







Cyberbullying: Social Competence, Motivation and Peer Relationships

Cyberbullying: competencia social, motivación y relaciones entre iguales

-  Dr. Eva M. Romera is Senior Lecturer in the Department of Psychology at University of Cordoba (Spain) (eva.romera@uco.es) (<http://orcid.org/0000-0002-9414-8019>)
-  Juan-Jesús Cano is PhD Candidate in the Department of Psychology at University of Cordoba (Spain) (m82cafi@uco.es) (<http://orcid.org/0000-0003-4048-4815>)
-  Dr. Cristina-M. García-Fernández is Lecturer in the Department of Developmental and Educational Psychology at University of Seville (Spain) (cgarcia19@us.es) (<http://orcid.org/0000-0002-7088-7028>)
-  Dr. Rosario Ortega-Ruiz is Full Professor of Psychology in the Department of Psychology at the University of Cordoba (Spain) (ortegarui@uco.es) (<http://orcid.org/0000-0003-2110-6931>)

ABSTRACT

The recognition of some overlap between face to face harassment (bullying) and via digital harassment (cyberbullying) could indicate that variables of social cognition, whose influence has been identified in bullying, also are present in cyberbullying. The aim of this research was to determine the social adjustment of roles involved in cyberbullying and to analyze the differences in the perception of social competence, social goals and peer support, between victims, aggressors and bully-victims of cyberbullying. A number of 505 teenagers (47.3% girls) between 12 and 16 years old ($M=13.95$, $SD=1.42$) participated in the study. Validated instruments for Spanish teenagers were used and psychometric properties for the adaptation of the scale of social competence were analyzed. Exploratory and confirmatory factor analysis showed optimal scores of reliability and validity. The cyber-bullying victims showed greater involvement in cyberbullying. Comparisons between roles with nonparametric tests showed that cyberbullies had the highest levels of peer support and popularity social goals. Cybervictims were highlighted by a high perception of social competence. Cyberbully-victims were described by their high popularity goals and low peer acceptance. These results support the conclusion that the way in which the peer group manages its emotional and social life may be explaining the situation of cyberbullying among teenagers.

RESUMEN

El reconocimiento de cierto solapamiento entre el acoso cara a cara (bullying) y el ciberacoso (cyberbullying) puede indicar que variables de cognición social, cuya influencia ha sido reconocida en el bullying, también estén presentes en el acoso cibernético. El objetivo de la investigación fue estudiar el ajuste social de los implicados en cyberbullying y analizar las diferencias en la percepción de la competencia social, la motivación y el apoyo de los iguales, entre víctimas, agresores y agresores victimizados del cyberbullying. Un total de 505 adolescentes (47,3% chicas) con edades comprendidas entre los 12 y 16 años ($M=13.95$; $DT=1.42$) participaron en el estudio. Se utilizaron instrumentos para adolescentes validados en español y se analizaron las propiedades psicométricas para la adaptación de la escala de competencia social. Análisis factoriales exploratorios y confirmatorios mostraron índices óptimos de fiabilidad y validez. Se observó una mayor implicación de los ciberagresores victimizados. Las comparaciones entre roles a través de pruebas no paramétricas mostraron en los ciberagresores un mayor apoyo social que el resto de perfiles y altos niveles en metas de popularidad. Las cibervíctimas destacaron por su alta percepción de competencia social. Los ciberagresores victimizados mostraron altos niveles de metas de popularidad y baja aceptación social. Los resultados obtenidos permiten concluir que la forma en que el grupo de iguales gestiona su vida emocional y social puede estar explicando la situación de cyberbullying entre los adolescentes.

KEYWORDS | PALABRAS CLAVE

Adolescence, social competence, risk behaviors, educational context, research, social motivation, popularity, social relationships. Adolescencia, competencia social, conductas de riesgo, contexto educativo, investigación, motivación social, popularidad, relaciones sociales.



1. Introduction and background

As teenagers spend more and more time together, the peer context becomes increasingly important in their social lives. The technological revolution, especially communication via digital devices and social networks, has given rise to a fluid and almost permanent exchange that is often far removed from the adult world. It has been widely recognized that feelings of group belonging, reciprocity, social competence or peer acceptance are linked to psychological, social and emotional well-being during adolescence (Buhrmester, 1990; Parker & Asher, 1993).

The work of Vaughn and colleagues has shown that competent social behavior, social motivation and peer acceptance constitute a multifaceted and hierarchically organized construct that explains social adjustment in peer groups (Bost, Vaughn, Washington, Ciełinski, & Bradbard, 1998; Vaughn & al., 2009). Social adjustment is defined as the degree to which an individual engages in socially competent behaviors that provide a good fit between their behavior and their immediate social context (Crick & Dodge, 1994).

Perceived social competence is the cognitive estimation of one's skills, abilities and behaviors that enable positive development outcomes (Zhang & al., 2014). As regards bullying, it has been shown that victims have a deficit in social skills (Fox & Boulton, 2005). In contrast, bullies have been characterized as having a low level of emotional skill in managing their relationships effectively, but have also been recognized to be popular and skilled in manipulating social situations to their own advantage (Gini, Pozzoli, & Hauser, 2011). Bully-victims, on the other hand, are those that exhibit the worst social and emotional skills (Habashy-Hussein, 2013).

Social motivation refers to the cognitive representation of what people want to attain, and marks the direction, effort and persistence required to achieve the desired behavior (Austin & Vancouver, 1996). Ryan and Shim (2006, 2008) have identified three types of goals: development goals, social demonstration or popularity goals and avoidance goals. The pursuit of development goals in adolescents has been associated with learning new ways of relating, personal growth and enhanced social outcomes, which contribute to social efficacy and greater acceptance from peers (Mouratidis & Sideridis, 2009; Ryan & Shim, 2006, 2008). However, adolescents may also be driven by the pursuit of goals whose aim is to achieve popularity, social success and higher status within the group. Several studies have highlighted that boys and girls who seek social recognition are more likely to

engage in aggressive behaviors (Ojanen, Grönroos, & Salmivalli, 2005; Rodkin, Ryan, Jamison, & Wilson, 2013). Finally, it has been shown that trying to avoid negative judgments from others often leads to a lack of acceptance by peers (Ryan & Shim, 2006), with victims of bullying exhibiting greater fear of negative evaluations (Storch, Brassard, & Masia-Warner, 2003).

Social acceptance, a third indicator of social adjustment, refers to the degree to which students are accepted or rejected by their peers. It involves engaging in positive interactions, spending time with others and having someone that provides support and well-being. There is general agreement in the research literature that the lack of acceptance by peers can lead to victimization (Kendrick, Jutengren, & Stattin, 2012). Although victims and bully-victims who suffer bullying report less social support from peers (Cerezo, Sánchez, Ruiz, & Areense, 2015; Holt & Espelage, 2007), it has also been shown that many boys and girls who are not accepted by their peers use aggression as a behavioral strategy in social interaction (Crick, Grotpeter, & Bigbee, 2002). However, social support has been recognized in bullies, because certain peer groups or contexts constituted on the basis of immoral norms accept aggression as a way to gain acceptance within the group (Berger & Caravita, 2016).

1.1. Social adjustment in cyberbullying

The technological advances in recent decades have changed social interactions from face-to-face to virtual exchanges. While this increased connectivity provides some social benefits for the virtual relationships of adolescents, such relationships are not without risks, including cyberbullying (Fernández-Montalvo, Peñalva, & Irazabal, 2015).

Research on cyberbullying has described this phenomenon as an indirect form of traditional bullying which shares the defining characteristics of intimidation: an intentional, aggressive act carried out against a victim by one or more perpetrators repeatedly and over time, causing an imbalance of power (Olweus, 1999). However, when this phenomenon occurs via the Internet or other digital communication devices, it exhibits specific characteristics, such as anonymity, publicity, which extends or may extend the damage caused to a wider audience, and the difficulty of disconnecting from the cyber environment, which can increase the vulnerability of the victims (Juvonen & Gross, 2008; Olweus, 2012; Smith, 2015).

The fact that cyberbullying shares the defining characteristics of bullying has led many researchers to study the similarities and differences between the phe-

nomena. Early research gave greater attention to the individual characteristics of the personality of the adolescents involved (Tani, Greenman, Schneider, & Fregoso, 2003). Subsequent studies, however, have taken into account both personal and contextual factors, finding that empathy and the social climate in which students operate are closely interrelated in both types of aggression (Casas, Del-Rey, & Ortega-Ruiz, 2013). In fact, it has been recognized that there is an overlap between those involved in traditional bullying and cyberbullying in terms of both victimization and aggression (Del-Rey, Elipe, & Ortega-Ruiz, 2012; Kowalski, Morgan, & Limber, 2012), in addition to similar negative consequences associated with both phenomena (Garaigordobil, 2011; Zych, Ortega-Ruiz, & Del-Rey, 2015). This has led to the recognition that cyberbullying occurs in a social environment where social relations are the same in online and offline networks (Ellison, Steinfield, & Lampe, 2007). It has also been shown that students most often begin bullying over the Internet, thus suggesting that the cyberspace may be a possible extension of the school setting (Juvonen & Gross, 2008).

Since bullying and cyberbullying tend to share the same social space, the variables of interaction that define bullying involvement should also extend to cyberbullying. Recent research on the social characteristics of those involved in cyberbullying has focused on the study of peer acceptance within the group (García-Fernández, Romera, & Ortega-Ruiz, 2015). In this regard, a low level of peer support has been shown to be related to cybervictimization (Ortega-Barón, Buelga, & Cava, 2016; Navarro, Yubero, & Larrañaga, 2015) and cyberaggression (Calvete, Orue, Estévez, Villardón, & Padilla, 2010). Similarly, it has been observed that a lack of peer support and cybervictimization are associated with subsequent online aggression, which could explain the role of peer support in the involvement of bully-victims (Wright & Li, 2013).

However, little research has been done on the role that social motivation, perceived social competence and perceived peer support play in cyberbullying

involvement by bullies, victims, bully-victims and those not involved in the phenomenon. Determining the social adjustment of those involved in cyberbullying could provide important insight for carrying out interventions in the school setting.

This paper has two objectives: a) to determine the social adjustment of those involved in cyberbullying and b) to analyze the differences in perceived social competence, social motivation and peer support between the roles involved.

We hypothesize that bullies will be motivated by popularity goals and show greater peer support, while

Given the complex social structure of peer group involvement, teachers and school counselors should have more precise models to help them to organize groupings, social activities and analyze peer networks, among others, in order to prevent such phenomena from occurring and improve social motivation and interpersonal relationships among their students. In doing so, virtual social networks will also benefit, given the close relationship between bullying and cyberbullying.

bully-victims will show lower levels of social adjustment in all its dimensions.

2. Material and method

2.1. Participants

A total of 505 adolescents aged 12 to 16 participated in the study ($M=14.49$; $SD=7.66$), of which 47.3% were girls. Incidental non-probability sampling was performed. The sample of schools was selected according to their accessibility. The participants attended two public schools with an average socioeconomic level, one of which was located in a rural area.

2.2. Instruments

The Social Support Scale for Children developed by Harter in 1985 was used (Spanish version adapted for adolescents by Pastor, Quiles, & Pamies, 2012) ($\alpha=.69$). Each of the six items of the scale captures two social profiles (e.g., «Some kids have classmates

who like them the way they are BUT other kids have classmates who wish they were different»), with two response options each («Really true for me» or «Sort of true for me»). Respondents are asked to choose which profile best describes them and once they have chosen the profile they are asked to select one of the two options. The internal consistency of the scale with the study sample was $\Omega = .75$.

Social motivation was measured using the Spanish adaptation of the Social Achievement Goals Scale (Herrera-López, Romera, Gómez-Ortiz, & Ortega-Ruiz, 2016) designed and validated by Ryan and Shim (2006). This scale measures three types of social goals: development goals ($\Omega_{MD} = .78$) (e.g., «In general, I strive to develop my interpersonal skills»); popularity goals ($\Omega_{MA} = .89$) (e.g., «I want to be friends with 'popular' people»); and avoidance goals ($\Omega_{ME} = .77$) (e.g., «I would be successful if I could avoid being socially awkward»). The scale comprises a total of 12 items that are measured on a 5-point Likert-type scale (1 = Not at all true and 5 = Very true). The internal consistency with the study sample was adequate ($\Omega_{MD} = .82$, $\Omega_{MA} = .85$, $\Omega_{ME} = .75$).

Self-perceived social competence was measured using the Perceived Social Competence Scale II (Anderson-Butcher, Amorose, Riley, Gibson, & Ruch, 2014). This scale assesses the perception of social self-competence by means of five items (e.g., «I show concern for others» or «I give support to others»). Responses are measured on a 5-point Likert scale (1 = Not at all true and 5 = Really true). To date, no studies have used this scale with Spanish teenagers. The results of the validation of the Spanish adaptation of the scale are presented in the results section. The internal consistency with the study sample was adequate ($\Omega = .91$).

The European Intervention Project Cyberbullying Questionnaire (Del-Rey & al., 2015) was used to measure two dimensions of cyberbullying: cybervictimization ($\alpha = .97$) (e.g., «Someone said nasty things to me or called me names using texts or online messages» or «Someone posted embarrassing videos or pictures of me online») and cyberaggression ($\alpha = .93$) (e.g., «I created a fake account, pretending to be some else» or «I excluded or ignored someone in a social networking site or Internet chat room»). The questionnaire consists of 22 Likert items with five response options: 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. The internal consistency for the study sample was adequate for cybervictimization ($\Omega = .95$) and cyberaggression ($\Omega = .97$).

2.3. Procedure

After selecting the schools, pupils were informed of the research aims and asked to participate in the study. Authorization was obtained from the schools and the families. Emphasis was placed on the voluntary nature of their participation and the confidentiality of their responses.

The instruments were administered to the classes as a whole in their respective classrooms without the presence of teachers in a single, 30-minute session.

2.4. Data analysis

To determine the psychometric properties of the Perceived Social Competence Scale in adolescents, confirmatory factor analysis (CFA) was performed using the robust maximum likelihood method. The following fit indices were used: the Satorra-Bentler chi-square (2S-B), the comparative fit index (CFI) ($> .95$), the non-normed fit index (NNFI) ($> .95$), the goodness-of-fit index (GFI) ($> .95$), the root mean square error of approximation (RMSEA) ($< .08$) and the standardized root mean square residual (SRMR) ($< .08$) (Byrne, 2006; Hu & Bentler, 1999). EQS 6.2 software was used to perform the analyses. To calculate involvement in the cyberbullying roles, the criterion of Del-Rey & al. (2015) was taken into account.

To study the mean differences in involvement in the cyberbullying roles, nonparametric tests were used (Kruskal-Wallis and Mann-Whitney U tests for pairwise comparisons) after verifying the lack of normality by the Kolmogorov-Smirnov test. The data were coded and analysed using SPSS statistical software version 20. Given the ordinal characteristics of the variables, internal consistency was analyzed based on the results of McDonald's omega (Elosua Oliden & Zumbo, 2008), which was calculated using the Factor 9.3 program.

3. Analysis and results

The descriptive analyses of the sample indicate a 29.7% incidence of cyberbullying. Of the total respondents, 9.9% were victims, 5.5% were bullies and around 14.3% were bully-victims. No statistically significant differences regarding involvement in each of the roles were observed for the gender variable.

The results of the CFA for the Perceived Social Competence Scale in adolescents were optimal (figure 1): $\chi^2_{2S-B} = 13.96$; $p = .01$; NNFI = .971; CFI = .985; RMSEA = .059; SRMR = .27. The values of the covariances between items ranged from .46 to .71. The value of Mardia's multivariate coefficient was 30.63. The univariate statistics for each item are presented in table 1.

Table 1. Univariate statistics for the Perceived Social Competence Scale II

	M	SD	Kurtosis	Skewness
I help other people	4.31	0.884	1.926	-1.389
I ask others if I can be of help	4.01	1.018	0.835	-1.058
I show concern for others	4.11	0.964	0.959	-1.086
I show care for others	4.06	0.976	0.786	-0.992
I give support to others	4.18	0.913	1.332	-1.156

The Kruskal-Wallis H test showed statistically significant differences between the different cyberbullying roles in all the social adjustment variables (table 2). Post hoc analyses with pairwise comparisons using the Mann-Whitney U test showed that cybervictims were less accepted by their peers compared to those not involved in cyberbullying ($p < .001$), cyberbullies ($p < .01$) and cyberbully-victims ($p = .027$), while cyberbully-victims showed less peer acceptance than those not involved in cyberbullying ($p = .021$). As regards social development goals, those not involved showed a higher level of social competence compared to the cyberbullies ($p = .047$) and the cyberbully-victims ($p = .017$). In terms of social demonstration goals, cybervictims displayed fewer popularity goals than cyberbullies ($p = .045$) and cyberbully-victims ($p < .001$). However, the group not involved in cyberbullying exhibited fewer popularity goals than the cyberbully-victims ($p < .01$). As for self-perceived social competence, the group of cyberbullies showed lower levels than those not involved ($p < .01$) and cybervictims ($p < .01$). Moreover, cyberbully-victims showed lower self-perceived social competence compared with the cybervictims ($p = .017$) and those not involved ($p = .040$).

4. Discussion and conclusions

The purpose of this research was to determine the social adjustment of adolescents involved in cyberbullying through the analysis of perceived peer support, social competence and social goals, and to examine differences according to the cyberbullying role. We hypothesized that cyberbullies would exhibit greater popularity goals and peer support than cybervictims and that cyberbully-victims would show lower social adjustment in all the dimensions.

Research on the prevalence of cyberbullying has yielded different results in terms of the percentages of involvement, often due to the heterogeneity of the measurement processes (Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014). In this study, we used an instrument that has been validated in a broad European sample and captures the defining characteristics of cyberbullying

(Del-Rey & al., 2015), thus permitting the results to be compared with other studies that have used the same instrument. Our results show that one out of every four students is involved in

cyberbullying, with more young people involved in the role of cyberbully-victim (Del-Rey & al., 2015; Selkie, Fales, & Moreno, in press). In line with previous studies, we did not observe gender differences (Hinduja & Patchin, 2009). However, the results on gender differences in cyberbullying are unclear and it seems that they may be moderated by age (see the meta-analysis of Barlett & Coyne, 2014). As regards social adjustment, our study found that cyberbullies report the highest mean perceived social support, even compared to those who are not involved in cyberbullying. In this sense, our study differs from some studies (Calvete & al., 2010; Katzer, Fetschenhauer, & Belschak, 2009) which have reported that bullies are characterized by their low peer support, but is consistent with others which have shown that bullies are more popular and socially accepted than victims and as popular and socially accepted as those who are not involved (Berger & Caravita, 2016). As expected, cybervictims reported the lowest mean perceived peer support, which is consistent with studies that indicate that cybervictims have fewer friends and the support of friends protects against cyberbullying (Kendrick & al., 2012; Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Navarro & al., 2015). The relationship between low peer support and cybervictimization can be explained, on the one hand, by the face-to-face context in which bullying occurs, and on the other, by the strong relationship between bullying and cyberbullying. If cyberbullies choose their cybervictims from

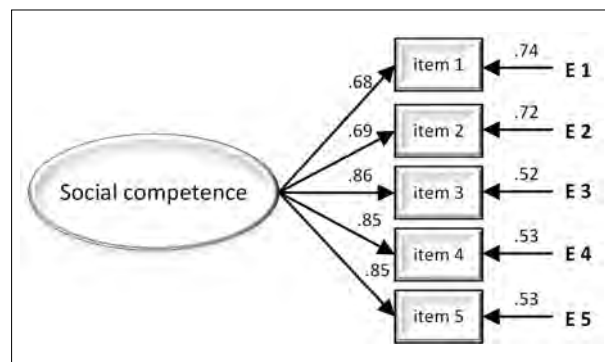


Figure 1. CFA for the Perceived Social Competence Scale (Anderson-Butcher & al., 2014)

Table 2. Differences between social adjustment indices and cyberbullying roles

Variable/Roles	Statistics			Differences between groups		Pairwise comparisons		
	N	M	SD	X(gl)	p	U	p	
Peer acceptance								
Not involved	341	3.12	.522	21.943(3)	.000	NI/V	5257.000	.000
Victim	49	2.76	.614			NI/B	3895.00	.692
Bully	24	3.18	.463			NI/BV	9557.500	.021
Bully-victim	68	2.99	.506			V/B	343.000	.004
Total	482	3.07	.538			V/BV	1267.000	.027
						B/BV	634.000	.104
Social development goals								
Not involved	352	4.01	.676	9.839(3)	.020	NI/V	7628.500	.125
Victim	50	3.89	.632			NI/B	3669.500	.047
Bully	27	3.79	.605			NI/BV	10429.000	.017
Bully-victim	72	3.87	.560			V/B	606.500	.461
Total	501	3.97	.654			V/BV	1730.500	.715
						B/BV	915.500	.655
Demonstration goals (popularity)								
Not involved	352	2.38	.995	13.472(3)	.004	NI/V	7744.000	.168
Victim	50	2.19	1.017			NI/B	3977.000	.156
Bully	27	2.63	.976			NI/BV	9907.000	.003
Bully-victim	72	2.72	.931			V/B	488.500	.045
Total	501	2.42	.995			V/BV	1186.000	.001
						B/BV	926.500	.719
Social avoidance goals								
Not involved	352	3.11	1.019	1.511(3)	.680	NI/V	8706.500	.903
Victim	50	3.16	.924			NI/B	4196.500	.310
Bully	27	3.30	.958			NI/BV	12134.000	.569
Bully-victim	72	3.05	.947			V/B	599.000	.416
Total	501	3.12	.995			V/BV	1710.000	.638
						B/BV	819.500	.229
Perceived social competence								
Not involved	352	4.19	.759	15.026(3)	.002	NI/V	7762.000	.173
Victim	50	4.29	.787			NI/B	3133.500	.003
Bully	27	3.72	.849			NI/BV	10743.500	.040
Bully-victim	72	3.96	.892			V/B	390.000	.002
Total	501	4.14	.796			V/BV	1344.500	.017
						B/BV	785.000	.140

Note: NI=Not involved; V=Victim; B=Bully; BV=Bully-victim

among socially vulnerable boys and girls who are more socially isolated and already immersed in a process of face-to-face victimization and hence less able to defend themselves, such social defenselessness could be a prior risk factor for cyberaggression. The low peer support perceived by cyberbully-victims may have the same explanation since, to a large degree, cyberbully-victims have similar functional characteristics to those of cybervictims. The lack of peer support and cybervictimization may intensify negative feelings, which in turn increases the risk of cyberbullying. This is in line with previous studies, which have shown that peer rejection may be a source of tension that contributes to cyberbullying (Hinduja & Patchin, 2009; Wright & Li, 2013).

Although there is little research on social development goals in relation to cyberbullying roles, we know that when adolescents pursue social development goals, they find new ways of relating, enhance their

relationships and take the initiative to meet others, make friends and learn to get along with others, all of which are related to lower peer rejection (Mouratidis & Sideridis, 2009; Ryan & Shim, 2006, 2008). In this paper, those who were not involved in bullying reported higher levels in the social development goal variables, while cyberbullies showed lower scores, thus confirming that cyberbullies are characterized by low levels of positive social motivation or development.

As regards the pursuit of popularity, cyberbully-victims and cyberbullies were most driven by the need to be socially recognized. These results are consistent with those found for bullying, thus suggesting that the desire to attain social recognition leads many boys and girls to intimidate others. It should be noted, however, that cyberbullies do not harass others at random, but do so in order to strengthen their social position or marginalize opponents in a group (Navarro & al., 2015), which has important moral implications regard-

ding the impact of bullying and cyberbullying on the ethics of students involved in these phenomena.

Finally, cyberbullies display lower levels of perceived social competence, whereas cybervictims show the highest. This social profile underscores the close relationship between cyberbullying and traditional or face-to-face bullying. As in traditional bullying, cyberbullying is targeted at victims who, despite engaging in prosocial behaviors, being perceived as socially competent and striving to improve their relationships with others (development goals), are vulnerable and rejected within the group. It is therefore not their social skills that characterize them, but the position or social status they acquire according to the conventions and sometimes arbitrary norms established within the peer group context, which may explain their victimization. This suggests that prosociality and the ability to interact with others does not protect victims from being the target of bullies. Rather, cyberbullies recognize their lack of social efficacy and low level of development goals and yet are popular and recognized by others (which does not necessarily mean that they are loved or liked). Hence, there is a cyberbully profile that seeks popularity within the peer group and has a high level of peer acceptance; two features that characterize this false leadership within the group. Such morally vacuous leadership should be considered morally negative.

These findings should aid in guiding psychoeducational interventions, teaching practices, curriculum design and actions to promote peaceful coexistence in secondary schools. Given the complex social structure of peer group involvement, teachers and school counselors should have more precise models to help them to organize groupings, social activities and analyze peer networks, among others, in order to prevent such phenomena from occurring and improve social motivation and interpersonal relationships among their students. In doing so, virtual social networks will also benefit, given the close relationship between bullying and cyberbullying.

The conclusions of this study indicate that greater attention must be paid to the configuration, social motives and socio-emotional connotations of the peer group and its influence on the management of social life and school life. Indeed, many of the keys for explaining the situations of dominance and submission that occur in cyberspace between boys and girls may be found in the conventions and social motives that arise in the context of both direct and virtual peer networks.

This study has some limitations, among them the sample size. Increasing the number of participating schools as well as the study area would allow us to

reach conclusions that more closely reflect the social and virtual reality of adolescents. Measuring the variables by means of self-reports is also limiting because they may lead to some degree of social desirability bias. It would therefore be necessary to include the perceptions of other groups (peers or teachers) to assess social adjustment, as well as to obtain qualitative data on the perspective of victims and bullies. As a future line of research, longitudinal explanatory models of social adjustment in cyberbullying which measure the attitudes and behaviors of the reference peer group towards cyberbullying should be considered.

Acknowledgments

This study has been carried out within the framework of the following projects: Project PRY040/14 funded by the Fundación Pública Andaluza Centro de Estudios Andaluces, Project EDU2013-44627-P funded by the Spanish National R&D&I Plan, Proyecto BIL/14/S2/163 financed by the Fundación Mapfre, and Project 564710 financed by the Europe for Citizens Programme.

References

- Anderson-Butcher, D., Amorose, A.J., & al. (2014). The Case for the Perceived Social Competence Scale II. *Research on Social Work Practice*, 9, 1-10. doi: <http://dx.doi.org/10.1177/1049731514557362>
- Austin, J.T., & Vancouver, J.B. (1996). Goal Constructs in Psychology: Structure, Process, and Content. *Psychological Bulletin*, 120, 338-375. doi: <http://dx.doi.org/10.1037/0033-2909.120.3.338>
- Barlett, C., & Coyne, S.M. (2014). A Meta-analysis of Sex Differences in Cyber-bullying Behavior: The Moderating Role of Age. *Aggressive Behavior*, 40, 474-488. doi: <http://dx.doi.org/10.1002/ab.21555>
- 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: <http://dx.doi.org/10.1016/j.adolescence.2015.10.020>
- Bost, K.K., Vaughn, B.E., Washington, W.N., Cielinski, K.L., & Bradbard, M.R. (1998). Social Competence, Social Support, and Attachment: Demarcation of Construct Domains, Measurement, and Paths of Influence for Preschool Children Attending Head Start. *Child Development*, 69, 192-218. doi: <http://dx.doi.org/10.1111/j.1467-8624.1998.tb06143.x>
- Buhrmester, D. (1990). Intimacy of Friendship, Interpersonal Competence, and Adjustment during Preadolescence and Adolescence. *Child Development*, 61, 1101-1111. doi: <http://dx.doi.org/10.1111/j.1467-8624.1990.tb02844.x>
- Byrne, B.M. (2006). *Structural equation modeling with EQS: Basic concepts, applications, and Programming*. Mahwah, New Jersey: Erlbaum.
- Calvete, E., Orue, I., Estévez, A., Villardón, L., & Padilla, P. (2010). Cyberbullying in Adolescents: Modalities and aggressors' profile. *Computers in Human Behavior*, 26, 1128-1135. doi: <http://dx.doi.org/10.1016/j.chb.2010.03.017>
- Casas, J.A., Del-Rey, R., & Ortega-Ruiz, R. (2013). Bullying and Cyberbullying: Convergent and Divergent Predictor Variables. *Computers in Human Behavior*, 29, 580-587. doi: <http://dx.doi.org/10.1016/j.chb.2012.11.015>
- Cerezo, F., Sánchez, C., Ruiz, C., & Areñse, J.J. (2015). Ado-

- lescents and Preadolescents' Roles on Bullying, and its Relation with Social Climate and Parenting Styles. *Psicodidáctica*, 20, 139-155. doi: <http://dx.doi.org/10.1387/RevPsicodidact.11097>
- Crick, N.R., & Dodge, K.A. (1994). A Review and Reformulation of Social Information-processing Mechanisms in Children's Social Adjustment. *Psychological Bulletin*, 115, 74-101. doi: <http://dx.doi.org/10.1037/0033-2909.115.1.74>
- Crick, N.R., Grotpeter, J.K., & Bigbee, M.A. (2002). Relationally and Physically Aggressive Children's Intent Attributions and Feelings of Distress for Relational and Instrumental Peer Provocations. *Child Development*, 73, 1134-1142. doi: <http://dx.doi.org/10.1111/1467-8624.00462>
- Del-Rey, R., Casas, J.A., Ortega-Ruiz, R., Schultze-Krumbholz, A., Scheithauer, H., Smithe, P., Plichtai, P. (2015). Structural Validation and Cross-cultural Robustness of the European Cyberbullying Intervention Project Questionnaire. *Computers in Human Behavior*, 50, 141-147. doi: <http://dx.doi.org/10.1016/j.chb.2015.03.065>
- Del-Rey, R., Elipe, P., & Ortega-Ruiz, R. (2012). Bullying and Cyberbullying: Overlapping and Predictive Value of the Co-occurrence. *Psicothema*, 24, 608-613.
- Ellison, N.B., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook 'Friends': Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, 12, 1143-1168. doi: <http://dx.doi.org/10.1111/j.1083-6101.2007.00367.x>
- Elosua Oliden, P., & Zumbo, B.D. (2008). Coeficientes de fiabilidad para escalas de respuesta categórica ordenada. *Psicothema*, 20, 896-901.
- Fernández-Montalvo, J., Peñalva, A., & Irazabal, I. (2015). Hábitos de uso y conductas de riesgo en Internet en la preadolescencia. [Internet Use Habits and Risk Behaviours in Preadolescence]. *Comunicar*, 44, 113-120. doi: <http://dx.doi.org/10.3916/C44-2015-12>
- Garaigordobil, M. (2011). Prevalencia y consecuencias del cyberbullying: una revisión. *International Journal of Psychology and Psychological Therapy*, 11, 233-254.
- García-Fernández, C.M., Romera, E.M., & Ortega, R. (2015). Explicative Factors of Face-to-face Harassment and Cyberbullying in a Sample of Primary Students. *Psicothema*, 27, 347-353. doi: <http://dx.doi.org/10.7334/psicothema2015.35>
- 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: <http://dx.doi.org/10.1348/000709905X25517>
- Gini, G., Pozzoli, T., & Hauser, M. (2011). Bullies have Enhanced Moral Competence to Judge relative to Victims, but Lack Moral Compassion. *Personality and Individual Differences*, 50, 603-608. doi: <http://dx.doi.org/10.1016/j.paid.2010.12.002>
- Habashy-Hussein, M. (2013). The Social and Emotional Skills of Bullies, Victims, and Bully-victims of Egyptian Primary School Children. *International Journal of Psychology*, 48, 910-921. <http://dx.doi.org/10.1080/00207594.2012.702908>
- Harter, S. (1985). *The Self-perception Profile for Children: Revision of the Perceived Competence Scale for Children*. Denver, CO: University of Denver.
- Herrera-López, M., Romera, E.M., Ortega-Ruiz, R., & Gómez-Ortiz, O. (2016). Influence of Social Motivation, Self-perception of Social Efficacy and Normative Adjustment in the Peer Setting. *Psicothema*, 28, 32-39. <http://dx.doi.org/10.7334/psicothema2015.135>
- Hinduja, S., & Patchin, J. (2009). *Bullying Beyond the Schoolyard: Preventing and Responding to Cyberbullying*. Thousand Oaks: Sage Publications.
- Holt, M.K., & Espelage, D.L. (2007). Perceived Social Support among Bullies, Victims, and Bully-victims. *Journal of Youth and Adolescence*, 36, 984-994.
- Hu, L., & Bentler, P. (1999). Cut off Criteria for fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives. *Structural Equation Modeling*, 6, 1-55. <http://dx.doi.org/10.7334/10.1080/10705519909540118>
- Juvonen, J., & Gross, E.F. (2008). Extending the School Grounds? Bullying Experiences in Cyberspace. *Journal of School Health*, 78, 496-505. doi: <http://dx.doi.org/10.1111/j.1746-1561.2008.00335.x>
- Katzer, C., Fetchenhauer, D., & Belschak, F. (2009). Cyberbullying: Who are the Victims?: A Comparison of Victimization in Internet Chatrooms and Victimization in School. *Journal of Media Psychology: Theories, Methods, and Applications*, 21, 25-36. doi: <http://dx.doi.org/10.1027/1864-1105.21.1.25>
- Kendrick, K., Jutengren, G., & Stattin, H. (2012). The Protective Role of Supportive Friends against Bullying Perpetration and Victimization. *Journal of Adolescence*, 35, 1.069-1.080. doi: <http://dx.doi.org/10.1016/j.adolescence.2012.02.014>
- Kowalski, R.M., Giumetti, G.W., Schroeder, A.N., & Lattanner, M.R. (2014). Bullying in the Digital Age: A Critical Review and Meta-analysis of Cyberbullying Research among Youth. *Psychological Bulletin*, 140, 1.073-1.137. doi: <http://dx.doi.org/10.1037/a0035618>
- Kowalski, R.M., Morgan, C.A., & Limber, S.P. (2012). Traditional Bullying as a Potential Warning Sign of Cyberbullying. *School Psychology International*, 33, 505-519. doi: <http://dx.doi.org/10.1177/0143034312445244>
- Modecki, K.L., Minchin, J., Harbaugh, A.G., Guerra, N.G., & Runions, K.C. (2014). Bullying Prevalence across Contexts: A Meta-analysis Measuring Cyber and Traditional Bullying. *Journal of Adolescent Health*, 55, 602-611. doi: <http://dx.doi.org/10.1016/j.jadohealth.2014.06.007>
- Mouratidis, A., & Sideridis, G. (2009). On Social Achievement Goals: Their Relations with Peer Acceptance, Classroom Belongingness, and Perceptions of Loneliness. *The Journal of Experimental Education*, 77, 285-307. doi: <http://dx.doi.org/10.3200/JEXE.77.3.285-308>
- Navarro, R., Yubero, S., & Larrañaga, E. (2015). Psychosocial Risk Factors for Involvement in Bullying Behaviors: Empirical Comparison between Cyberbullying and Social Bullying Victims and Bullies. *School Mental Health*, 7, 235-248. doi: <http://dx.doi.org/10.1007/s12310-015-9157-9>
- Ojanen, T., Grönroos, M., & Salmivalli, C. (2005). Applying the Interpersonal Circumplex Model into Children's Social Goals: Connections with Peer Reported behavior and Sociometric Status. *Developmental Psychology*, 41, 699-710. doi: <http://dx.doi.org/10.1037/0012-1649.41.5.699>
- Olweus, D. (1999). Norway. In P.K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The Nature of School Bullying: A Cross-national Perspective* (pp. 28-48). London: Routledge.
- Olweus, D. (2012). Cyberbullying: An Overrated Phenomenon? *European Journal of Developmental Psychology*, 9, 520-538. doi: <http://dx.doi.org/10.1080/17405629.2012.682358>
- Ortega-Barón, J., Buelga, S., & Cava, M.J. (2016). Influencia del clima escolar y familiar en adolescentes, víctimas de ciberacoso. [The Influence of School Climate and Family Climate among Adolescents Victims of Cyberbullying]. *Comunicar*, 46, 57-65. <http://dx.doi.org/10.3916/C46-2016-06>
- Parker, J.G., & Asher, S.R. (1993). Friendship and Friendship Quality in Middle Childhood: Links with Peer Group Acceptance

- and Feelings of Loneliness and Social Dissatisfaction. *Developmental Psychology*, 29, 6-11. doi: <http://dx.doi.org/10.1037/0012-1649.29.4.611>
- Pastor, Y., Quiles, Y., & Pamies, L. (2012). Apoyo social en la adolescencia: adaptación y propiedades psicométricas del «Social Support Scale for Children» de Harter (1985). *Revista de Psicología Social*, 27, 39-53. doi: <http://dx.doi.org/10.1174/02134741-2798844060>.
- Rodkin, P., Ryan, A., Jamison R., & Wilson T., (2013). Social Goals, Social Behavior, and Social Status in Middle Childhood. *Developmental Psychology*, 49, 1.139-1.150. doi: <http://dx.doi.org/10.1037/a0029389>
- Ryan, A., & Shim, S.S. (2006). Social Achievement Goals: The Nature and Consequences of Different Orientations toward Social Competence. *Personality and Social Psychology Bulletin*, 32, 1.246-1.263. doi: <http://dx.doi.org/10.1177/0146167206289345>
- Ryan, A., & Shim, S.S. (2008). An Exploration of Young Adolescents' Social Achievement Goals: Implications for Social Adjustment in Middle School. *Journal of Educational Psychology*, 100, 672-687. doi: <http://dx.doi.org/10.1037/0022-0663.100.3.672>
- Selkie, E.M., Fales, J.L., & Moreno, M.A. (2016). Cyberbullying Prevalence among US Middle and High School-Aged Adolescents: A Systematic Review and Quality Assessment. *Journal of Adolescent Health*, 58(2), 125-133. doi: <http://dx.doi.org/10.1016/j.jadohealth.2015.09.026>
- Smith, P.K. (2015). The Nature of Cyberbullying and What We Can do about it. *Journal of Research in Special Educational Needs*, 15, 176-184. doi: <http://dx.doi.org/10.1111/1471-3802.12114>
- Storch, E.A., Brassard, M.R., & Masia-Warner, C.L. (2003). The Relationship of Peer Victimization to Social Anxiety and Loneliness in Adolescence. *Child Study Journal*, 33, 1-18.
- Tani, F., Greenman, P.S., Schneider, B.H., & Fregoso, M. (2003). Bullying and the Big Five: A Study of Childhood Personality and Participant Roles in Bullying Incidents. *School Psychology International*, 24, 131-146. doi: <http://dx.doi.org/10.1177/01430-34303024002001>
- Vaughn, B.E., Shin, N., Kim, M., Coppola, G., Krzysik, L., Santos, A.J... Korth, B. (2009). Hierarchical Models of Social Competence in Preschool Children: A Multisite, Multinational Study. *Child Development*, 80, 1.775-1.796. doi: <http://dx.doi.org/10.1111/j.1467-8624.2009.01367.x>
- Wright, M.F., & Li, Y. (2013). The Association between Cyber Victimization and Subsequent Cyber Aggression: The Moderating Effect of Peer Rejection. *Journal of Youth and Adolescence*, 42, 662-674. doi: <http://dx.doi.org/10.1007/s10964-012-9903-3>
- 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: <http://dx.doi.org/10.1016/j.jsp.2014.06.001>
- Zych, I., Ortega-Ruiz, R., & Del-Rey, R. (2015). Scientific Research on Bullying and Cyberbullying: Where Have We Been and Where Are We Going. *Aggression and Violent Behavior*, 24, 188-198. doi: <http://dx.doi.org/10.1016/j.avb.2015.05.015>