ^a .17 ^b .00 ^c	.57	.42	.41	.69
4. When I want to reduce my negative emotions, I change how I think about the situation	.60 ^a .61 ^b .60 ^c	-.02 ^a .18 ^b .09 ^c	-.03 ^a .11 ^b .02 ^c	.08 ^a .28 ^b .03 ^c	-.01 ^a .18 ^b .09 ^c	.38	.57	.41	.59
5. My classmates and friends come to me when they have a problem	.02 ^a .18 ^b .11 ^c	.57 ^a .63 ^b .04 ^c	.26 ^a .49 ^b .41 ^c	-.12 ^a .32 ^b .51 ^c	-.05 ^a .15 ^b .08 ^c	.45	.91	.55	.56
6. My classmates and friends help me when I need it	.06 ^a .25 ^b .17 ^c	.69 ^a .71 ^b .07 ^c	.16 ^a .48 ^b .36 ^c	-.12 ^a .38 ^b .60 ^c	-.01 ^a .19 ^b .11 ^c	.54	1.30	1.49	.68
7. My classmates care about me	.00 ^a .20 ^b .12 ^c	.82 ^a .80 ^b .02 ^c	.10 ^a .47 ^b .34 ^c	-.10 ^a .41 ^b .70 ^c	-.07 ^a .14 ^b .16 ^c	.66	.98	.60	.68
8. My classmates feel comfortable working with me	-.00 ^a .25 ^b .15 ^c	.74 ^a .78 ^b .19 ^c	-.02 ^a .43 ^b .25 ^c	.04 ^a .54 ^b .66 ^c	.09 ^a .30 ^b .26 ^c	.62	1.08	1.14	.74
9. My classmates and friends know they can count on me when they have to organize some kind of activity	-.06 ^a .17 ^b .08 ^c	.82 ^a .80 ^b .08 ^c	-.00 ^a .41 ^b .26 ^c	.00 ^a .47 ^b .71 ^c	.00 ^a .19 ^b .23 ^c	.64	1.25	1.08	.68
10. I join in with the activities that others take part in	-.00 ^a .25 ^b .15 ^c	.55 ^a .69 ^b .19 ^c	.04 ^a .43 ^b .27 ^c	.16 ^a .55 ^b .53 ^c	.05 ^a .30 ^b .30 ^c	.50	1.14	1.04	.65
11. My classmates like me	-.02 ^a .23 ^b .14 ^c	.76 ^a .77 ^b .11 ^c	-.15 ^a .32 ^b .15 ^c	.15 ^a .55 ^b .67 ^c	.01 ^a .21 ^b .34 ^c	.63	1.34	1.92	.65
12. I feel like I have friends	-.02 ^a .19 ^b .11 ^c	.77 ^a .71 ^b .10 ^c	-.12 ^a .30 ^b .15 ^c	.00 ^a .43 ^b .65 ^c	.04 ^a .18 ^b .22 ^c	.52	2.17	4.72	.51
13. If a classmate is really overwhelmed and doesn't have time to finish his/her work, I lend a helping hand	.01 ^a .21 ^b .09 ^c	-.04 ^a .33 ^b .39 ^c	.57 ^a .66 ^b .56 ^c	.00 ^a .37 ^b .07 ^c	.24 ^a .50 ^b .07 ^c	.49	1.14	.69	.50
14. I react to defend a classmate who gets made fun of or picked on	.03 ^a .12 ^b .03 ^c	.10 ^a .44 ^b .10	.69 ^a .69 ^b .66 ^c	.00 ^a .30 ^b .19 ^c	-.10 ^a .22 ^b .08 ^c	.49	1.08	.74	.48
15. When a classmate or friend is sad, I console him/her to make them feel better	-.00 ^a .15 ^b .05 ^c	.07 ^a .42 ^b .19 ^c	.75 ^a .76 ^b .71 ^c	-.09 ^a .29 ^b .16 ^c	.00 ^a .32 ^b .02 ^c	.58	1.87	3.78	.70
16. When I see that a classmate feels left out and alone, I help him/her fit in to my group of friends	-.04 ^a .12 ^b .02 ^c	-.17 ^a .27 ^b .29 ^c	.71 ^a .69 ^b .64 ^c	.10 ^a .34 ^b -.01 ^c	.08 ^a .40 ^b .11 ^c	.50	.82	.22	.56
17. I help those classmates who have some kind of physical problem (leg in a cast, in a wheelchair, etc.) in their day-to-day lives	.04 ^a .22 ^b .13 ^c	-.00 ^a .39 ^b .24 ^c	.60 ^a .66 ^b .58 ^c	.08 ^a .38 ^b .11 ^c	.04 ^a .37 ^b .13 ^c	.45	.91	.36	.54
18. In relationships with friends and classmates, I feel that I do things well (I feel effective)	.10 ^a .35 ^b .28 ^c	.24 ^a .56 ^b .13 ^c	-.04 ^a .30 ^b .14 ^c	.55 ^a .66 ^b .33 ^c	-.10 ^a .25 ^b .52 ^c	.50	.94	.90	.70
19. In relationships with my teachers, I feel that I do things well (I feel effective)	-.03 ^a .27 ^b .16 ^c	-.10 ^a .36 ^b .37 ^c	.04 ^a .29 ^b .10 ^c	.76 ^a .73 ^b .09	.12 ^a .45 ^b .61 ^c	.55	.73	.02	.61
20. In relationships with my family, I feel that I do things well (I feel effective)	-.05 ^a .25 ^b .15 ^c	-.03 ^a .44 ^b .23 ^c	-.00 ^a .30 ^b .14 ^c	.83 ^a .76 ^b .16 ^c	-.06 ^a .33 ^b .67 ^c	.58	1.18	1.04	.62
21. In relationships with other adult figures and the elderly, I feel that I do things well (I feel effective)	.04 ^a .32 ^b .23 ^c	-.01 ^a .47 ^b .23 ^c	.13 ^a .41 ^b .26 ^c	.68 ^a .72 ^b .17 ^c	-.06 ^a .36 ^b .57 ^c	.53	1.17	1.47	.63

Table 1

Items and Dimensions of the Adolescent Multidimensional Social Competence Questionnaire with Communalities, factor loadings of the exploratory factor analysis, standardized factor loading of the confirmatory factor analysis (R^2), skewness and kurtosis value and eigenvalues (*Cont.*)

Item	F1	F2	F3	F4	F5	Co.	Sk	K	R^2
22. I let others get on with work without bothering them	.04 ^a	.12 ^a	.00 ^a	.01 ^a	.54 ^a	.38	1.28	1.32	.61
	.25 ^b	.29 ^b	.33 ^b	.38 ^b	.60 ^b				
	.14 ^c	.55 ^c	.14 ^c	.14 ^c	.09 ^c				
23. I ask permission to speak and I wait my turn to talk	.00 ^a	-.03 ^a	-.05 ^a	-.03 ^a	.82 ^a	.60	.81	.18	.52
	.22 ^b	.12 ^b	.28 ^b	.34 ^b	.77 ^b				
	.09 ^c	.76 ^c	.06 ^c	-.01 ^c	.02 ^c				
24. I follow the rules	-.02 ^a	-.18 ^a	-.11 ^a	.05 ^a	.88 ^a	.72	1.02	.47	.62
	.23 ^b	.17 ^b	.28 ^b	.42 ^b	.84 ^b				
	.09 ^c	.83 ^c	.03 ^c	.01 ^c	.10 ^c				
25. I respect other people's opinions even if I don't share them	.02 ^a	-.03 ^a	.21 ^a	-.03 ^a	.62 ^a	.52	1.38	1.54	.64
	.24 ^b	.22 ^b	.47 ^b	.37 ^b	.70 ^b				
	.11 ^c	.65 ^c	.28 ^c	.02 ^c	.04 ^c				
26. I treat the school's equipment and facilities with respect	-.05 ^a	.07 ^a	.03 ^a	-.00 ^a	.71 ^a	.56	1.72	2.95	.68
	.24 ^b	.27 ^b	.39 ^b	.42 ^b	.74 ^b				
	.10 ^c	.71 ^c	.17 ^c	.09 ^c	.08 ^c				
Eigenvalue	8.37	2.92	2.10	1.59	1.18				
$n = 823$									

Co., communalities; F, factor; K, Kurtosis; Sk, skewness.

^aPattern coefficients in Promin rotation method.

^bStructure coefficients in Promin rotation method.

^cPattern coefficients in Varimax rotation method.

.29 and .72, with social and normative adjustment and social efficacy factors explaining the highest percentage of variance of their items (57%, 55% and 54%, respectively) and the cognitive reappraisal factor which explained the least percentage of variance of its items (44%). Meanwhile, prosocial behaviour explained an average of 50% of variance of its items.

The results of the CFA carried out in the second subsample ($n = 891$) of the first representative sample confirm the factorial structure suggested by the EFA, producing the following fit indexes: $S-B\chi^2 = 870.81$ (289); $p = .000$; NNFI = .98; CFI = .98; SRMR = .05; RMSEA = .048; 90% confidence interval of RMSEA, .044 to .051; ECVI = 1.12. Furthermore, all factor loadings and between-factor correlations were statistically significant.

To confirm the goodness of fit of this model, other alternative models were tested and compared to the model fit of the proposed model. Specifically, this model was compared to another one-dimensional in which the adjustment was clearly worse and inadequate [$S-B\chi^2 = 5487.77$ (299); $p = .000$; NNFI = .80; CFI = .82; SRMR = .12; RMSEA = .14; 90% confidence interval of RMSEA, .140 to .014; ECVI = 6.28), and to a hierarchical model which showed a worse fit compared to the first model, ($S-B\chi^2 = 897.00$ (289); $p = .000$; NNFI = .97; CFI = .97; SRMR = .05; RMSEA = .048; 90% confidence interval of RMSEA, .044 to .051; ECVI = 1.34). These results confirmed that the model with 5 correlated factors was the most parsimonious and offered the best fit.

According to the 5-dimension model, a CFA was carried out in the total second representative sample ($n = 1746$). The model fit was optimum ($S-B\chi^2 = 1492.87$ (289); $p < .001$; NNFI = .99; CFI = .99; SRMR = .04; RMSEA = .049; 90% confidence interval of RMSEA, .046 to .051; ECVI = .93). Moreover, the items showed high factor loadings with low measurement errors (Figure 1), being all the standardized factor loading higher than .45 and statistically significant (Table 1).

With respect to convergent validity, CR, MR, Cronbach's Alpha and McDonald's Omega values were higher than .82 in all the factors. The test-retest Spearman correlations showed significant and positive values which ranged between .35 and .74. Regarding the discriminant validity, all the pair's factors showed an average AVE

higher than their shared variance, showing good discriminant validity (Table 2).

With respect to second aim, first of all it was calculated the prevalence of bullying involvement: 38.2% of students were involved in bullying (19.4% victims, 6.3% bullies, 12.5% bully-victims) and 61.8% were not involved. The Kruskal-Wallis H test revealed statistically significant differences across all social competence dimensions among the different bullying roles (Table 3). The post hoc analyses conducted using the Mann-Whitney U test via pairwise comparison showed that these differences in the prosocial behaviour dimension occurred between victims and all other roles, with victims showing higher values. Non-involved students also differed from bullies and bully-victims, with greater prosocial behaviour. Additionally, higher average values were identified in bully-victims than in bullies. In terms of cognitive reappraisal, bullies and bully-victims differed from non-involved, reporting the least control of this emotion regulation strategy. Statistically significant differences were found in social efficacy among involved and non-involved students, with the last one showing the most positive outlook. Regarding social adjustment, differences appeared also between uninvolved and all other roles, reporting the first greater values. Finally, bullies—followed by bully-victims—were those who showed the least normative adjustment, differing from all other roles. The effect sizes were small.

Discussion

The objectives of this study were two-fold: to analyse the psychometric properties of a social competence multidimensional measure for adolescents and to examine the link between social competence and bullying involvement.

As it was hypothesized, the AMSC-Q has showed to be a valid and reliable questionnaire to assess social competence. The instrument designed includes a number of dimensions that had not been included previously in other questionnaires of social competence, although they are part of its definition, such as social efficacy and the consideration of the norms which guarantee the respect and consideration of others (Dirks et al., 2007; Rose-Krasnor, 1997).

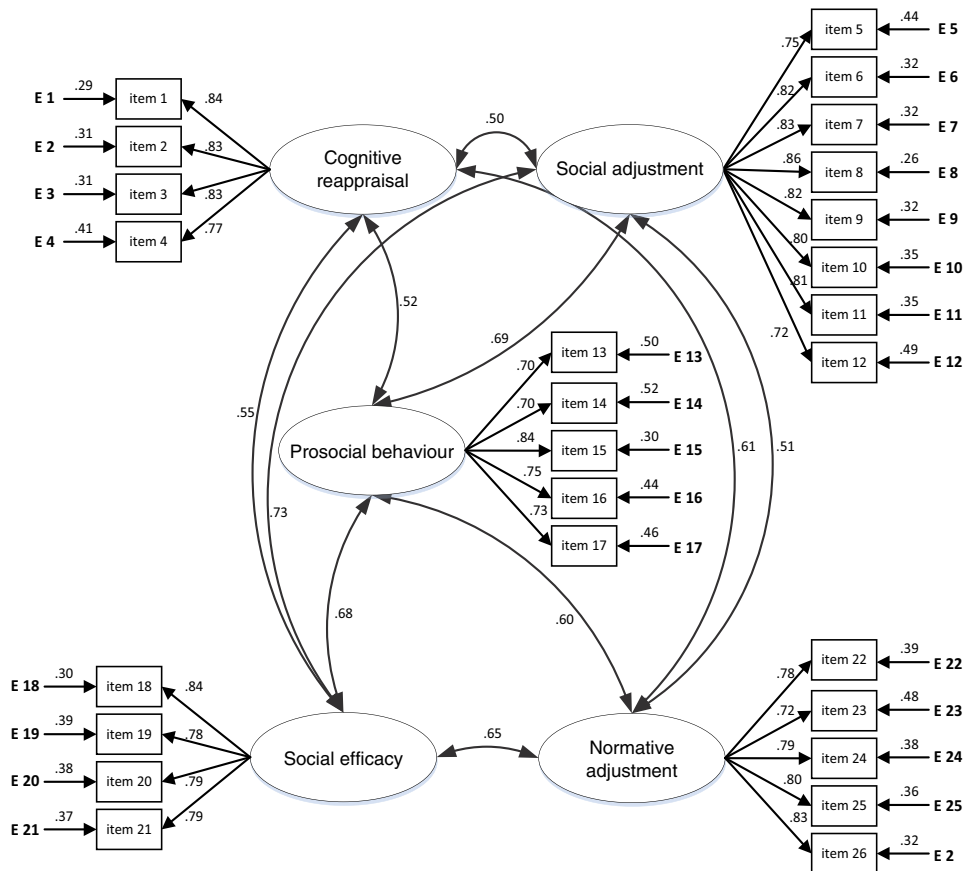


Figure 1. Confirmatory factor analyses standardized coefficients in the items belonging to the Adolescent Multidimensional Social Competence Questionnaire.

Table 2
Reliability and validity analyses of the Adolescent Multidimensional Social Competence Questionnaire

	PB	CR	SE	SA	NA	Total
Composite reliability	.86	.89	.87	.93	.88	—
Maximal reliability (coefficient H)	.86	.88	.87	.93	.89	—
McDonald's omega	.85	.87	.86	.93	.88	.94
Cronbach's alpha	.82	.85	.84	.91	.85	.93
Test-retest correlation	.660 ^a	.357 ^a	.515 ^a	.696 ^a	.748 ^a	.706 ^a
AVE	.55	.66	.64	.64	.61	—
Discriminant validity: shared variance (square of the correlation between 2 factors) and average of AVE of 2 construct	PB-CR (.26 vs. .60) PB-SE (.46 vs. .59)	CR-SE (.30 vs. .65) CR-SA (.25 vs. .65)	SE-SA (.53 vs. .64) SE-NA (.42 vs. .62)	SA-NA (.26 vs. .62) SA-PB (.47 vs. .59)	NA-PB (.36 vs. .58) NA-CR (.37 vs. .63)	

AVE, average variance extracted; CR, cognitive reappraisal; NA, normative adjustment; PB, prosocial behaviour; SA, social adjustment; SE, social efficacy.

^ap < .01.

The results relative to the second aim, showed differences in social competence among bullying roles as it was stated in the second hypothesis. Victims reported the highest level of prosocial behaviour and they perceived themselves as highly adjusted to the norms. In addition, they showed low social adjustment and perceived social efficacy. Previous literature has acknowledged the lack of social adjustment shown by victims (Cerezo et al., 2015; MacEvoy & Leff, 2012). This social vulnerability makes them easily targets of bullies, who tend to seek weak victims less able to defend themselves (Berger & Caravita, 2016). The low perception of social adjustment has also been recognized in bully-victims, who usually are girls and boys that

develop aggressive behaviours in response to the stress generated by the rejection of peers (Romera et al., 2016). In bullies has also been observed a low level of social adjustment, coinciding with previous research (Wang et al., 2012), although other studies attributed them certain social prestige (Olthof et al., 2011; Salmivalli, 2010). This controversy could be explained by the social measure used. In this sense, pure bullies can show not bad results relative to some social measures, such as popularity or sociometric status (Reijntjes et al., 2013), but they do not get a real social acceptance, as it was showed by Sentse et al. (2015). These results are supported by the negative perception of social efficacy showed by the all the involved in bullying,

Table 3

Kruskal-Wallis H test on the mean differences in the social competence dimensions among bullying roles

Variable/bullying role	N	M	χ^2 (GL)	p	Comparison	Mann-Whitney U test	p	r
<i>Prosocial behaviour</i>					NI-B	201818.00	.000	.14
Non-involved	2383	5.57			NI-BV	451628.50	.000	.12
Bullies	239	4.97	104.09 (3)	.000	V-BV	134116.00	.000	.19
Victims	739	5.63			B-V	59848.00	.000	.24
Bully-victims	472	5.15			B-BV	51183.50	.043	.07
<i>Cognitive reappraisal</i>								
Non-involved	2349	4.96						
Bullies	235	4.66	18.78 (3)	.000				
Victims	731	4.83			NI-V	492537.50	.001	.06
Bully-victims	465	4.72			NI-B	242632.00	.002	.06
<i>Social efficacy</i>								
Non-involved	2374	5.50						
Bullies	238	5.15	53.3 (3)	.000	NI-V	794919.00	.000	.07
Victims	747	5.26			NI-BV	465109.00	.000	.10
Bully-victims	471	5.14			NI-B	236160.00	.000	.08
<i>Social adjustment</i>								
Non-involved	2321	5.32						
Bullies	235	5.05	82.91 (3)	.000	NI-BV	442247.50	.000	.10
Victims	717	4.9			NI-B	234427.00	.000	.07
Bully-victims	459	4.98			NI-V	673159.00	.000	.14
<i>Normative adjustment</i>								
Non-involved	2349	5.73			NI-BV	385809.00	.000	.18
Bullies	235	4.89	162.08 (3)	.000	NI-B	177329.00	.000	.17
Victims	731	5.68			B-V	56738.50	.000	.25
Bully-victims	465	5.13			B-BV	123403.50	.000	.22
					V-BV	49160.00	.037	.07

B, bullies; BV, bully-victims; NI, non-involved; V, victims.

which indicates that they are aware of their difficulty to establish positive relationships, being this problem a probable risk factor of involvement in bullying (McQuade, Achufusi, Shoulberg, & Murray-Close, 2014). Bystanders stood out above the rest not only in terms of good social adjustment, as well as for displaying positive perceived social efficacy, but also in their level of social and emotional skills (emotion regulation and prosocial behaviour) and normative adjustment. Regarding these last dimensions, findings seem to alert that prosocial behaviour and adjustment to the rules do not appear to protect the victim from being made the scapegoat for the bully's machiavellian actions (Berger & Caravita, 2016). Factors associated with implicit conventions produced within a peer group could explain that antisocial behaviours are rewarded through recognition by others, whereas the prosocial behaviour and adherence to the rules of victims are punished with the isolation by their peer group (Salmivalli, 2010).

In conclusion, results have shown the AMSC-Q to be a short, valid and reliable multidimensional measure which, by assessing social efficacy, social and normative adjustment, prosocial behaviour and cognitive reappraisal strategy, provides with differential profiles of victims, bullies, bully-victims and non-involved students.

A limitation of this study is related to the questionnaire's validity, as it has only been used on a Spanish sample. There is hence a need to demonstrate its psychometric properties in other cultural contexts. Moreover, the statistical analysis used to examine the relationship between bullying involvement and social competence, does not

let to establish causal relationships. Therefore, future lines of research should attempt to design a longitudinal study which may explain the causal relationship between social competence and involvement in this violence-based phenomenon.

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Conflict of interests

The authors have no conflict of interests to declare.

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