



Original

## Social and Emotional Competencies in Adolescents Involved in Different Bullying and Cyberbullying Roles

Izabela Zych\*, María Beltrán-Catalán, Rosario Ortega-Ruiz, and Vicente J. Llorent

Universidad de Córdoba, Spain

### ARTICLE INFO

*Article history:*

Received 2 June 2017

Accepted 6 December 2017

Available online xxx

*Keywords:*

Social and emotional competencies

Bullying

Cyberbullying

Secondary education

### ABSTRACT

Bullying and cyberbullying are extremely damaging violent behaviors present in schools. A promising research line focuses on social and emotional competencies in relation to bullying and cyberbullying. The aim of this study was to describe social and emotional competencies in Spanish adolescents in relation to age and gender and to find out if the level of social and emotional competencies was related to different bullying and cyberbullying roles. This study was conducted with a representative sample of 2139 adolescents enrolled in 22 schools. Social and emotional competencies differed by gender and age. Bullying and cyberbullying perpetrators and bully-victims scored low in social and emotional competencies. There was no significant difference between victims and uninvolved students. Controlling for age and gender, low social awareness and prosocial behavior were independently related to bullying perpetration and being a bully-victim. Low responsible decision making was related to being a bully-victim and being a cyberbully-cybervictim. These findings suggest that social and emotional competencies can protect adolescents against bullying and cyberbullying but future studies are needed to establish possible causal relationships between these competencies, bullying and cyberbullying.

© 2017 Universidad de País Vasco. Published by Elsevier España, S.L.U. All rights reserved.

## Competencias sociales y emocionales de adolescentes involucrados en diferentes roles de bullying y cyberbullying

### RESUMEN

El *bullying* y el *cyberbullying* son comportamientos violentos extremadamente dañinos, presentes en las escuelas. Una línea de investigación prometedora se centra en las competencias sociales y emocionales en relación con el *bullying* y el *cyberbullying*. El objetivo de este estudio es describir las competencias sociales y emocionales de adolescentes españoles en relación con la edad y el sexo, y comprobar si el nivel de competencias sociales y emocionales se relaciona con diferentes roles de *bullying* y de *cyberbullying*. Este estudio se lleva a cabo con una muestra representativa de 2139 adolescentes matriculados en 22 escuelas. Se han encontrado diferencias en competencias sociales y emocionales por sexo y edad. Los agresores y agresores victimizados de *bullying* y *cyberbullying* puntúan bajo en competencias sociales y emocionales. No hay diferencias significativas entre las víctimas y los adolescentes no involucrados. Controlando el sexo y la edad, baja conciencia social y comportamiento prosocial están independientemente relacionados con ser agresor de *bullying* y con el rol de agresor victimizado. Puntuaciones bajas en la toma de decisiones responsables están relacionadas con ser agresor victimizado y ciberagresor victimizado. Estos resultados sugieren que las competencias sociales y emocionales pueden proteger a los adolescentes del *bullying* y del *cyberbullying*, pero estudios futuros son necesarios para establecer posibles relaciones causales entre estas competencias, el *bullying* y el *cyberbullying*.

© 2017 Universidad de País Vasco. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.

*Palabras clave:*

Competencias sociales y emocionales

Bullying

Cyberbullying

Educación secundaria

\* Corresponding author.

E-mail address: izych@uco.es (I. Zych).

## Introduction

Bullying is a frequent and long-term aggressive unjustified behavior in which some students intentionally attack other students (Smith & Brain, 2000). It is a complex social and psychological phenomenon with an imbalance of power between students who become perpetrators and their weaker peers who become victims (Ortega, 2010). Bullying is a serious problem in different geographic areas, settings and cultures (Smith, Kwak, & Toda, 2016) and the number of studies on the topic is increasing very quickly (Zych, Ortega-Ruiz, & Del Rey, 2015a). Nevertheless, there are still many gaps in knowledge that need to be addressed. Among them, one promising research approach focuses on variables that could potentially protect children and adolescents from being involved in bullying. Studies on these variables are still in their early stages.

Information and communication technology became a new context in which adolescents initiate and maintain interpersonal relationships with their peers. On the one hand, desirable use of technology is an opportunity to learn and relate to each other in a positive way (Ruiz, Del Rey, & Sánchez, 2012). On the other hand, electronic devices and the internet also became a context for a new form of aggressive behavior called cyberbullying. Cyberbullying is defined as bullying perpetrated frequently and repeatedly over time through electronic devices by students or groups on peers who cannot defend themselves (Smith et al., 2008).

Knowledge about variables that could potentially explain bullying and cyberbullying is still limited. One promising research approach focuses on association between bullying and social and emotional competencies (Zych, Farrington, Llorent, & Tfofi, 2017). After a series of studies conducted by Mayer and Salovey (1997) on emotional intelligence defined as the ability to perceive, understand, use and manage emotions in oneself and others, studies on a broader concept of social and emotional competencies emerged. Social and Emotional Learning (SEL) approach focused on competencies for life (Elbertson, Brackett, & Weissberg, 2009) including skills such as self-awareness, self-management, social awareness, relationship skills and responsible decision making (CASEL, 2012). Emotional competencies are understood as skills applied in a positive way to real life situations according to the needs of each moment (Saarni, 1999). Even though SEL core competencies for life are promoted in many programs (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011), they are rarely measured and described in representative samples and gathered together in the same study.

There are still gaps in knowledge regarding relationships between social and emotional competencies, gender and age. A study conducted by Zych, Ortega-Ruiz, Muñoz-Morales, and Llorent (2018b) with university students showed that women scored higher than men in social awareness and relationships skills. There were no significant gender differences in self-awareness, self-management and motivation and decision making. Fernández-Berrocal, Cabello, Castillo, and Extremera (2012) reported that adult women scored higher than men in most of the scales of emotional intelligence but this relationship disappeared when controlling for age. A meta-analysis of 47 empirical studies on emotional intelligence in males and females (Joseph & Newman, 2010) showed that females scored higher than males in performance-based emotional intelligence tests. No gender differences were found in self-reported emotional intelligence and mixed (both self-reported and performance) measures. Thus, describing gender differences in representative samples is still necessary.

On the one hand, Salguero, Fernandez-Berrocal, Balluerka, and Aritzeta (2010) found positive small relationships between perceived emotional intelligence and age in adolescents aged between 12 and 17. On the other hand, literature reviews show that adolescence is a period in which self-perception and self-esteem

tend to decrease (Robins & Trzesniewski, 2005). A longitudinal study conducted by Cole et al. (2001) found that positive self-perception in domains such as academic, appearance and social increased with age in elementary school, decreased in early adolescence and later increased again. The number of studies on this topic is still low and findings regarding age and gender are inconsistent, possibly because social and emotional competencies were rarely studied as a comprehensive construct. Thus, the first objective of this study was to describe these competencies in adolescent boys and girls and the association between age and the level of social and emotional competencies. It was hypothesized that most of these competencies are higher in girls. Given the nature of these competencies (self-perception in social and emotional domains) relationship with age is expected to be negative.

Research on relationships between bullying, cyberbullying and social and emotional competencies is still in its relatively early stages (see a review by Zych et al., 2017). There is an open debate in the field on whether perpetrators are socially incompetent or socially skillful manipulators. On the one hand, Sutton, Smith, and Swettenham (1999a) suggested that bullies have good understanding of social situations and cues and are skillful in manipulating other children. In an empirical study, they found that perpetrators were skillful in understanding emotions and thoughts in a set of stories (Sutton, Smith, & Swettenham, 1999b). On the other hand, Crick and Dodge (1999) argued that, as a whole, bullying is a socially incompetent behavior. Arsenio and Lemerise (2001) added that when social competence is defined as skills used in a positive way and prosocial relationships, bullies are considered low in social competence. This definition is also used in the current study. With a similar approach, Romera, Cano, García-Fernández, and Ortega-Ruiz (2016) found that self-perceived social competence was lower in cyberbullies and cyberbully-cyberbullies when compared to victims and uninvolved students. Gómez-Ortiz, Romera, and Ortega-Ruiz (2017) reported that victims, bullies and bully-victims showed lower social adjustment and social efficacy than uninvolved students, and that bullies and bully-victims showed lower prosocial behavior in comparison to uninvolved students.

A meta-analysis on empathy and bullying conducted by Zych, Tfofi, and Farrington (2016) showed that perpetrators of bullying score lower on empathy than non-perpetrators whereas victims have the same level of empathy as non-victims. Bully-victims show the lowest level of empathy. Another meta-analysis on empathy and cyberbullying (Zych, Baldry, Farrington, & Llorent, 2018a) found that also cyber-bullies score low on empathy whereas cyber-victims score the same as non-cyber-victims. Casas, Ortega-Ruiz, and Del Rey (2015) found that bullying victimization was predicted by higher level of emotional attention, less emotional clarity and repair whereas bullying perpetration was predicted by less emotional attention, clarity and repair. Garaigordobil (2017) reported that cyberbullying perpetration was predicted by low emotional attention, clarity and repair whereas cyberbullying victimization was predicted by higher emotional attention only. Baroncelli and Ciucci (2014) found that bullying and cyberbullying perpetration was related to difficulties in regulating emotions. Elipe, Ortega, Hunter, and Del Rey (2012) reported that involvement in bullying was predicted by higher emotional attention and lower repair and there was no significant relationship between emotional intelligence and cyberbullying. Eden, Heiman, and Olenik-Shemesh (2016) found that controlling and managing emotions predicted cyberbullying perpetration and victimization. Many of these studies suggest that involvement in bullying and cyberbullying can be related to lower level of social and emotional competencies, but most of them focused only on some aspects of this construct. Thus, new research is needed to discover and understand these possible relationships.

If social and emotional competencies are related to bullying and cyberbullying, promoting these competencies could potentially protect adolescents from being involved in these aggressive behaviors. Given that these relationships still need to be analyzed, the second objective of this study was to describe the level of social and emotional competencies in different bullying and cyberbullying roles. This was done with unadjusted coefficient and adjusting for possible confounding variables such as gender and age. It was hypothesized that perpetrators and bully/victims display lower levels of social and emotional competencies than uninvolved adolescents.

## Method

### Participants

The current survey was responded by a representative sample of adolescents randomly selected from the population of 372,031 students (2014/2015) in Andalusia (Spain). Multi-stage random sampling with a formula accounting for 95% of reliability and a sampling error of 2.1% was performed with strata such as all the provinces of Andalusia, public and private schools and location size (small, medium and big). The sample included 2139 adolescents ( $M_{age} = 13.79$ ,  $SD = 1.40$ , ranging from 11 to 19) of whom 50.9% were girls and 48% were boys. These students were equally distributed in grades 1–4 (Grade 1 = 25.3%,  $M_{age} = 12.21$ ,  $SD = 0.64$ ; Grade 2 = 25.9%,  $M_{age} = 13.36$ ,  $SD = 0.81$ ; Grade 3 = 24.7%,  $M_{age} = 14.36$ ,  $SD = 0.85$ ; Grade 4 = 23.7%,  $M_{age} = 15.35$ ,  $SD = 0.80$ ) in 22 secondary education schools.

### Instruments

*Social and Emotional Competencies Questionnaire* (SEC-Q) (Zych, et al., 2018a, 2018b) contains 16 items divided into four subscales that show a good reliability for the current study: *Self-awareness* (being aware of self emotions and thoughts, McDonald's  $\Omega = .72$ , Cronbach's  $\alpha = .72$ ,  $CR = .71$ ; e.g., "I know how my emotions influence what I do", "I am aware of the thoughts that influence my emotions"), *self-motivation and management* (pursuing goals overcoming difficulties, McDonald's  $\Omega = .67$ , Cronbach's  $\alpha = .65$ ,  $CR = .67$ ; e.g., "I know how to motivate myself", "I pursue my objectives despite the difficulties"), *social-awareness and prosocial behavior* (understanding, helping and having good relations with others, McDonald's  $\Omega = .74$ , Cronbach's  $\alpha = .73$ ,  $CR = .73$ ; e.g., "I pay attention to the needs of others", "I offer help to those who need me") and *responsible decision making* (analyzing consequences in a reflective way, McDonald's  $\Omega = .77$ , Cronbach's  $\alpha = .77$ ,  $CR = .76$ ; e.g., "I make decisions analyzing carefully possible consequences", "I do not make decisions carelessly"). The total scale also shows good reliability (total McDonald's  $\Omega = .82$ , Cronbach's  $\alpha = .80$ ) with four factors explaining 50.8% of variance. Response 5-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree). A confirmatory factor analysis showed an adequate adjustment of the current data to this four factor model ( $SB\chi^2 = 283.30$ ;  $df = 98$ ;  $NFI = .97$ ;  $NNFI = .97$ ;  $CFI = .98$ ;  $RMSEA = .032$ , 90%  $CI = .027-.036$ ) with  $AVE = .40$ .

*European Bullying Intervention Project Questionnaire* (Del Rey et al., 2015; Ortega-Ruiz, Del Rey, & Casas, 2016) is a measure of face-to-face bullying with seven items for victimization and seven items for perpetration (both scales with a McDonald's  $\Omega = .90$ , Cronbach's  $\alpha = .90$ ,  $CR = .90$ ; for the current sample and Cronbach's alphas of .84 for victimization and perpetration in the Spanish validation study conducted by Rey, Elipe, & Ortega-Ruiz, 2012) referring in the current study to "the past few months". Items were answered on a 5-point Likert scale ranging from 0

(never) to 4 (more than once a week). These two factors explained 59.8% of variance. A confirmatory factor analysis of the current data showed an adequate adjustment to this two factor structure ( $SB\chi^2 = 962.01$ ;  $df = 76$ ;  $NFI = .95$ ;  $NNFI = .94$ ;  $CFI = .95$ ;  $RMSEA = .076$ , 90%  $CI = .072-.081$ ) and  $AVE = .57$ .

*European Cyberbullying Intervention Project Questionnaire* (Del Rey et al., 2015; Ortega-Ruiz et al., 2016) is a measure of cyberbullying with 11 items for *Cyber-victimization* (Cronbach's alpha of .80 in the Spanish validation by Ortega, Del Rey, & Casas, 2016; and McDonald's  $\Omega = .94$  and Cronbach's  $\alpha = .94$ ,  $CR = .93$  in the current study) and 11 for *Cyber-perpetration* (Cronbach's alpha of .88 in the Spanish validation by Ortega et al., 2016; and McDonald's  $\Omega = .96$ , Cronbach's  $\alpha = .96$ ,  $CR = .96$  in the current study) referred to "the past few months" in the current study. Items are answered on a five-point Likert scale ranging from 0 (never) to 4 (more than once a week); in this study they referred to "the past few months". These two factors explained 56.3% of the variance. The current data adjusted adequately to this two factor structure according to a confirmatory factor analysis results ( $SB\chi^2 = 1426.06$ ;  $df = 208$ ;  $NFI = .97$ ;  $NNFI = .97$ ;  $CFI = .98$ ;  $RMSEA = .054$ , 90%  $CI = .052-.057$ ) and  $AVE = .62$ .

### Design and procedure

This ex-post facto study was conducted through a survey on a representative sample of adolescents in Andalusia (Spain) in the second semester of 2014/2015 and the first semester of 2015/2016. Twenty two schools were selected through the multi-stage random sampling, head teachers were contacted by the researchers and permissions were granted. Questionnaires were answered individually on paper during regular school hours supervised and directly collected by the senior researchers responsible for the project, authors of this article. The survey was anonymous and students were free to decline to participate or withdraw from participation at any time. Fifteen students decided not to fill in the questionnaires. The procedure followed national and international ethical considerations and was approved by the ethic committee of the University of Cordoba.

### Data analysis

First, psychometric properties of the questionnaires for the current sample were tested. Reliability coefficients such as McDonald's omegas and Cronbach's alphas were calculated with FACTOR software. Confirmatory factor analyses were conducted with EQS 6.2. Confirmatory analyses were performed with maximum likelihood robust method and polychoric correlations (Satorra–Bentler chi-square). Acceptable fit was considered with  $RMSEA$  below .08,  $NFI$  and  $CFI$  above .90 (Bentler, 1990).

After confirming that the questionnaires were reliable and adequate to be used in the current sample, descriptive statistics were calculated with PASW Statistics 18 software. Means in social and emotional competencies were compared between girls and boys with Student's  $t$ -test. Groups were also compared with Cohen's  $d$  with 95% Confidence Intervals (CIs) calculated with Campbell online effect size calculator. CIs including a value of 0 indicate a non-significant effect. Cohen's  $d$  was calculated to show the strength of the relationships. Pearson correlation coefficients between age and social and emotional competencies were also calculated.

Adolescents were classified into different bullying and cyberbullying roles taking into account their answers to cyber and face-to-face bullying perpetration and victimization scales. If a student answered 0 (never) or 1 (once or twice) to all the items regarding bullying, he or she was considered not involved in bullying. If a student answered 2 or more (once or twice a month or more) to any item on bullying perpetration and 0 or 1 to all the items on bullying victimization, he or she was considered to be a

perpetrator (and vice versa for the victim). If a student answered two or more to any item on bullying perpetration and victimization, he or she was considered a bully-victim. The same criteria were used to classify students in cyberbullying roles.

After performing the Levene test for equality of variances, scores in social and emotional competencies in different bullying and cyberbullying roles were compared with one way ANOVA (if variance was equal) or Welch’s ANOVA (correction if variance was heterogeneous). Post hoc Bonferroni pairwise comparisons were performed where variance was homogeneous and post hoc Games-Howell pairwise comparisons were performed where variance was heterogeneous. Again, Cohen’s *d* with 95% confidence intervals was calculated to compare groups and show the effect size of group differences.

Logistic regression analyses were conducted on different bullying and cyberbullying roles as predicted variables with a reference category of uninvolved adolescents (1 – involved, 0 – uninvolved). Predictors such as age, gender (1 – boys, 0 – girls) and social and emotional competencies were tested. This was done to check if social and emotional competencies were independently related to different bullying and cyberbullying roles after controlling for age and gender. Given the cross-sectional nature of this study, this prediction can only be interpreted on a theoretical basis and no causal relationship can be established.

**Results**

*Social and emotional competencies, age and gender*

The total score in social and emotional competencies was higher for girls when compared to boys ( $M = 63.07, SD = 7.54$  vs.  $M = 61.92, SD = 8.05, d = 0.15, 95\% CI = 0.06–0.23$ ). On the one hand, girls scored significantly higher than boys in *social-awareness and prosocial behavior* ( $M = 24.18, SD = 3.09$  vs.  $M = 23.22, SD = 3.52, d = 0.29, 95\% CI = 0.20–0.38$ ) and on *responsible decision making* ( $M = 10.78, SD = 2.69$  vs.  $M = 10.50, SD = 2.80, d = 0.10, 95\% CI = 0.02–0.19$ ). On the other hand, boys scored higher than girls in *self-management and*

*motivation* ( $M = 12.26, SD = 2.34$  vs.  $M = 12.01, SD = 2.40, d = 0.11, 95\% CI = 0.02–0.19$ ). Details are shown in **Table 1**.

Age was negatively and significantly related to *self-management and motivation* ( $r = -.14, p < .01$ ), *social-awareness and prosocial behavior* ( $r = -.09, p < .01$ ), *decision making* ( $r = -.10, p < .01$ ) and the total scores in *social and emotional competencies* ( $r = -.12, p < .01$ ). There was no significant relationship between age and *self-awareness* ( $r = -.04, p = .12$ ).

*Social and emotional competencies in different bullying and cyberbullying roles*

**Table 2** shows the level of social and emotional competencies in different bullying roles.

Bonferroni post hoc comparisons showed that bully/victims scored significantly lower than uninvolved students ( $d = 0.25, 95\% CI = 0.13–0.37$ ) and victims ( $d = 0.28, 95\% CI = 0.14–0.41$ ) in *responsible decision making*. Games-Howell post hoc comparisons showed that perpetrators scored significantly lower than uninvolved students ( $d = 0.36, 95\% CI = 0.17–0.56$ ) and victims ( $d = 0.36, 95\% CI = 0.15–0.57$ ) in *social-awareness and prosocial behavior* and also bully/victims scored significantly lower than uninvolved students ( $d = 0.32, 95\% CI = 0.20–0.44$ ) and victims ( $d = 0.32, 95\% CI = 0.18–0.45$ ) in *social-awareness and prosocial behavior*. Games-Howell post hoc comparisons also showed that perpetrators scored significantly lower than uninvolved students ( $d = 0.27, 95\% CI = 0.07–0.47$ ) and victims ( $d = 0.27, 95\% CI = 0.06–0.48$ ) on the total score in *social and emotional competencies* and bully/victim scored significantly lower than uninvolved students ( $d = 0.31, 95\% CI = 0.19–0.43$ ) and victims ( $d = 0.30, 95\% CI = 0.17–0.44$ ) on the total score in *social and emotional competencies*.

Games-Howell post hoc test showed that cyberbully/cybervictims scored lower than uninvolved students ( $d = 0.21, 95\% CI = 0.07–0.35$ ) in *self-management and motivation*. Bonferroni post hoc comparisons showed that cyberbully/cybervictims scored lower than uninvolved students ( $d = 0.30, 95\% CI = 0.16–0.43$ ) and victims ( $d = 0.30, 95\% CI = 0.12–0.47$ ) in *social-awareness and prosocial behavior*. Bon-

**Table 1**  
Social and emotional competencies in girls and boys

	Girls M (SD)	Boys M (SD)	$t_{(2056)}$	Cohen’s <i>d</i>	95% CI	
Self-awareness	16.09 (2.69)	15.93 (2.76)	-1.29	0.06	-0.03	0.15
Self-management and motivation	12.01 (2.40)	12.26 (2.34)	2.44*	-0.11	-0.19	-0.02
Social-awareness and prosocial behavior	24.18 (3.09)	23.22 (3.52)	-6.58**	0.29	0.20	0.38
Decision making	10.78 (2.69)	10.50 (2.80)	-2.35*	0.10	0.02	0.19
Total SEC-Q	63.07 (7.54)	61.92 (8.05)	-3.35**	0.15	0.06	0.23

\*  $p < .05$ .  
\*\*  $p < .01$ .

**Table 2**  
Social and emotional competencies in adolescents involved in face-to-face bullying

	Uninvolved ( <i>n</i> = 1185) M (SD)	Victims ( <i>n</i> = 496) M (SD)	Perpetrators ( <i>n</i> = 107) M (SD)	Bully/victims ( <i>n</i> = 351) M (SD)	<i>F</i>	<i>df</i>	Significant post hoc
Self-awareness	16.04 (2.75)	16.05 (2.75)	15.96 (2.57)	15.89 (2.78)	.300	3, 2058	-
Self-management and motivation	12.23 (2.38)	12.12 (2.35)	12.01 (2.37)	11.95 (2.50)	1.379	3, 2067	-
Social-awareness and prosocial behavior	23.98 (3.20)	24.01 (3.30)	22.81 (3.46)	22.89 (3.85)	<sup>a</sup> 10.48**	3, 379.14	U-P, V-P, U-BV, V-BV
Decision making	10.77 (2.65)	10.87 (2.80)	10.29 (2.66)	10.08 (2.94)	7.272**	3, 2092	U-BV, V-BV
Total SEC-Q	63.16 (7.66)	63.16 (7.61)	61.12 (6.99)	60.74 (8.43)	<sup>a</sup> 8.686**	3, 364.45	U-P, V-P, U-BV, V-BV

BV: bully/victim, P: perpetrator, U: uninvolved, V: victim.

<sup>a</sup> Welch’s ANOVA.  
\*\*  $p < .01$

**Table 3**  
Social and emotional competencies in adolescents involved in cyberbullying

	Uninvolved (n = 1535) M (SD)	Cybervictims (n = 281) M (SD)	Cyberbullies (n = 91) M (SD)	Cyberbully- cybervictims (n = 232) M (SD)	F	df	Significant post hoc
Self-awareness	16.08 (2.76)	16.11 (2.65)	15.69 (2.31)	15.57 (2.87)	2.76*	3, 2058	–
Self-management and motivation	12.24 (2.34)	12.19 (2.32)	11.47 (2.73)	11.74 (2.59)	4.38**	3, 290.44	U-CBV
Social-awareness and prosocial behavior	23.87 (3.30)	23.93 (3.45)	23.46 (3.60)	22.88 (3.60)	5.99**	3, 2005	U-CBV, CV-CBV
Decision making	10.82 (2.68)	10.76 (2.74)	9.88 (3.02)	9.77 (2.91)	12.39**	3, 2092	U-CB, CV-CB, U-CBV, CV-CBV
Total SEC-Q	63.08 (7.62)	63.15 (7.90)	60.62 (8.14)	60.18 (8.13)	10.52**	3, 1087	U-CB, CV-CB, U-CBV, CV-CBV

CB: cyberbully, CBV: cyberbully/victim, CV: cybervictim, U: uninvolved.

<sup>a</sup> Welch's ANOVA.

\*  $p < .05$ .

\*\*  $p < .01$ .

ferroni post hoc comparisons showed that cyberbullies scored lower than uninvolved students ( $d = 0.35$ , 95% CI = 0.14–0.56) and cybervictims ( $d = 0.31$ , 95% CI = 0.08–0.55) in *responsible decision making* and also cyberbullies/cybervictims scored lower than uninvolved students ( $d = 0.39$ , 95% CI = 0.25–0.53) and victims ( $d = 0.35$ , 95% CI = 0.18–0.53) in *responsible decision making*. Cyberbullies scored lower than uninvolved students ( $d = 0.32$ , 95% CI = 0.11–0.53) and cybervictims ( $d = 0.32$ , 95% CI = 0.08–0.56) on the total score in *social and emotional competencies* and cyberbullies/cybervictims scored lower than uninvolved students ( $d = 0.38$ , 95% CI = 0.24–0.52) and cybervictims ( $d = 0.37$ , 95% CI = 0.20–0.55) on the total score in social and emotional competencies (Table 3).

Logistic regression analyses with different bullying and cyberbullying roles as predicted variable and gender, age and *social and emotional competencies* as predictors is shown in Table 4. Being a boy (OR = 1.81, 95% CI = 1.14–2.89), older age (OR = 1.26, 95% CI = 1.08–1.48) and *low social awareness and prosocial behavior* (OR = 0.91, 95% CI = 0.85–0.98) were found to be significant individual predictors of bullying perpetration. Younger age was a significant individual predictor of bullying victimization (OR = 0.87, 95% CI = 0.80–0.95). Being a boy (OR = 2.03, 95% CI = 1.54–2.68), *low social awareness and prosocial behavior* (OR = 0.93, 95% CI = 0.89–0.97) and scoring low on *responsible decision making* (OR = 0.94, 95% CI = 0.89–0.99) were significant individual predictors of face-to-face bully/victim role. Being a boy (OR = 1.72, 95% CI = 1.05–2.81) and older age (OR = 1.72, 95% CI = 1.02–1.42) were predictors of cyberperpetration. Being a boy (OR = 1.74, 95% CI = 1.27–2.39), older age (OR = 1.16, 95% CI = 1.05–1.30) and scoring low on *responsible decision making* (OR = 0.91, 95% CI = 0.86–0.96) were individual predictors of cyberbully/cybervictim role. No other individual predictors were significant (see Table 4 for details).

## Discussion

Bullying and cyberbullying are very damaging aggressive behaviors with serious consequences such as depression in victims (Ttöfi, Farrington, Lösel, & Loeber, 2011a) and offending in perpetrators (Ttöfi, Farrington, Lösel, & Loeber, 2011b). Programs to prevent bullying (see a review by Farrington & Ttöfi, 2009) and cyberbullying (see for example Rey, Casas, & Ortega, 2016; Zych, Ortega-Ruiz, & Marín-López, 2016) are conducted in different parts of the world. Given the significant overlap between bullying and cyberbullying (Baldry, Farrington, & Sorrentino, 2016, 2017; Del Rey, Elipe, & Ortega-Ruiz, 2012), many components of these programs are implemented to decrease both bullying and cyberbullying. Nevertheless, there are still many gaps in knowledge regarding risk factors for bullying (see a review by Zych, Ortega-Ruiz, & Del

Rey, 2015a, 2015b) and cyberbullying (see a review by Baldry, Farrington, & Sorrentino, 2015). Studying social and emotional competencies is a promising approach that can shed new light on variables associated with the involvement in different bullying and cyberbullying roles.

Social and emotional learning programs with components such as self-awareness, self-management, social-awareness, prosocial behavior and responsible decision making are being conducted in thousands of schools and are effective in improving students' behaviors, skills and attitudes (Durlak et al., 2011). Nevertheless, these competencies were rarely described in representative samples. Thus, the first objective of this study was to describe these social and emotional competencies in adolescents taking into account age and gender. As expected, girls scored higher than boys in social awareness and prosocial behavior, responsible decision making and the total score of social and emotional competencies. Boys scored higher than girls in self-management and motivation and there was no significant difference between boys and girls in self-awareness. These gender differences might be related to socialization which promotes responsibility, higher social awareness and relational skills in girls and higher motivation in boys. Significant negative relationships were found between age and self-management and motivation, age and social-awareness, age and responsible decision making and age and the total score in social and emotional competencies. It is possible that this decrease in perceived competencies is related to changes during adolescent years and the general drop in positive self-perception described in other studies (Cole et al., 2001).

Previous studies found inconsistent results regarding social and emotional competencies in children involved in bullying and cyberbullying (see a review by Zych et al., 2017), possibly because these competencies were rarely measured as a comprehensive construct and their definitions varied greatly among the studies. Given that promoting social and emotional competencies improves behaviors in students (Durlak et al., 2011), it was particularly important to uncover possible relationships between these competencies, bullying and cyberbullying that are extremely damaging antisocial behaviors displayed in schools. On the one hand, results of this study showed that bullying and cyberbullying perpetrators and bully-victims reported lower level of social and emotional competencies when compared to uninvolved students. On the other hand, victims, of bullying and cyberbullying, had the same level of social and emotional competencies as uninvolved students. Regression analyses showed that, controlling for age and gender, social awareness and prosocial behavior were independently related to bullying perpetration and bully-victim status. Responsible decision making was independently related to being a bully-victim and being a cyberbully-cybervictim. These findings

**Table 4**  
Logistic regression on different bullying and cyberbullying roles predicted by gender, age, and social and emotional competencies

	Bullying perpetration (n = 1292)					Bullying victimization (n = 1681)					Bully/victims (n = 1536)				
	B	SE	Wald	p	OR (95%CI)	B	SE	Wald	p	OR (95%CI)	B	SE	Wald	p	OR (95%CI)
Gender	.60	.24	6.23	.01	1.81 (1.14–2.89)	-.11	.12	0.78	.38	0.90 (0.71–1.14)	.71	.14	24.90	.00	2.03 (1.54–2.68)
Age	.23	.08	8.63	.00	1.26 (1.08–1.48)	-.14	.04	9.80	.00	0.87 (0.80–0.95)	.07	.05	1.90	.17	1.07 (0.97–1.18)
Self-awareness	.04	.05	0.55	.46	1.04 (0.94–1.14)	-.00	.02	0.01	.94	1 (0.95–1.05)	.02	.03	0.70	.40	1.02 (0.97–1.08)
Self-management and motivation	-.01	.05	0.14	.91	0.99 (0.89–1.10)	-.05	.03	3.33	.07	0.95 (0.90–1)	-.03	.03	0.91	.34	0.97 (0.91–1.03)
Social-awareness and prosocial behavior	-.09	.04	5.95	.02	0.91 (0.85–0.98)	-.02	.02	0.50	.48	0.99 (0.95–1.03)	-.07	.02	9.84	.00	0.93 (0.89–0.97)
Decision making	-.03	.04	0.37	.55	0.97 (0.89–1.06)	.04	.02	2.27	.13	1.04 (0.99–1.09)	-.06	.03	5.28	.02	0.94 (0.89–0.99)
Nagelkerke R <sup>2</sup>	.06					.02					.07				
χ <sup>2</sup> (df)	29.33 (6)**					15.93 (6)**					62.57 (6)**				
	Cyberperpetration (n = 1626)					Cybervictimization (n = 1816)					Cyberbullying/cybervictimization (n = 1767)				
	B	SE	Wald	p	OR (95%CI)	B	SE	Wald	p	OR (95%CI)	B	SE	Wald	p	OR (95%CI)
Gender	.54	.25	4.63	.03	1.72 (1.05–2.81)	-.10	.15	0.45	.50	0.91 (0.68–1.21)	.56	.16	12.02	.00	1.74 (1.27–2.39)
Age	.18	.09	4.64	.03	1.72 (1.02–1.42)	.04	.05	0.65	.42	1.04 (0.94–1.15)	.15	.06	7.69	.01	1.16 (1.05–1.30)
Self-awareness	.01	.05	0.02	.89	1.01 (0.91–1.11)	-.01	.03	0.16	.70	0.99 (0.93–1.05)	.00	.03	0.02	.89	1 (0.94–1.07)
Self-management and motivation	-.08	.05	2.27	.13	0.92 (0.83–1.03)	.01	.04	0.05	.83	1.01 (0.94–1.08)	-.04	.04	1.21	.27	0.96 (0.90–1.03)
Social-awareness and prosocial behavior	.01	.04	0.04	.83	1.01 (0.93–1.09)	.01	.02	0.29	.59	1.01 (0.97–1.06)	-.03	.03	1.61	.21	0.97 (0.92–1.02)
Decision making	-.08	.05	3.27	.07	0.92 (0.84–1.01)	.02	.03	0.28	.60	1.02 (0.96–1.08)	-.10	.03	11.12	.00	0.91 (0.86–0.96)
Nagelkerke R <sup>2</sup>	.04					.00					.06				
χ <sup>2</sup> (df)	19.11 (6)**					1.88 (6)					49.83 (6)**				

Note. The reference group is uninvolved students (0) versus each bullying or cyberbullying role (1).

\*\* p < .01.

are in line with the results reported by Romera et al. (2016) and Gómez-Ortiz et al. (2017) and can be very useful to advance knowledge on mechanisms underlying bullying and cyberbullying. At the same time, new studies with longitudinal and/or experimental designs are needed to discover possible causal relationships between the level of social and emotional competencies, bullying and cyberbullying.

Although the cross-sectional nature of this study does not make it possible to discover causal relationships, its results suggest that it is desirable to include social and emotional competencies in school curriculum. Specific components focused on social and emotional competencies could be included in interventions against bullying and cyberbullying to possibly decrease these aggressive behaviors. As concluded in a narrative review conducted by Fernández-Berrocal, Cabello, and Gutiérrez-Cobo (2017), enhancing emotional competencies in teachers and students is crucial for success in school and in life. The results of the current study provide new evidence that support this conclusion.

The current study has strengths and also limitations. It was conducted with a broad and representative sample of adolescents and included different social and emotional competencies in a single instrument. Nevertheless, self-reported competencies might differ from the actual competencies. This cross-sectional design makes it possible to study correlations but causal relationships should be confirmed in future studies. Although more studies are needed, it seems that fostering social and emotional competencies could be a useful component of anti-bullying programs and should be included in educational policy and practice.

## Acknowledgement

The current work was supported by a research grant for the project “E-Intelligence: risks and opportunities of the emotional competencies expressed online” (PSI2015-64114-R) granted to the first author and the research team by the Spanish Ministry of Economy and Competitiveness within the I+D+I 2015 National Program for Research Aimed at the Challenges of the Society (RETOS).

## References

- Arsenio, W. F., & Lemerise, E. A. (2001). Varieties of childhood bullying: Values, emotion processes and social competence. *Social Development, 10*, 59–73. <http://dx.doi.org/10.1111/1467-9507.00148>
- Baldry, A. C., Farrington, D. P., & Sorrentino, A. (2015). Am I at risk of cyberbullying? A narrative review and conceptual framework for research on risk of cyberbullying and cybervictimization: The risk and needs assessment approach. *Aggression and Violent Behavior, 23*, 36–51. <http://dx.doi.org/10.1016/j.avb.2015.05.014>
- Baldry, A. C., Farrington, D. P., & Sorrentino, A. (2016). Cyberbullying in youth. A pattern of disruptive behaviour. *Psicología Educativa, 22*, 19–26. <http://dx.doi.org/10.1016/j.pse.2016.02.001>
- Baldry, A. C., Farrington, D. P., & Sorrentino, A. (2017). School bullying and cyberbullying among boys and girls: Roles and overlap. *Journal of Aggression, Maltreatment & Trauma, 26*, 937–951. <http://dx.doi.org/10.1080/10926771.2017.1330793>
- Baroncelli, A., & Ciucci, E. (2014). Unique effects of different components of trait emotional intelligence in traditional bullying and cyberbullying. *Journal of Adolescence, 37*, 807–815. <http://dx.doi.org/10.1016/j.adolescence.2014.05.009>
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238–246.
- Casas, J. A., Ortega-Ruiz, R., & Del Rey, R. (2015). Bullying: The impact of teacher management and trait emotional intelligence. *British Journal of Educational Psychology, 85*, 407–423. <http://dx.doi.org/10.1111/bjep.12082>
- Cole, D. A., Maxwell, S. E., Martin, J. M., Peeke, L. G., Seroczynski, A. D., & Maschman, T. (2001). The development of multiple domains of child and adolescent self-concept: A cohort sequential longitudinal design. *Child Development, 72*, 1723–1746. <http://dx.doi.org/10.1111/1467-8624.00375>
- Collaborative for Academic, Social and Emotional Learning. (2012). *2013 CASEL guide: Effective social and emotional learning programs—Preschool and elementary school edition*. Chicago, IL: Author.
- Crick, N. R., & Dodge, K. A. (1999). ‘Superiority’ is in the eye of the beholder: A comment on Sutton, Smith, and Swettenham. *Social Development, 8*, 128–131.
- Del Rey, R., Casas, J. A., & Ortega, R. (2016). The impacts of the CONRED Program on different cyberbullying roles. *Aggressive Behavior, 42*, 123–135. <http://dx.doi.org/10.1002/ab.21608>
- Del Rey, R., Elipe, P., & Ortega-Ruiz, R. (2012). Bullying and cyberbullying: Overlapping and predictive value of the co-occurrence. *Psicothema, 24*, 608–613.
- Del Rey, R., Casas, J. A., Ortega-Ruiz, R., Schultze-Krumbholz, A., Scheithauer, H., Smith, P., ... , Plichta, P. (2015). Structural validation and cross-cultural robustness of the European Cyberbullying Intervention Project Questionnaire. *Computers in Human Behavior, 50*, 141–147. <http://dx.doi.org/10.1016/j.chb.2015.03.065>
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students’ social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*, 405–432. <http://dx.doi.org/10.1111/j.1467-8624.2010.01564.x>
- Eden, S., Heiman, T., & Olenik-Shemesh, D. (2016). Bully versus victim on the internet: The correlation with emotional-social characteristics. *Education and Information Technologies, 21*, 699–713. <http://dx.doi.org/10.1007/s10639-014-9348-2>
- Elbertson, N. A., Brackett, M. A., & Weissberg, R. P. (2009). School-based social and emotional learning (SEL) programming: Current perspectives. In A. Hargreaves, M. Fullan, D. Hopkins, & A. Lieberman (Eds.), *The second international handbook of educational change* (pp. 1017–1032). Dordrecht: Springer.
- Elipe, P., Ortega, R., Hunter, S. C., & Del Rey, R. (2012). Inteligencia emocional percibida e implicación en diversos tipos de acoso escolar. *Psicología Conductual, 20*, 169–181.
- Farrington, D. P., & Ttofi, M. M. (2009). School-based programs to reduce bullying and victimization. *Campbell Systematic Reviews, 9*.
- Fernández-Berrocal, P., Cabello, R., & Gutiérrez-Cobo, M. J. (2017). Avances en la investigación sobre competencias emocionales en educación. *Revista Interuniversitaria de Formación del Profesorado, 88*, 15–26.
- Fernández-Berrocal, P., Cabello, R., Castillo, R., & Extremera, N. (2012). Gender differences in emotional intelligence: The mediating effect of age. *Psicología Conductual, 20*, 77–89.
- Garaigordobil, M. (2017). Psychometric properties of the Cyberbullying Test, a screening instrument to measure cybervictimization, cyberaggression and cyberobservation. *Journal of Interpersonal Violence, 23*, 3556–3576. <http://dx.doi.org/10.1177/0886260515600165>
- Gómez-Ortiz, O., Romera, E. M., & Ortega-Ruiz, R. (2017). Multidimensionality of social competence: Measurement of the construct and its relationship with bullying roles. *Revista de Psicodidáctica, 22*, 37–44. <http://dx.doi.org/10.1387/RevPsicodidact.15702>
- Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology, 95*, 54–78. <http://dx.doi.org/10.1037/a0017286>
- Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey, & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Implications for educators* (pp. 3–31). New York: Basic Books.
- 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. <http://dx.doi.org/10.1016/j.pse.2016.01.004>
- Ortega Ruiz, R., Del Rey, R., & Sánchez, V. (2012). *Nuevas dimensiones de la convivencia escolar y juvenil. Ciberconducta y relaciones en la red: Ciberconvivencia*. Madrid: Ministerio de Educación, Cultura y Deporte.
- Ortega, R. (Ed.). (2010). *Agresividad injustificada, bullying y violencia escolar*. Madrid: Alianza Editorial.
- Robins, R. W., & Trzesniewski, K. H. (2005). Self-esteem development across the lifespan. *Current Directions in Psychological Science, 14*, 158–162.
- Romera, E. M., Cano, J. J., García-Fernández, C. M., & Ortega-Ruiz, R. (2016). Cyberbullying: Social competence, motivation and peer relationships. *Comunicar, 24*, 71–79. <http://dx.doi.org/10.3916/C48-2016-07>
- Saarni, C. (1999). *The development of emotional competence*. New York: Guilford.
- Salguero, J. M., Fernández-Berrocal, P., Balluerka, N., & Aritzeta, A. (2010). Measuring perceived emotional intelligence in the adolescent population: Psychometric properties of the Trait Meta-Mood Scale. *Social Behavior and Personality: An International Journal, 38*, 1197–1209. <http://dx.doi.org/10.2224/sbp.2010.38.9.1197>
- Smith, P. K., & Brain, P. (2000). Bullying in schools: Lessons from two decades of research. *Aggressive Behavior, 26*, 1–9. [http://dx.doi.org/10.1002/\(SICI\)1098-2337\(2000\)26:1<1::AID-AB1>3.0.CO;2-7](http://dx.doi.org/10.1002/(SICI)1098-2337(2000)26:1<1::AID-AB1>3.0.CO;2-7)
- Smith, P. K., Kwak, K., & Toda, Y. (Eds.). (2016). *School bullying in different cultures – Eastern and western perspectives*. Cambridge, UK: Cambridge University Press. <http://dx.doi.org/10.1017/CBO9781139410878>
- Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry, 49*, 376–385. <http://dx.doi.org/10.1111/j.1469-7610.2007.01846.x>
- Sutton, J., Smith, P. K., & Swettenham, J. (1999a). Bullying and ‘theory of mind’: A critique of the “social skills deficit” view of anti-social behaviour. *Social Development, 8*, 117–127. <http://dx.doi.org/10.1111/1467-9507.00083>
- Sutton, J., Smith, P. K., & Swettenham, J. (1999b). Social cognition and bullying: Social inadequacy or skilled manipulation? *British Journal of Developmental Psychology, 17*, 435–450. <http://dx.doi.org/10.1348/026151099165384>
- Ttofi, M. M., Farrington, D. P., Lösel, F., & Loeber, R. (2011a). Do the victims of school bullies tend to become depressed later in life? A systematic review and meta-analysis of longitudinal studies. *Journal of Aggression, Conflict and Peace Research, 3*, 63–73. <http://dx.doi.org/10.1108/17596591111132873>

- Ttofi, M. M., Farrington, D. P., Lösel, F., & Loeber, R. (2011b). The predictive efficiency of school bullying versus later offending: A systematic/meta-analytic review of longitudinal studies. *Criminal Behaviour and Mental Health, 21*, 80–89. <http://dx.doi.org/10.1002/cbm.808>
- Zych, I., Farrington, D. P., Llorent, V. J., & Ttofi, M. M. (2017). *Protecting children against bullying and its consequences*. New York: Springer. <http://dx.doi.org/10.1007/978-3-319-53028-4>
- Zych, I., Baldry, A. C., Farrington, D. P., & Llorent, V. J. (2018). *Empathy in cyberbullies and cybervictims: A systematic review and meta-analysis*. *Aggression and Violent Behavior*.
- Zych, I., Ortega-Ruiz, R., & Del Rey, R. (2015a). Scientific research on bullying and cyberbullying: Where have we been and where are we going. *Aggression and Violent Behavior, 24*, 188–198. <http://dx.doi.org/10.1016/j.avb.2015.05.015>
- Zych, I., Ortega-Ruiz, R., & Del Rey, R. (2015b). Systematic review of theoretical studies on bullying and cyberbullying: Facts, knowledge, prevention and intervention. *Aggression and Violent Behavior, 23*, 1–21. <http://dx.doi.org/10.1016/j.avb.2015.10.001>
- Zych, I., Ortega-Ruiz, R., & Marín-López, I. (2016). Cyberbullying: A systematic review of research, its prevalence and assessment issues in Spanish studies. *Psicología Educativa, 22*, 5–18. <http://dx.doi.org/10.1016/j.pse.2016.03.002>
- Zych, I., Ortega-Ruiz, R., Muñoz-Morales, R., & Llorent, V. J. (2018). *Dimensions and psychometric properties of the Social and Emotional Competencies Questionnaire (SEC-Q) in youth and adolescents*. *Revista Latinoamericana de Psicología* (in press).
- Zych, I., Ttofi, M. M., & Farrington, D. P. (2016). Empathy and callous-unemotional traits in different bullying roles: A systematic review and meta-analysis. *Trauma, Violence, & Abuse*. *Online first.*, <http://dx.doi.org/10.1177/1524838016683456>