Revista de Psicodidáctica, 2017, 22(1), 23-28 ISSN:1136-1034 eISSN: 2254-4372
www.elsevier.es/psicod
UPV-EHU DOI: 10.1387/RevPsicodidact.16398

School Violence and Attitude Toward Authority of Student Perpetrators of Cyberbullying

Jessica Ortega-Barón*, Sofía Buelga*, María Jesús Cava*, and Eva Torralba**
*University of Valencia, **University of Castilla-La Mancha

Abstract

The main aim of the study is to analyze the differences among students involved in cyberbullying situations (not involved, occasional, severe) in their attitudes toward institutional authority and their participation in direct and indirect violent school behavior, considering the interaction with gender. The sample is composed of 1062 secondary education students of both sexes between 12 and 18 years old. The results of the multivariate analysis show no interactions, but they do show main effects of the group and gender variables. Severe cyberbullies have greater rejection of institutional authority, transgression of norms, and direct and relational violent school behaviors toward peers. Boys have more favorable attitudes toward social norm transgression, and they participate more than girls in direct violent school behaviors involving direct confrontation with the victim. Regression analyses reveal that the study variables predict cyberbullying. These results and their implications are discussed.

Keywords: cyberbullying, perpetrators, attitude toward authority, school violence.

Resumen

El objetivo principal del estudio es analizar las diferencias entre estudiantes involucrados en situaciones de cyberbullying (no implicados, ocasionales, severos) en su actitud hacia la autoridad institucional y conducta violenta escolar directa y relacional, teniendo en cuenta la interacción con el sexo. La muestra está formada por 1062 estudiantes de educación secundaria entre 12 y 18 años de ambos sexos. Los resultados del análisis multivariado no muestran interacciones, pero sí efectos principales de las variables grupo y sexo. Los ciberagresores severos presentan más rechazo hacia la autoridad institucional, transgresión de normas y mayores conductas violentas directas y relacionales entre iguales. Los chicos tienen actitudes más favorables hacia la transgresión de normas y participan más que las chicas en conductas violentas escolares directas. Los análisis de regresión revelan que las variables de estudio predicen el cyberbullying. Se discuten estos resultados y sus implicaciones.

Palabras clave: cyberbullying, agresores, actitud hacia la autoridad, violencia escolar.

Note: This study forms part of the results obtained within the research project ACIF/2014/110 "Prevention of the harassment in adolescents through the New Technologies of Information and Communication: Prev Program@cib", funded by Consellería de Educació, Cultura i Esport (Generalitat Valenciana dentro del Programa VALi+d).

Correspondence concerning this article should be addressed to Jessica Ortega-Barón, Social Psychology Department, University of Valencia, Avenue Blasco Ibáñez, 21, Valencia (46010). Spain. E-mail: jessica.ortega@uv.es.

Introduction

The increase in the Information and Communication Technologies (ICT) and their many uses have given rise in the 21st century to a new type of violence among adolescents over the Internet (Rice et al., 2015). This phenomenon is called cyberbullying, defined as the use of technological media, mainly the Internet and mobile phone, to harm, intimidate, and abuse peers (Giumetti & Kowalski, 2016). This relatively new problem has produced great concern in the educational and scientific community. Therefore, it is a growing topic of interest in the current research (Zych, Ortega-Ruiz, & Marín-López, 2016).

Various scientific studies suggest that cyberbullying shares various characteristics with traditional school bullying (Garaigordobil, 2011; Navarro, Yubero, & Larrañaga, 2015). In both types of peer abuse, there is an imbalance between the power of the victim and that of the aggressor, a repetition of the violent behavior, and the intention to cause harm. However, due to the use of electronic devices to carry out the abuse, cyberbullying has other characteristics that cause greater harm to the victim (Sticca & Perren, 2013). In addition, the bully's anonymity makes the victim feel more vulnerable due to the unknown identity of the aggressor (Durán-Segura & Martínez, 2015). Moreover, cyber-aggressions are public humiliations because in a matter of seconds they reach a large number of people, seriously affecting the victim's social reputation and causing him/her great psychosocial harm (Mitchell & Jones, 2015; Ortega-Barón, Buelga, & Cava, 2016). Certainly, Internet is a space that is open 24 hours a day, 365 days a year, so that cyber-aggressions can appear at any time or place in the virtual space. Furthermore, cyber-aggressions can be re-sent over and over again, and the victim is unable to stop the cyber-intimidation because he/she does not have control over its diffusion (Garaigordobil & Martínez-Valderrey, 2014).

Recent studies show that cyberbullying has increased considerably in the past ten years among adolescents from all the developed countries in the world (Buelga, Estévez, Ortega-Barón, & Abu-Elbar, 2016; Kowalski, Giumetti, Schroeder, & Lattanner, 2014). Compared to the large number of studies focused on the victim, there are still few scientific studies about the profile of the aggressor (Zych et al., 2016), making it necessary to examine this specific role involved in cyberbullying. Recent studies on the prevalence of this role indicate that a large percentage of adolescents are cyberbullies (Aboujaoude, Savage, Starcevic, & Salame, 2015; Rice et al., 2015). In Great Britain, Pornari and Wood (2010) find a prevalence of 31.5% of cyberbullies among adolescents. In Spain, Calvete, Orue, Estévez, Villardón, and Padilla (2010) show that 44% of adolescents are involved in some type of cyberbullying behavior. Moreover, Buelga, Iranzo, Cava, and Torralba (2015) establish that 50% of Spanish adolescents have bullied their peers through ICTs in the past year, although this bullying is incidental and has a brief duration.

In another vein, results of studies on the sex of cyberbullies are contradictory. Garmendia, Garitaonandia, Martínez-Fernández, and Casado (2011) find gender differences in the frequency and intensity of cyberbullying. Boys abuse the victim more frequently and intensely, whereas girls do so less often and in a more moderate way. Some studies state that boys are more involved than girls in both traditional bullying and cyberbullying (Durán-Segura & Martínez, 2015; Navarro, Larrañaga, & Yubero, 2016). However, other studies point to girls as the group most involved in both types of bullying (Holfeld & Grabe, 2012). There are also studies that find no gender differences

in adolescents' involvement in school bullying and cyberbullying (Katzer, Fetchenauer, & Belschack, 2009; Sentse, Kretschmer, & Salmivalli, 2015). Thus, the gender differences are related to the types of bullying carried out. Some studies show that girls bully in a more indirect and relational way in both the real environment and the virtual one (Mejía-Hernández & Weiss, 2011), whereas boys use more direct physical and verbal violence (Cava, Buelga, Musitu, & Murgui, 2010; Letamendia, 2002). In fact, many cyberbullying behaviors are characterized by being relational and indirect, such as spreading rumors, secrets, and lies about the victim, and his/her social exclusion from *on line* activities and groups.

From this perspective, numerous studies examine the continuity between violent behaviors at school and violent behaviors in the virtual environment (Mitchell & Jones, 2015). Many aggressors involved in traditional bullying have the same role in the virtual space (Cuadrado-Gordillo & Fernández-Antelo, 2014). This role stability in both contexts is pointed out in recent studies by authors such as Giumetti and Kowalski (2016), Olweus (2013), and Riebel, Jaeger, and Fischer (2009). Furthermore, this group of adolescents is not only involved in these violent behaviors, but also in a constellation of other antisocial behaviors and deviant conducts (Garaigordobil, 2016; Hyunseok, Juyoung, & Ramhee, 2014). Thus, cyberbullies also present violent behaviors of a physical, psychological, and sexual nature with their partners (Zweig, Dank, Yahner, & Lachman, 2013). They also display vandalism and criminal behavior, and crimes against property, robbery, police arrests, illegal drug use, and school violence (Garaigordobil, 2011).

Thus, both the attitudes of rejection of institutional authority (teachers and police) and favorable attitudes toward the transgression of social norms predict the adolescent's participation in this constellation of violent and deviant behaviors (Cava, Estévez, Buelga, & Musitu, 2013; Gómez-Ortiz, Romera, & Ortega-Ruiz, 2017). According to the study by Carrascosa, Cava, and Buelga (2015), boys have more favorable attitudes toward breaking rules than girls do, which is coherent with their greater participation in deviant behavior (Estévez & Jiménez, 2015).

Certainly, adolescents' attitudes toward social order and norms influence their social behavior in the school context and in other social contexts where they participate (Buelga et al., 2015; Cava, Buelga, Herrero, & Musitu, 2011; Garaigordobil, 2016). The perception of school norms as unfair or confusing is associated with greater participation in peer intimidation behaviors (Kupchik & Farina, 2016). Inversely, the positive perception of social norms and institutional authority is related to less involvement in rule-breaking behaviors in the school setting (Álvarez-García, Dobarro, Rodríguez, Núñez, & Álvarez, 2013), and possibly in the virtual environment as well, although there are no studies on this topic to date.

Taking these antecedents into account, the main objective of the present study is to advance the knowledge about the role of the cyberbully by analyzing the influence of the attitude toward authority and direct and relational violent school behavior toward peers on the cyberbullying problem. Specifically, the objectives are: (1) to analyze the differences among the three groups of adolescents (*occasional, severe, and non-cyberbullies*) in their attitudes toward authority (*positive attitude toward authority figures, and positive attitude toward breaking the rules*) and in their violent school behavior (*direct and relational*), taking the interaction with gender into account; and (2) determine the predictive value of the variables *attitude toward authority* and *direct and relational violent school behavior* in the explanation of cyberbullying.

Method

Participants

The sample is composed of 1062 high school students, 547 boys (51.51%) and 515 girls (48.49%) between 12 and 18 years old (M = 14.51, SD = 1.62), who attended four public schools in the Valencian Community (Spain). Of these students, 10.3% were 12 years old, 22.6% were 13 years old, 18.6% were 14 years old, 19.5% were 15 years old, 15.9% were 16 years old, 9.5% were 17 years old, and 3.6% were 18 years old. Regarding the distribution by educational cycle, 44.73% of the participants were in the first cycle of Compulsory Secondary Education (ESO) (grades 7 and 8), (n = 475), 39.55% were in the second cycle of ESO (n = 420) (grades 9 and 10), and 15.73% were in pre-university studies (Bachillerato) (grades 11 and 12) (n = 167). The participants were selected through stratified sampling by clusters. The sampling units were the public high schools in the Valencian Community. The strata were established according to the variable course (1st, 2nd, 3rd and 4th year of ESO, and 1st and 2nd year of pre-university studies (Bachillerato).

Instruments

The *Scale of Aggression through the Mobile Phone and Internet* (CYB-AG: Buelga & Pons, 2012) consists of 10 items with a response range from 1 to 5 (never, rarely, sometimes, frequently, quite often) to evaluate the frequency with which the person has participated in aggressive behaviors through new technologies in the past 12 months (for example, "I pretended to be someone else to do bad things in Internet or by mobile phone"). The Cronbach's alpha coefficient is .81. To calculate the composite reliability (CR) and the average variance extracted (AVE), a confirmatory factorial analysis was performed with the data from the present study, using the maximum likelihood model for the estimation of the parameters. The results indicate that the composite reliability is optimal (CR = .77) and the average variance extracted is quite adequate, as it is above .50 (AVE = 71%), which means that a high percentage of the variance is explained by the construct.

The *Scale of Attitudes toward Institutional Authority in Adolescents* (Cava et al., 2013) presents two factors and contains 9 items with a response range from 1 to 4 (strongly disagree to strongly agree) to evaluate the attitude toward formal authority figures and institutions (teachers and police) and toward breaking school rules and social norms. The first factor, with five items, measures *positive attitudes toward institutional authority* (for example, "I agree with what most of the teachers say and do"), and the second factor, with 4 items, evaluates *positive attitudes toward transgression of social norms* (for example, "If you do not like a school rule, the best thing is to break it"). The Cronbach's alpha reliability coefficients for the two subscales are .70 and .74, respectively. Regarding the composite reliability (CR) and average variance extracted (AVE) obtained with the data from the present study, the results of the confirmatory factorial analysis using the maximum likelihood method indicate optimal composite reliability values for the first and second factors (FC = .78, FC = .73, respectively). Adequate average variance extracted values were also obtained for the first factor (AVE = 46%), and higher values for the second factor (AVE = 68%).

The *School Aggression Scale* (Little, Henrich, Jones, & Hawley, 2003) is composed of 25 items with a response range from 1 to 4 (never, very little, often, always), and its two subscales evaluate aggressive behaviors toward peers in the school context in the past 12 months. The first scale measures *overt violent behavior* toward peers, and it contains 13 items that include aggressive behaviors involving direct confrontation with the victim. The second scale measures *relational violent behavior* toward peers. It contains 12 items that evaluate indirect aggressions that include behaviors designed to cause harm in the person's circle of friends or in his/her perception of belonging to a social group. Both scales are made up of three dimensions of violence: (a) *pure* (for example, "I'm the kind of person who hits other people"), (b) *reactive* (for example, "When someone harms me or hurts me, I hit him/her"); and (c) *instrumental* (for example, "I threaten others to get what I want"). For the purposes of this study, the total factor of the *overt violence* and *relational violence* scales is used. The Cronbach's alpha coefficient for the *overt violence* scale is .81, and .71 for the *relational violence* scale. The results of the confirmatory factorial analysis using the maximum likelihood method indicate that the composite reliability for the overt violence scale is optimal (CR = .77), and the average variance extracted is quite adequate (AVE = 78%). The values are lower for the relational violence scale, but adequate (CR = .66, AVE = 69%).

Procedure

After the schools had given their permission to carry out the study and the parents or guardians had given their informed consent, the instruments were applied during school hours by previously trained researchers, and the adolescents were informed that their participation was voluntary and anonymous. None of the students refused to answer. The present study follows the ethical values required for research on humans, respecting the basic principles of the Helsinki Declaration, the European Convention for the Protection of Human Rights, and the UNESCO Universal Human Rights Declaration.

Data analysis

The data analysis was performed with the SPSS statistical program, version 23. The values lost by scales or subscales are treated using the regression imputation method.

First, the subjects' scores on the Scale of Aggression through the Mobile Phone and Internet (CYB-AG: Buelga & Pons, 2012) (minimum score 10, maximum 50) were used to classify the students into three groups: (a) *occasional cyberbullies*; (b) *severe cyberbullies*; and (c) *adolescents not involved* in cyberbullying. The cutoff point used to assign the subjects to the group of *severe cyberbullies* is 1 standard deviation above the mean. The adolescents with scores that exceed the mean score by 1 standard deviation are placed in this group, with this statistical procedure being adequate (Marini, Dane, Bosacki, & YLC-CURA, 2006). The adolescents who score 1 ("never") on all the items are placed in the *no-bullying* group. The remaining adolescents are assigned to the *occasional bullying* group.

Next, a 3 x 2 MANOVA was performed to analyze the differences between the three comparison groups (*non cyberbullies*, *occasional cyberbullies, and severe*

cyberbullies) on the variables of attitude toward authority (*positive attitude toward authority and positive attitude toward the transgression of norms*) and violent school behavior (*overt violent behavior and relational violent behavior*) toward peers, considering the interaction between the comparison groups and the gender variable.

Then, univariate *F* tests are carried out to analyze the significant differences in the variables studied, and the *post-hoc* Bonferroni test is applied in cases with significant differences.

Finally, a multiple linear regression analysis is conducted to determine the predictive value of the attitude toward authority (*positive attitude toward authority and positive attitude toward transgression of norms*), and violent school behavior (*overt violent behavior and relational violent behavior*) in the explanation of cyberbullying.

Results

With regard to the cyberbully distribution (Table 1), our results reveal that almost half of the adolescents have bullied their peers through ICT in the past year. More than one-third of the 1062 adolescents are *occasional bullies*, whereas more than one-tenth of them are *severe bullies*.

There are more *occasional cyberbullies* among girls and more *severe cyberbullies* among boys. The Pearson Chi-square statistic indicates that the differences between the comparison groups based on gender, $x^2 = 13.42$, gl = 2, $p < .005$, are statistically significant.

Table 1

Distribution of the Groups of Cyberbullies by Sex

Group	Boys	Girls	Total
Non cyberbullies	294 (27.68)	270 (25.42)	564 (53.11)
Occasional cyberbullies	173 (16.29)	202 (19.02)	375 (35.31)
Severe cyberbullies	80 (7.53)	43 (4.05)	123 (11.58)
Total	547 (51.51)	515 (48.49)	1062 (100)

Note. Frequency (percentage).

With regard to the main aim of the study, the results of the 3x2 MANOVA (Table 2) indicate that there are statistically significant differences among the three comparison groups, and according to gender, but not based on the interaction between these two variables.

Table 2

Test of the Effects on the Study Variables

Source of variation	Λ	*F*	gl_{entre}	gl_{error}	*p*	η²
(A) Cyberbully group	.83	25.88	8	2082	< .001	.09**
(B) Gender	.96	10.67	4	1041	< .001	.04*
A x B	.99	1.59	8	2082	.121	.01*

Note. *small effect size: $\eta^2 \leq .06$; **medium effect size: $.06 \leq \eta^2 \leq .14$; $\alpha = .05$.

The results of the tests of inter-subject effects (Table 3) reveal significant differences between the groups of non-cyberbullies and cyberbullies on *positive attitude toward authority, positive attitude toward transgression of norms, overt violent behavior, and relational violent behavior.* The *severe cyberbullies* of both sexes obtain significantly higher scores than the group of *occasional cyberbullies,* who, in turn, had higher scores than the *non-cyberbullying group* on *positive attitude toward the transgression of norms, overt violent behavior, and relational violent behavior.* In the opposite direction, these same groups scored significantly lower on *positive attitude toward authority.*

Table 3

Differences in Means Between the Groups of Cyberbullies on the Independent Variables

Variables	Groups of cyberbullies #			*F*	η²
	Non-bullies	Occasional bullies	Severe bullies		
Positive attitude toward authority	2.67^{a} (0.64)	2.35^{b} (0.54)	2.19^{c} (0.59)	31.67***	.06*
Attitude toward transgression of norms	1.46^{c} (0.58)	1.62^{b} (0.57)	2.02^{a} (0.71)	41.56***	.07**
Overt violent behavior	3.87^{c} (0.81)	4.26^{b} (0.98)	4.88^{a} (1.16)	54.49***	.10**
Relational violent behavior	4.15^{c} (0.82)	4.47^{b} (0.93)	4.86^{a} (1.01)	33.39***	.06**

Note. Means (standard deviations); $^{\#}\alpha = .05$, a > b > c; *small effect size: $\eta^2 \leq .06$; **medium effect size: $.06 \leq \eta^2 \leq .14$.

***$p < .001$.

Regarding the differences based on gender (Table 4), statistically significant differences are observed between boys and girls on *positive attitude toward the transgression of norms* and *overt violent behavior*. Boys score significantly higher than girls on both variables.

Table 4

Differences in Means on the Independent Variables According to Gender

Variables	Gender		*F*	η²
	Boys	Girls		
Positive attitude toward authority	2.49 (0.60)	2.52 (0.66)	0.06	.00*
Attitude toward transgression of norms	1.65 (0.65)	1.51 (0.58)	14.31***	.00*
Overt violent behavior	4.34 (1.01)	3.90 (0.88)	32.75***	.05*
Relational violent behavior	4.33 (0.91)	4.36 (0.92)	0.05	.00*

Note. Means (standard deviations); *small effect size: $\eta^2 \leq .06$; $\alpha = .05$.

*** $p < .001$.

Finally, the regression analysis (Table 5) indicates that the attitude toward authority (*positive attitude toward authority* and *positive attitude toward transgression of norms*), and violent school behavior (*overt violent behavior* and *relational violent behavior*) predict 34.6% of cyberbullying. *Overt violent behavior* explains 14.4%, *positive attitude toward authority* explains 13.6%, and *relational violent behavior* explains 6.6%.

Table 5

Predictor Variables of Cyberbullying

Predictor variables	R square corrected	*F*	β	*p*
Attitude toward authority	.14	84.37		
Positive attitude toward authority			-.22	< .001
Transgression of norms			.27	< .001
Overt violent behavior	.14	167.90	.37	< .001
Relational violent behavior	.07	75.69	.26	< .001

Note. R: Determination coefficient; $\alpha = .05$.

Discussion

The main objective of this study is to analyze the influence of the levels of participation in cyberbullying in three groups of adolescents (*non-cyberbullies, occasional cyberbullies, and severe cyberbullies*) on the psychosocial variables of attitude toward authority (*positive attitude toward authority* and *positive attitude toward the transgression of norms*) and violent school behavior *(overt violent behavior* and *relational violent behavior)* toward peers, taking into account the interaction of the comparison groups with the gender. Prior to this main objective, the distribution of the

comparison groups is studied, showing that almost half of the adolescents have bullied their peers through ICT. The results also reveal that the majority of the bullies are occasional, whereas a minority, a little more than 10%, are severe bullies. These results for the general prevalence of cyberbullying coincide with the studies by Calvete et al. (2010) and Buelga et al. (2015). Regarding the intensity of the cyberbullying carried out by adolescent bullies, previous studies find that a low percentage of adolescents are *severe bullies*, whereas the majority are *occasional bullies* (Garaigordobil, 2011). As in Garmendia et al. (2011), our results suggest that, whereas boys bully more frequently and severely through ICT, girls bully in a more occasional and moderate way.

As far as the main aim of this study is concerned, the data from our study indicate that there are no interaction effects between the levels of involvement in cyberbullying and the gender on the attitude toward authority and overt and relational violent school behavior. Significant and interesting results are found for the main effect of both variables. Thus, coherent with what is observed in traditional school bullying (Carrascosa et al., 2015; Navarro et al., 2015), our data confirm that, compared to adolescents *not involved* in this type of cybernetic violence, *severe cyberbullies,* in first position, and *occasional cyberbullies*, in second position, have an attitude of greater rejection of authority figures and a more favorable attitude toward transgressing the social norms. In this regard, an interesting contribution is made by Udris (2014), who proposes that a negative attitude toward authority fosters a lack of inhibition *on line*, facilitating, in turn, violent behavior through ICT. Along these lines, in the case of negative attitudes toward authority figures, and particularly toward teachers, Mendoza (2012) finds that a third of adolescents have sent messages against teachers over the Internet. These cybernetic behaviors point to students' current disdain toward teachers as authority figures, as they disparage and criticize them through ICT. Authors such as Cerezo, Sánchez, Ruiz, and Arense (2015) emphasize the importance of the responsibility of these and other authority figures (police and family) in detecting and intervening in intimidation cases between adolescents, as teachers and other authority figures often underestimate the prevalence of the intimidation (Gázquez, Pérez, & Carrión, 2011).

Regarding the *severe cyberbullies'* more positive attitude toward the transgression of social norms, followed by the *occasional cyberbullies*, the proposal by Kupchic and Farina (2016) is of interest in this explanatory framework. These authors indicate that students who perceive unclear school norms that are poorly communicated or unfair have a greater risk of becoming involved in intimidation behaviors.

With respect to the greater involvement of *severe and occasional cyberbullies* in *violent school behavior* toward peers, our results are coherent with the idea that there is a constellation of interrelated violent behaviors (Garaigordobil, 2016; Menéndez & Fernández-Río, 2016). In addition, our results confirm, as in previous studies, that traditional and cybernetic school bullying are closely related to each other (Mitchell & Jones, 2015). Thus, Riebel et al. (2009) find that 80% of cyberbullies also bully their peers face-to-face in the school context. In our study, cyberbullies' involvement in *overt violent behavior* toward peers is shown to be the predictor variable with the most weight in explaining cyberbullying.

With regard to differences by gender in the variables studied, our results show that boys have more favorable attitudes toward transgression of social norms, and they participate more than girls do in violent school behaviors involving direct confrontation with the victim. These results are coherent with previous studies that indicate more

positive attitudes toward transgression of social norms in boys (Carrascosa et al., 2015), and greater involvement in overt violent behaviors toward peers (Cava et al., 2010; Letamendia, 2002). In the case of the positive attitude toward authority figures and the involvement in relational violent behavior, we find no gender differences. This latter result coincides with the study by Sentse et al. (2015), but it contrasts with other studies showing that girls participate more than boys in relational violent behaviors (Brighi, Guarini, Melotti, Galli, & Genta, 2012; Mejía-Hernández & Weiss, 2011).

Finally, our results confirm the importance of the variables analyzed in this study in predicting cyberbullying. As mentioned above, overt violent behavior, and now also the transgressor attitude toward social norms, are the variables with the greatest weight in explaining cyberbullying. Certainly, these results highlight the importance of paying greater attention to the role played by these variables as risk factors for cyberbullying, as well as the other variables that have also been shown to be predictors of bullying through ICT.

However, it is important to highlight that, as the study design is cross-sectional, there are relationships between variables that may be affected by time. Therefore, it is necessary to carry out future longitudinal studies to understand how these variables influence each other, and how involvement in cyberbullying can change over time. Furthermore, the students' responses can be affected by social desirability and biases, although regarding this measurement problem, previous studies confirm that the measurement of violent behaviors through adolescents' self-reports is acceptable (Buelga & Pons, 2012; Ortega-Barón et al., 2016; Navarro et al., 2016). It should also be mentioned that only some variables related to violent behavior were taken into account, leaving out other variables that also have an important weight in this situation, such as social and emotional competence, social skills, academic achievement, and motivation (Garaigordobil, 2016; Gómez-Ortiz et al., 2017; Zych et al., 2016).

In spite of these limitations, this study provides novel data that make it possible to advance the knowledge about the role played by the attitude toward authority and overt and relational violent behavior toward peers in the current and growing problem of cyberbullying. Thus, it is advisable to establish explicit, clear, and concise norms for appropriate and inappropriate cybernetic behaviors in the virtual setting. In this way, when norms are broken that have been previously described and explained, sanctions imposed by authority figures, such as taking away Internet connectivity in electronic devices, will be better understood by adolescents (Arab & Díaz, 2015). Moreover, cyberbullying prevention and intervention strategies should be directed toward traditional bullying and vice versa, as this study has shown a strong relationship between these two types of violence.

Likewise, it would be interesting in future studies to use qualitative techniques to more closely examine the bullies' perspective about their attitudes toward authority and their participation in violent behaviors toward peers. This line of research could contribute to developing programs to prevent and reduce this worrisome cyberbullying problem, which is present in all the developed countries in the world.

References

Aboujaoude, E., Savage, M. W., Starcevic, V., & Salame, W. O. (2015). Cyberbullying: Review of an old problem gone viral. *Journal of Adolescent Health, 57*(1), 10-18. doi:10.1016/j.jadohealth.2015.04.011

Álvarez-García, D., Dobarro, A., Rodríguez, C., Núñez, J. C., & Álvarez, L. (2013). Consensus on classroom rules and its relationship with low levels of school violence. *Infancia y Aprendizaje, 36*(2), 199-217. doi:10.1174/021037013806196229

Arab, L. E., & Díaz, G. A. (2015). Impact of social networks and internet in adolescence: Strengths and weaknesses. *Revista Médica Clínica Las Condes, 26*(1), 7-13. doi:10.1016/j.rmclc.2014.12.001

Brighi, A., Guarini, A., Melotti, G., Galli, S., & Genta, M. L. (2012). Predictors of victimisation across direct bullying, indirect bullying and cyberbullying. *Emotional and Behavioural Difficulties, 17*(3-4), 375-388. doi:10.1080/13632752.2012.704684

Buelga, S., Estévez, E., Ortega-Barón, J., & Abu-Elbar, F. (2016). Cyberbullying among adolescents: A problem in the digital age. In T. F. Colby (Ed.), *Victims and victimization: Risk factors, intervention strategies and socioemotional outcomes* (pp. 66-81). New York: Nova Science Publishers.

Buelga, S., Iranzo, B., Cava, M. J., & Torralba, E. (2015). Psychological profile of adolescent cyberbullying aggressors. *International Journal of Social Psychology, 30*(2), 382-406. doi:10.1080/21711976.2015.1016754

Buelga, S., & Pons, J. (2012). Aggressions among adolescents through mobile phones and the Internet. *Psychosocial Intervention, 21*(1), 91-101. doi:10.0593/in2012v21nla2

Calvete, E., Orue, I., Estévez, A., Villardón, L., & Padilla, P. (2010). Cyberbullying in adolescents: Modalities and aggressors' profile. *Computers in Human Behavior, 26*(5), 1128-1135. doi:10.1016/j.chb.2010.03.017

Carrascosa, L., Cava, M. J., & Buelga, S. (2015). Attitudes towards authority and violence among adolescents: Differences according to gender. *Suma Psicológica, 22*(2), 102-109. doi:10.1016/j.sumpsi.2015.08.003

Cava, M. J. Buelga, S., Musitu, G., & Murgui, S. (2010). School violence between adolescents and their implications in the psychosocial adjustment: A longitudinal study. *Revista de Psicodidáctica, 15*(1), 21-34.

Cava, M. J., Buelga, S., Herrero, J., & Musitu, G. (2011). Factor structure of the Spanish adaptation of Tarrant's Group Identification Scale. *Psicothema, 23*(4), 772-777.

Cava, M. J., Estévez, E., Buelga, S., & Musitu, G. (2013). Psychometric properties of the Attitudes to Institutional Authority in adolescence Scale (AAI-A). *Annals of Psychology, 29*(2), 540-548. doi:10.6018/analesps.29.2.138031

Cerezo, F., Sánchez, C., Ruiz, C., & Arense J. J. (2015). Roles en bullying de adolescentes y preadolescentes, y su relación con el clima social y los estilos educativos parentales. *Revista de Psicodidáctica, 20*(1), 139-155. doi:10.1387/RevPsicodidact.11097

Cuadrado-Gordillo, I., & Fernández-Antelo, I. (2014). Cyberspace as a generator of changes in the aggressive-victim role. *Computers in Human Behavior, 36*, 225-233. doi:10.1016/j.chb.2014.03.070

Durán-Segura, M., & Martínez, R. (2015). Cyberbullying trough mobile phone and the Internet in dating relationships among youth people. *Comunicar: Media Education Research Journal, 22*(44), 159-167. doi:10.3916/C44-2015-17

Estévez, E., & Jiménez, T. I. (2015). Aggressive behavior and personal and school adjustment in a sample of Spanish adolescent students. *Universitas Psychologica, 14*(1), 111-124. doi:10.11144/Javeriana.upsy14-1.caap

Garaigordobil, M. (2011). Prevalence and consequences of cyberbullying: A review. *International Journal of Psychology and Psychological Therapy, 11*(2), 233-254.

Garaigordobil, M. (2016). Antisocial behavior: Connection with bullying/cyberbullying and conflict resolution. *Psychosocial Intervention*. doi: 10.1016/j.psi.2015.12.002

Garaigordobil, M., & Martínez-Valderrey, V. (2014). Efecto del Cyberprogram 2.0 sobre la reducción de la victimización y la mejora de la competencia social en la adolescencia. *Revista de Psicodidáctica, 19*(2), 289-305. doi:10.1387/RevPsicodidact.10239

Garmendia, M., Garitaonandia, C., Martínez-Fernández, G., & Casado, M. A. (2011). *Riesgos y seguridad en Internet: Los menores españoles en el contexto europeo*. University of Basque Country, Bilbao: EU Kids Online. Retrieved from http://www.observatoriodelainfancia.es/oia/esp/descargar.aspx?id=3155&tipo=documento

Gázquez, J. J., Pérez, M. C., & Carrión, J. J. (2011). School climate and conflict resolution according to the students: A European study. *Revista de Psicodidáctica, 16*(1), 39-58. doi:10.1387/RevPsicodidact.1144

Giumetti, G. W., & Kowalski, R. M. (2016). Cyberbullying matters: Examining the incremental impact of cyberbullying on outcomes over and above traditional bullying in North America. In R. Navarro, S. Yubero, & E. Larrañaga (Eds.), *Cyberbullying across the Globe* (pp. 117-130). Madrid: Springer International Publishing. doi:10.1007/978-3-319-25552-1

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*(1). doi:10.1387/RevPsicodidact.15702

Holfeld, B., & Grabe, M. (2012). Middle school students' perceptions of and responses to cyber bullying. *Journal of Educational Computing Research, 46*(4), 395-413. doi:10.2190/EC.46.4.e

Hyunseok, J., Juyoung, S., & Ramhee, K. (2014). Does the offline bully-victimization influence cyberbullying behavior among youths? Application of General Strain Theory. *Computers in Human Behavior, 31*, 85-93. doi:10.1016/j.chb.2013.10.007

Katzer, C., Fetchenauer, D., & Belschack, F. (2009). Cyberbullying: Who are the victims? A comparison of victimization in Internet chatrooms and victimization in school. *Journal of Media Psychology, 21*(1), 25-36. doi:10.1027/1864-1105.21.1.25

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*(4), 1073-1137. doi:10.1037/a0035618

Kupchik, A., & Farina, K. A. (2016). Imitating authority: Students' perceptions of school punishment and security, and bullying victimization. *Youth Violence and Juvenile Justice, 14*(2), 1-17. doi:10.1177/1541204014557648

Letamendia, R. (2002). El maltrato en contextos escolares. *Revista de Psicodidáctica, 13*, 77-90.

Little, T. D., Henrich, C. C., Jones, S. M., & Hawley, P. H. (2003). Disentangling the "whys" from the "whats" of aggressive behaviour. *International Journal of Behavioral Development, 27*(2), 122-133. doi:10.1080/01650250244000128

Marini, Z. A., Dane, A. V., Bosacki, S. L., & YLC-CURA (2006). Direct and indirect bully-victims: Differential psychosocial risk factors associated with adolescents involved in bullying and victimization. *Aggressive Behavior, 32*(6), 551-569. doi:10.1002/ab.20155

Mejía-Hernández, J. M., & Weiss, E. (2011). Violence among girls in secondary school. *Revista Mexicana de Investigación Educativa, 16*(49), 545-570.

Mendoza, E. (2012). Acoso cibernético o cyberbullying: Acoso con la tecnología electrónica. *Pediatría de México, 14*(3), 133-146.

Menéndez, J. I., & Fernández-Río, J. (2016). Violence, responsibility, friendship and basic psychological needs: Effects of a sport education and teaching for personal and social responsibility program. *Revista de Psicodidáctica, 21*(2), 245-260. doi:10.1387/RevPsicodidact.15269

Mitchell, K. J., & Jones, L. M. (2015). Cyberbullying and bullying must be studied within a broader peer victimization framework. *Journal of Adolescent Health, 56*(5), 473-474. doi:10.1016/j.jadohealth.2015.02.005

Navarro, R., Larrañaga, E., & Yubero, S. (2016). Gender identity, gender-typed personality traits and school bullying: Victims, bullies and bully-victims. *Child Indicators Research, 9*(1), 1-20. doi:10.1007/s12187-015-9300-z

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*(4), 235-248. doi:10.1007/s12310-015-9157-9

Olweus, D. (2013). School bullying: development and some important challenges. *Annual Review of Clinical Psychology, 9*, 751-80. doi:10.1146/annurev-clinpsy-050212-185516

Ortega-Barón, J., Buelga, S., & Cava, M. J. (2016). The influence of school climate and family climate among adolescents victims of cyberbullying. *Comunicar: Media Education Research Journal, 24*(46), 57-65. doi:10.3916/C46-2016-06

Pornari, C. D., & Wood, J. (2010). Peer and cyber agression in secondary school students: The role of moral disengagement, hostile attribution bias, and outcome expectancies. *Aggressive Behaviour, 36*(2), 81-94. doi:10.1002/ab.20336

Rice, E., Petering, R., Rhoades, H., Winetrobe, H., Goldbach, J., Plant, A., ... Kordic, T. (2015). Cyberbullying perpetration and victimization among middle-school students. *American Journal of Public Health, 105*(3), 66-72. doi:10.2105/AJPH.2014.302393

Riebel, J., Jaeger, R., & Fischer, U. (2009). Cyberbullying in Germany: An exploration of prevalence, overlapping with real life bullying and coping strategies. *Psychology Science Quarterly, 51*(3), 298-314.

Sentse, M., Kretschmer, T., & Salmivalli, C. (2015). The longitudinal interplay between bullying, victimization, and social status: Age-related and gender differences. *Social Development, 24*(3), 659-677. doi:10.1111/sode.12115

Sticca, F., & Perren, S. (2013). Is cyberbullying worse than traditional bullying? Examining the differential roles of medium, publicity, and anonymity for the

perceived severity of bullying. *Journal of Youth and Adolescence, 42*(5), 739-750. doi:10.1007/s10964-012-9867-3

Udris, R. (2014). Cyberbullying among high school students in Japan: Development and validation of the Online Disinhibition Scale. *Computers in Human Behavior, 41*, 253-261. doi:10.1016/j.chb.2014.09.036

Zweig, J. M., Dank, M., Yahner, J., & Lachman, P. (2013). The rate of cyber dating abuse among teens and how it relates to other forms of teen dating violence. *Journal of Youth and Adolescence, 42*, 1063-1077. doi:10.1007/s10964-013-9922-8

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*(1), 5-18. doi:10.1016/j.pse.2016.03.002

Jessica Ortega-Barón is a personal researcher in training in the Social Psychology Department at the University of Valencia (Spain). Her research interests focus mainly on violence in adolescence and, specifically, on the analysis of risk factors and protection from cyberbullying, as well as the prevention of this growing social problem.

Sofía Buelga is a Full Professor in the Social Psychology Department at the University of Valencia and director of the University of Valencia's Official Masters Degree in Psychological Intervention in Social Settings. Her scientific work has focused mainly on the analysis and prevention of risk behaviors in adolescence: drug use, delinquency, school bullying, and cyberbullying.

María Jesús Cava Caballero is a Full Professor in the Social Psychology Department at the University of Valencia. Her research interests focus mainly on the study of the psychosocial adjustment of children and adolescents in school contexts, and on the development of intervention strategies designed to improve co-existence, prevent violence, and develop tolerance in schools.

Eva Torralba is an Assistant Professor (PhD level) in the area of Social Psychology at the University of Castilla-La Mancha (Spain). Her lines of research and main publications focus on risk behaviors and prevention in adolescents, in both the family and school settings, as well as the interaction with the peer group.

Received date: 03-06-2015 Review date: 04-08-2016 Accepted date: 22-09-2016