

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 twofold: to validate the *Adolescent Multidimensional Social Competence Questionnaire (AMSC-Q)* and to examine the social competence of those involved in bullying. The representative sample was composed of four thousand and forty seven (4047) Andalusian secondary school students (48.2% girls). Two measures were used: the *AMSC-Q* and the *European Bullying Intervention Project Questionnaire (EBIPQ)*. The *AMSC-Q* measure yielding a five-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.

Keywords: social competence, psychometric properties, validity, reliability, bullying, adolescence.

Resumen

Los objetivos de este trabajo fueron dos: validar el *Cuestionario Multidimensional de Competencia Social para Adolescentes (AMSC-Q)* y examinar la competencia social de los distintos implicados en acoso escolar. La muestra representativa estuvo compuesta por cuatro mil cuarenta y siete (4047) escolares andaluces de educación secundaria (48.2% niñas). Se utilizaron dos instrumentos: *AMSC-Q* y el *European Bullying Intervention Project Questionnaire (EBIPQ)*. El *AMSC-Q* reflejó una estructura de cinco 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 menos desarrollada reevaluación cognitiva, 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.

Palabras clave: competencia social, propiedades psicométricas, validez, fiabilidad, acoso escolar, adolescencia.

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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 dimensions: 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. Specifically, 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 (S-EFF)*; Connolly, 1989) measures social self-efficacy, defined as self-expectations of one's ability to perform specific behaviours underlying interpersonal relationships. The *Actitudes y Estrategias Cognitivas Sociales* scale (AECS; Moraleda, 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. *Social-Emotional Learning Scale* (SELS; 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, specially 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 favor 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, & Areense, 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 (Elipe, 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 adolescence, 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 hypothesis were two:

1. The designed measure will yield acceptable psychometric properties with the five 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 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

Cuestionario Multidimensional de Competencia Social para Adolescentes (*Adolescent Multidimensional Social Competence Questionnaire; AMSC-Q*). This instrument 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 (ERQ)*; Gómez-Ortiz et al., 2016).

European Bullying Intervention Project Questionnaire (EBIPQ); Ortega-Ruiz, Del Rey, & Casas, 2016). This self-report comprises 14 Likert-type items, each with five 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 two 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”). The internal consistency of each dimension, assessed with McDonald’s Omega, was adequate in our sample ($\Omega_{aggression} = .86$; $\Omega_{victimization} = .86$; $\Omega_{total} = .89$).

Procedure

Prior to the data collection, informed consent was obtained from students' families. Students were informed of the anonymous, confidential and voluntary nature of their participation. The concept of school bullying was explained to the students, according to three defining characteristics (Olweus, 1999). The average completion time of the questionnaire varied between 20 and 30 minutes.

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 does not need approval of an ethics committee.

Data analysis

A lack of randomness in missing data, MNAR 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 (Bennet, 2001). N was specified in all analyses.

In order to proceed with the validation of the questionnaire, the first representative sample was divided into two 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 EFA was performed using the Factor 9.3 statistical software, adopting the Unweighted Least-Squares (ULS) 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 CFA with different numbers of factors and previous theoretical considerations (Lorenzo-Seva, Timmerman, & Kiers, 2011).

To confirm the factorial structure, a CFA using the Diagonally Weighted Least Squares (DWLS) 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 test ($S-B\chi^2$) -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 & Whittaker, 2006) and their statistical significance (the t-student 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 analyze 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 equal or lower than 1 (once or twice) 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 Kaiser-Meyer-Olkin (KMO) 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 five common factors. The total explained variance with a five-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 (see 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 four 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 eight 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 eight items referring to offering different types of help to peers. The fourth factor, *social efficacy*, presented an explained variance of 6.12%. It comprised four 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 five items corresponding to adherence to general and specific rules of school cohabitation. With respect to communalities, these ranged between .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.

Table 1

Items and Dimensions of the AMSC-Q with Communalities, Factor Loadings of the EFA, Standardized Factor Loading of the CFA (R²), 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/ <i>Cuando me enfrento a una situación estresante, intento pensar en ella de un modo que me ayude a mantener la calma</i> | .35* .47** .41° | .06* .29** .27° | .08* .29** .16° | .06* .36** .11° | .17* .36** .11° | .29 | .90 | .10 | .71 |
| 2. When I want to increase my positive emotions, I change how I think about the situation/ <i>Cuando quiero incrementar mis emociones positivas, cambio mi manera de pensar sobre la situación</i> | .77* .73** .73° | -.02* .17** .07° | -.00* .12** .03° | -.07* .22** .02° | -.02* .17** -.02° | .55 | .47 | .45 | .69 |
| 3. I control my emotions by changing how I think about the situation I find myself in/ <i>Controlo mis emociones cambiando mi forma de pensar sobre la situación en la que me encuentro</i> | .78* .74** .75° | -.05* .13** 0.8° | -.04* .08** -.00° | -.01* .23** -.01° | -.01* .17** .00° | .57 | .42 | .41 | .69 |
| 4. When I want to reduce my negative emotions, I change how I think about the situation/ <i>Cuando quiero reducir mis emociones negativas, cambio mi manera de pensar sobre la situación</i> | .60* .61** .60° | -.02* .18** .09° | -.03* .11** .02° | .08* .28** .03° | -.01* .18** .09° | .38 | .57 | .41 | .59 |
| 5. My classmates and friends come to me when they have a problem/ <i>Mis compañeros/as o amigos/as acuden a mi cuando tienen algún problema</i> | .02* .18** .11° | .57* .63** .04° | .26* .49** .41° | -.12* .32** .51° | -.05* .15** .08° | .45 | .91 | .55 | .56 |
| 6. My classmates and friends help me when I need it/ <i>Mis compañeros/as o amigos/as me ayudan cuando los necesito</i> | .06* .25** .17° | .69* .71** .07° | .16* .48** .36° | -.12* .38** .60° | -.01* .19** .11° | .54 | 1.30 | 1.49 | .68 |
| 7. My classmates care about me/ <i>Mis compañeros se interesan por mí</i> | .00* .20** .12° | .82* .80** .02° | .10* .47** .34° | -.10* .41** .70° | -.07* .14** .16° | .66 | .98 | .60 | .68 |
| 8. My classmates feel comfortable working with me/ <i>Mis compañeros se sienten a gusto trabajando conmigo</i> | -.00* .25** .15° | .74* .78** .19° | -.02* .43** .25° | .04* .54** .66° | .09* .30** .26° | .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/ <i>Mis compañeros/as o amigos/as cuentan conmigo cuando hay que organizar alguna actividad</i> | -.06* .17** .08° | .82* .80** .08° | -.00* .41** .26° | .00* .47** .71° | .00* .19** .23° | .64 | 1.25 | 1.08 | .68 |
| 10. I join in with the activities that others take part in/ <i>Me uno a las actividades que realizan los demás</i> | -.00* .25** .15° | .55* .69** .19° | .04* .43** .27° | .16* .55** .53° | .05* .30** .30° | .50 | 1.14 | 1.04 | .65 |
| 11. My classmates like me/ <i>Caigo bien entre mis compañeros/as</i> | -.02* .23** .14° | .76* .77** .11° | -.15* .32** .15° | .15* .55** .67° | .01* .21** .34° | .63 | 1.34 | 1.92 | .65 |
| 12. I feel like I have friends/ <i>Siento que tengo amigos</i> | -.02* .19** | .77* .71** | -.12* .30** | .00* .43** | .04* .18** | .52 | 2.17 | 4.72 | .51 |

| | .11° | .10° | .15° | .65° | .22° | | | | |
|---|-------|-------|-------|-------|-------|-----|------|------|-----|
| 13. If a classmate is really overwhelmed and doesn't have time to finish his/her work, I lend a helping hand/ <i>Si un compañero/a está muy agobiado y no le da tiempo a terminar el trabajo, lo ayudo</i> | .01* | -.04* | .57* | .00* | .24* | .49 | 1.14 | .69 | .50 |
| | .21** | .33** | .66** | .37** | .50** | | | | |
| | .09° | .39° | .56° | .07° | .07° | | | | |
| 14. I react to defend a classmate who gets made fun of or picked on/ <i>Reacciono para defender a un compañero/a del que hacen bromas o se meten con él/ella</i> | .03* | .10* | .69* | .00* | -.10* | .49 | 1.08 | .74 | .48 |
| | .12** | .44** | .69** | .30** | .22** | | | | |
| | .03° | .10° | .66° | .19° | .08° | | | | |
| 15. When a classmate or friend is sad, I console him/her to make them feel better/ <i>Cuando un compañero/a o amigo/a está triste, lo consuelo para que se sienta mejor</i> | -.00* | .07* | .75* | -.09* | .00* | .58 | 1.87 | 3.78 | .70 |
| | .15** | .42** | .76** | .29** | .32** | | | | |
| | .05° | .19° | .71° | .16° | .02° | | | | |
| 16. When I see that a classmate feels left out and alone, I help him/her fit in to my group of friends/ <i>Si veo que un compañero/a se siente solo, lo ayudo a integrarse a mi grupo de amigos/as</i> | -.04* | -.17* | .71* | .10* | .08* | .50 | .82 | .22 | .56 |
| | .12** | .27** | .69** | .34** | .40** | | | | |
| | .02° | .29° | .64° | -.01° | .11° | | | | |
| 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/ <i>Ayudo a los compañeros/as que tienen algún problema físico (pierna escayolada, silla de ruedas, etc.) en su día a día</i> | .04* | -.00* | .60* | .08* | .04* | .45 | .91 | .36 | .54 |
| | .22** | .39** | .66** | .38** | .37** | | | | |
| | .13° | .24° | .58° | .11° | .13° | | | | |
| 18. In relationships with friends and classmates, I feel that I do things well (I feel effective)/ <i>En las relaciones con mis amigos/as y compañeros de clase, siento que hago las cosas bien (me siento eficaz)</i> | .10* | .24* | -.04* | .55* | -.10* | .50 | .94 | .90 | .70 |
| | .35** | .56** | .30** | .66** | .25** | | | | |
| | .28° | .13° | .14° | .33° | .52° | | | | |
| 19. In relationships with my teachers, I feel that I do things well (I feel effective)/ <i>En las relaciones con mis profesores/as, siento que hago las cosas bien (me siento eficaz)</i> | -.03* | -.10* | .04* | .76* | .12* | .55 | .73 | .02 | .61 |
| | .27** | .36** | .29** | .73** | .45** | | | | |
| | .16° | .37° | .10° | .09° | .61° | | | | |
| 20. In relationships with my family, I feel that I do things well (I feel effective)/ <i>En las relaciones con mis familiares, siento que hago las cosas bien (me siento eficaz)</i> | -.05* | -.03* | -.00* | .83* | -.06* | .58 | 1.18 | 1.04 | .62 |
| | .25** | .44** | .30** | .76** | .33** | | | | |
| | .15° | .23° | .14° | .16° | .67° | | | | |
| 21. In relationships with other adult figures and the elderly, I feel that I do things well (I feel effective)/ <i>En las relaciones con otros adultos o personas mayores, siento que hago las cosas bien (me siento eficaz)</i> | .04* | -.01* | .13* | .68* | -.06* | .53 | 1.17 | 1.47 | .63 |
| | .32** | .47** | .41** | .72** | .36** | | | | |
| | .23° | .23° | .26° | .17° | .57° | | | | |
| 22. I let others get on with work without bothering them/ <i>Dejo trabajar a los demás sin molestarlos</i> | .04* | .12* | .00* | .01* | .54* | .38 | 1.28 | 1.32 | .61 |
| | .25** | .29** | .33** | .38** | .60** | | | | |
| | .14° | .55° | .14° | .14° | .09° | | | | |
| 23. I ask permission to speak and I wait my turn to talk/ <i>Pido la palabra</i> | .00* | -.03* | -.05* | -.03* | .82** | .60 | .81 | .18 | .52 |
| | .22** | .12** | .28** | .34** | .77** | | | | |

| | | | | | | | | | |
|--|-------|-------|-------|-------|-------|-----|------|------|-----|
| <i>y espero turno para hablar</i> | .09° | .76° | .06° | -.01° | .02° | | | | |
| 24. I follow the rules/ <i>Cumplo las normas</i> | -.02* | -.18* | -.11* | .05* | .88* | .72 | 1.02 | .47 | .62 |
| | .23** | .17** | .28** | .42** | .84** | | | | |
| | .09° | .83° | .03° | .01° | .10° | | | | |
| 25. I respect other people's opinions even if I don't share them/ <i>Respeto la opinión de los demás aunque no la comparto</i> | .02* | -.03* | .21* | -.03* | .62* | .52 | 1.38 | 1.54 | .64 |
| | .24** | .22** | .47** | .37** | .70** | | | | |
| | .11° | .65° | .28° | .02° | .04° | | | | |
| 26. I treat the school's equipment and facilities with respect/ <i>Cuido el material y las instalaciones del centro</i> | -.05* | .07* | .03* | -.00* | .71* | .56 | 1.72 | 2.95 | .68 |
| | .24** | .27** | .39** | .42** | .74** | | | | |
| | .10° | .71° | .17° | .09° | .08° | | | | |
| Eigenvalue | 8.37 | 2.92 | 2.10 | 1.59 | 1.18 | | | | |
| <i>n</i> = 823 | | | | | | | | | |

Note. Co. = communalities; Sk = Skewness; K = Kurtosis. * = Pattern coefficients in promin rotation method; ** = Structure coefficients in promin rotation method; ° = Pattern coefficients in varimax rotation method.

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 - .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 = .14 - .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; ECVI = 1.34). These results confirmed that the model with five correlated factors was the most parsimonious and offered the best fit.

According to the five-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 - .051; ECVI = .93). Moreover, the items showed high factor loadings with low measurement errors (see Figure 1), being all the standardized factor loading higher than .45 and statistically significant (see Table 1).

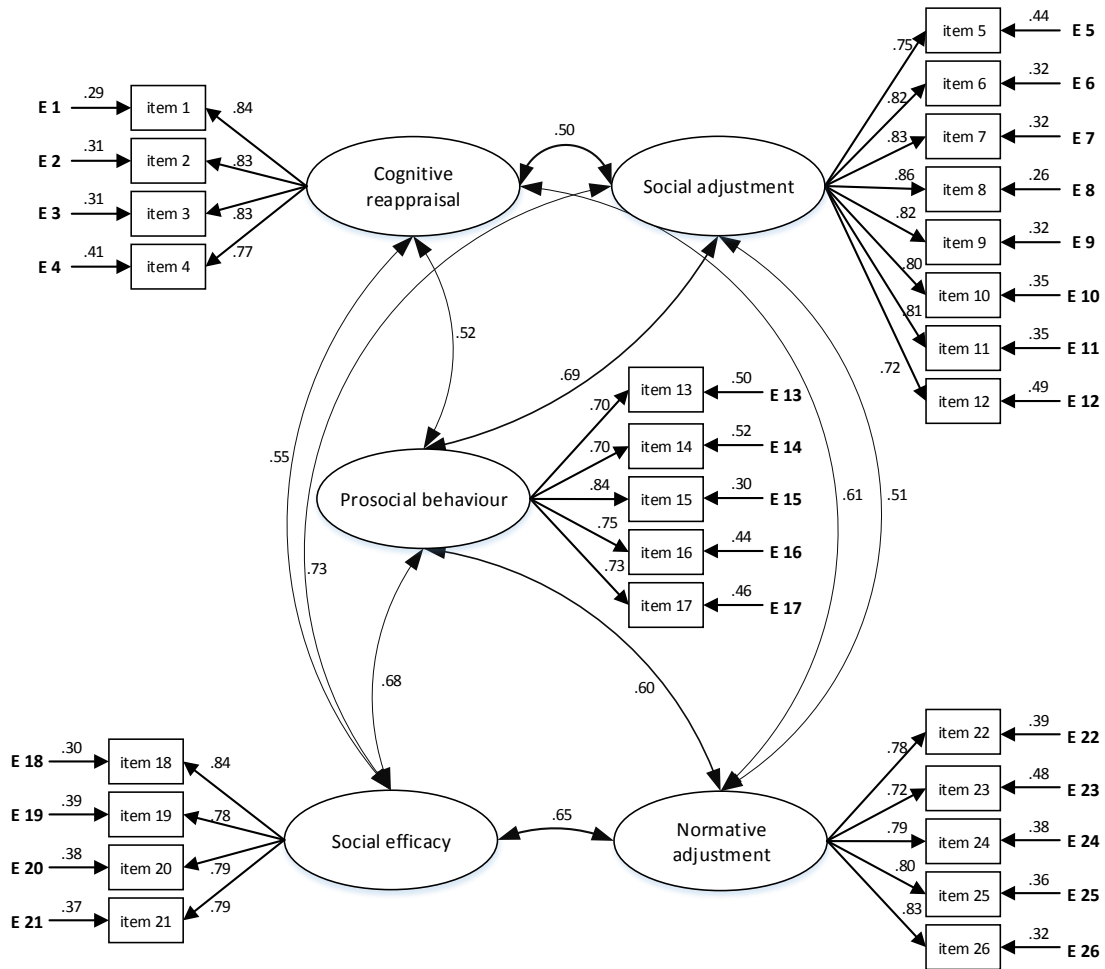


Figure 1. CFA standardized coefficients in the items belonging to the AMSC-Q questionnaire.

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 pairs factors showed an average AVE higher than their shared variance, showing a good discriminant validity (see Table 2).

Table 2

Reliability and Validity Analyses of the AMSC-Q

| | PB | CR | SE | SA | NA | Total |
|---|---------------|---------------|---------------|---------------|---------------|--------|
| CR | .86 | .89 | .87 | .93 | .88 | - |
| MR (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** | .357** | .515** | .696** | .748** | .706** |
| AVE | .55 | .66 | .64 | .64 | .61 | - |
| Discriminant validity: | PB-CR | CR-SE | SE-SA | SA-NA | NA-PB | |
| shared variance (square of the correlation between two factors) and average of AVE of two construct | (.26 vs. .60) | (.30 vs. .65) | (.53 vs. .64) | (.26 vs. .62) | (.36 vs. .58) | |
| | PB-SE | CR-SA | SE-NA | SA-PB | NA-CR | |
| | (.46 vs. .59) | (.25 vs. .65) | (.42 vs. .62) | (.47 vs. .59) | (.37 vs. .63) | |

Note. CR = Composite reliability; MR = Maximal reliability; AVE = Average variance extracted; PB = prosocial behaviour; CR = cognitive reappraisal; SE = social efficacy; SA = social adjustment; NA = normative adjustment. ** $p < .01$.

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 (see Table 3). The post hoc analyses conducted using the Mann-Whitney U test via pairwise comparison showed that these differences in the prosocial 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.

Table 3

Kruskal-Wallis H Test on the Mean Differences in the Social Competence Dimensions Among Bullying Roles

| Variable/ Bullying role | <i>N</i> | <i>M</i> | χ^2 (gl) | <i>p</i> | Comparison | Mann-Whitney U test | <i>p</i> | <i>r</i> |
|------------------------------|----------|----------|---------------|----------|------------|------------------------|----------|----------|
| Prosocial behaviour | | | | | | | | |
| Non-involved | 2383 | 5.57 | | | NI-B | 201818.00 | .000 | .14 |
| Bullies | 239 | 4.97 | 104.09(3) | .000 | NI-BV | 451628.50 | .000 | .12 |
| Victims | 739 | 5.63 | | | V-BV | 134116.00 | .000 | .19 |
| Bully-victims | 472 | 5.15 | | | B-V | 59848.00 | .000 | .24 |
| | | | | | B-BV | 51183.50 | .043 | .07 |
| Cognitive reappraisal | | | | | | | | |
| 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 |
| Social efficacy | | | | | | | | |
| 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 |
| Social adjustment | | | | | | | | |
| 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 |
| Normative adjustment | | | | | | | | |
| 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 |

Note. NI = non-involved; B = bullies; V = victims; BV = bully-victims; M = Mean.

Discussion

The objectives of this study were twofold: 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 another 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).

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, 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.

References

- Anderson-Butcher, D., Amorose, A. J., Lower, L. M., Riley, A., Gibson, A., & Ruch, D. (2014). The case for the perceived social competence scale II. *Research on Social Work Practice, 9*, 1-10. doi: 10.1177/1049731514557362.
- Bennett, D. A. (2001). How can I deal with missing data in my study? *Australian and New Zealand Journal of Public Health, 25*, 464-469. doi: 10.1111/j.1467-842X.2001.tb00294.x.
- Berger, C., & Caravita, C. S. (2016). Why do early adolescents bully? Exploring the influence of prestige norms on social and psychological motives to bully. *Journal of Adolescence, 46*, 45-56. doi:10.1016/j.adolescence.2015.10.020.
- Bryant, F. B., & Satorra, A. (2012). Principles and practice of scaled difference Chi-Square testing. *Structural Equation Modeling: A Multidisciplinary Journal, 19*, 372-398. doi: 10.1080/10705511.2012.687671.
- Byrne, B. (2014). *Structural equation modeling with Lisrel, Prelis, and Simplis: Basic concepts, applications, and programming (multivariate applications series)* (Reprint Edition). New Jersey: Psychology Press.
- Cea D'Ancona, M. A. (2004). *Análisis multivariable. Teoría y práctica en la investigación social*. Madrid: Síntesis.
- Cerezo, F., Sánchez, C., Ruiz, C., & Areñse, J. J. (2015). Adolescents and preadolescents' roles on bullying, and its relation with social climate and parenting Styles. *Revista de Psicodidáctica, 20*, 139-155. doi: 10.1387/RevPsicodidact.11097.
- Connolly, J. A. (1989). Social self-efficacy in adolescence: Relations with self-concept, social adjustment, and mental health. *Canadian Journal of Behavioural Science, 21*, 258-269. doi: 10.1037/h0079809.
- Coryn, C. L. S., Spybrook, J. K., Evergreen, S. D. H., & Blinkiewicz, M. (2009). Development and evaluation of the Social-Emotional Learning Scale. *Journal of Psychoeducational Assessment, 27*, 283-295. doi: 10.1177/0734282908328619.
- Dirks, M. A., Treat, T. A., & Weersing, V. R. (2007). Integrating theoretical, measurement, and intervention models of youth social competence. *Clinical Psychology Review, 27*, 327-347. doi: 10.1016/j.cpr.2006.11.002.
- Elipe, P., Ortega, R., Hunter, S. C., & Del Rey, R. (2012). Perceived emotional intelligence and involvement in several kinds of bullying. *Behavioral Psychology-Psicología Conductual, 20*, 169-181.
- Flora, D. B., & Curran, P. J. (2004). An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. *Psychological Methods, 9*, 466-491. doi: 10.1037/1082-989X.9.4.466.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*, 39-50. doi: 10.2307/3151312.
- Fox, C. L., & Boulton, M. J. (2005). The social skills problems of victims of bullying: Self, peer and teacher perceptions. *British Journal of Educational Psychology, 75*, 313-328. doi: 10.1348/000709905X25517.
- Geldhof, G. J., Preacher, K. J., & Zyphur, M. J. (2014). Reliability estimation in a multilevel confirmatory factor analysis framework. *Psychological Methods, 19*, 72-91. doi: 10.1037/a0032138.

- Gómez-Ortiz, O., Romera, E. M., Ortega-Ruiz, R., Cabello, R., & Fernández-Berrocal, P. (2016). Analysis of emotion regulation in Spanish adolescents: Validation of the Emotion Regulation Questionnaire. *Frontiers in Psychology, 6*, 1-11. doi: 10.3389/fpsyg.2015.01959.
- Harter, S. (2012). *Self-perception profile for adolescents: Manual and questionnaires*. Unpublished manuscript, University of Denver, Colorado, USA.
- Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.
- Junttila, N., Voeten, M., Kaukiainen, A., & Vauras, M. (2006). Multisource assessment of children's social competence. *Educational and Psychological Measurement, 66*, 874-895. doi: 10.1080/10705519909540118.
- Lorenzo-Seva, U., Timmerman, M. E., & Kiers, H. A. L. (2011). The Hull method for selecting the number of common factors. *Multivariate Behavioral Research, 46*, 340-364. doi: 10.1080/00273171.2011.564527.
- MacEvoy, J. P., & Leff, S. S. (2012). Children's sympathy for peers who are the targets of peer aggression. *Journal of Abnormal Child Psychology, 40*, 137-148. doi: 10.1007/s10802-012-9636-5.
- McQuade, J. D., Achufusi, A. K., Shoulberg, E. K., & Murray-Close, D. (2014). Biased self-perceptions of social competence and engagement in physical and relational aggression: The moderating role of peer status and sex. *Aggressive Behavior, 40*, 512-525. doi: 10.1002/ab.21552.
- Moraleda, M., González, A., & García-Gallo, J. (1998). *AECS. Actitudes y Estrategias Cognitivas Sociales*. Madrid: TEA Ediciones.
- Olthof, T., Goossens, F. A., Vermande, M. M., Aleva, E. A., & van der Meulen, M. (2011). Bullying as strategic behavior: Relations with desired and acquired dominance in the peer group. *Journal of School Psychology, 49*, 339-359. doi: 10.1016/j.jsp.2011.03.003.
- Olweus, D. (1999). Sweden. In P. K. Smith, Y. Morita, J. Jurgen-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross national perspective* (pp. 7-27). Londres: Routledge.
- Ortega, R., Del Rey, R., & Sánchez, V. (2011). *Nuevas dimensiones de la convivencia escolar: Ciberconducta y relaciones en la red*. Ministerio de Ciencia e Innovación.
- Ortega-Ruiz, R., Del Rey, R. & Casas, J. A. (2016). Evaluar el bullying y el cyberbullying validación española del EBIP-Q y del ECIP-Q. *Psicología Educativa, 22*, 71-79. doi:10.1016/j.pse.2016.01.004.
- Padilla-Walker, L. M., Fraser, A. M., Black, B. B., & Bean, R. A. (2015). Associations between friendship, sympathy, and prosocial behavior toward friends. *Journal of Research on Adolescence, 25*, 28-35. doi: 10.1111/jora.12108.
- Reijntjes, A., Vermande, M., Olthof, T., Goossens, F. A., van de Schoot, R., Aleva, L., & van der Meulen, M. (2013). Costs and benefits of bullying in the context of the peer group: A three wave longitudinal analysis. *Journal of Abnormal Child Psychology, 41*, 1217-1229. doi: 10.1007/s10802-013-9759-3.
- Romera, E. M., Cano, J. J., García-Fernández, C. M., & Ortega-Ruiz, R. (2016). Cyberbullying: Social competence, motivation and peer relationships. *Comunicar, 48*, 1-12. doi: 10.3916/C48-2016-07.

- Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development, 6*, 111-135. doi: 10.1111/j.1467-9507.1997.tb00097.x.
- Salmivalli, C. (2010). Bullying and the peer group: A review. *Aggression and Violent Behavior, 15*, 112-120. doi:10.1016/j.avb.2009.08.007.
- Santos, A. J., Peceguina, I., Daniel, J. R., Shin, N., & Vaughn, B. E. (2013). Social competence in preschool children: Replication of results and clarification of a hierarchical measurement model. *Social Development, 22*, 163-179. doi: 10.1111/sode.12007.
- Sentse, M., Kretschmer, T., & Salmivalli, C. (2015). The longitudinal interplay between bullying, victimization, and social status: Age-related and gender differences. *Social Development, 24*, 659-677. doi: 10.1111/sode.12115.
- Wang, H., Zhou, X., Lu, C., Wu, J., Deng, X., Hong, L., ... He, Y. (2012). Adolescent bullying involvement and psychosocial aspects of family and school life: A cross-sectional study from Guangdong province in China. *Plos One, 7*, 1-10. doi: 10.1371/journal.pone.0038619.
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research a content analysis and recommendations for best practices. *The Counseling Psychologist, 34*, 806-838. doi: 10.1177/0011000006288127.
- Zhang, F., You, Z., Fan, C., Gao, C., Cohen, R., Hsueh, Y., & Zhou, Z. (2014). Friendship quality, social preference, proximity prestige, and self-perceived social competence: Interactive influences on children's loneliness. *Journal of School Psychology, 52*, 511-526. doi: 10.1016/j.jsp.2014.06.001.

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