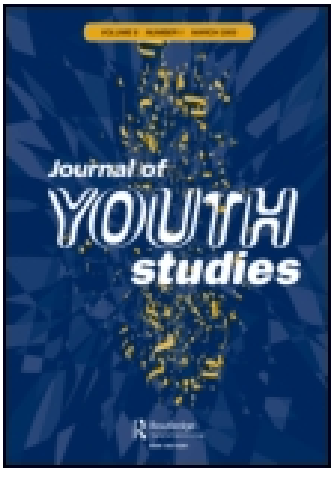

Journal of Youth Studies
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/cjys20

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Maite Garaigordobil[a]
[a] Faculty of Psychology, University of the Basque Country, San Sebastián, Spain
Published online: 24 Dec 2014.

To cite this article: Maite Garaigordobil (2015) Cyberbullying in adolescents and youth in the Basque Country: prevalence of cybervictims, cyberaggressors, and cyberobservers, Journal of Youth Studies, 18:5, 569-582, DOI: 10.1080/13676261.2014.992324

To link to this article: http://dx.doi.org/10.1080/13676261.2014.992324

Journal of Youth Studies, 2015
Vol. 18, No. 5, 569–582, http://dx.doi.org/10.1080/13676261.2014.992324

Cyberbullying in adolescents and youth in the Basque Country: prevalence of cybervictims, cyberaggressors, and cyberobservers

Maite Garaigordobil*

Faculty of Psychology, University of the Basque Country, San Sebastián, Spain

(*Received 3 July 2014; accepted 10 October 2014*)

This study is based on current concern about peer violence. The main goal of the study was to identify the prevalence of cyberbullying in the Basque Country (northern Spain). The sample comprised 3026 participants aged between 12 and 18 years. The Cyberbullying Test was administered, using a descriptive and correlational design. The results show that 69.8% of the sample was involved in cyberbullying (suffered, seen, and/or performed it one or more times in the past year), 30.2% were cybervictims, 15.5% were cyberaggressors, and 65.1% were cyberobservers. The most prevalent behaviors were stealing someone's password, anonymous frightening phone calls, sending offensive/insulting messages, and slandering by lying about someone in order to discredit. Positive correlations were found between cybervictimization, cyberaggression, and cyberobservation, and contingency analysis showed that only one-third of the cybervictims were cyberaggressors. The study provides precise information about the prevalence of cyberbullying in the Basque Country, and allows comparison of the information provided by all the roles involved (cybervictims, cyberaggressors, and cyberobservers). The study confirms the noteworthy prevalence of cyberbullying in the Basque Country, which is convergent with that found in other countries. The empirical evidence suggests the need for active prevention and intervention strategies from educational, family, community, and clinical-therapeutic settings.

Keywords: cyberbullying; adolescence; youth; prevalence; violence

Introduction

Cyberbullying consists of using information and communication technologies (ICTs), mainly Internet (email, SMS, websites, blogs, online videogames, social networks, etc.) and cellphones to perform psychological peer harassment. Cyberbullying is an aggressive and intentional behavior repeated frequently over time by means of the use, by an individual or group, of electronic facilities targeting a victim who cannot easily defend him- or herself (Smith et al. 2008). Various pathways are used: texting (cellphone SMS), telephone harassment (anonymous calls to cellphones), recordings of physical aggressions or humiliations that are broadcast by cellphone or Internet, and harassment through photographs or videos sent by cellphone or uploaded to YouTube, emails, social networks, websites, and so on. The rapid development and growth of this new form of harassment has generated the urgent need for its study (Garaigordobil 2011).

Review of studies analyzing the prevalence of cyberbullying between 2000 and 2010 (Garaigordobil 2011) showed that violence through ICTs—and within it, the phenomenon

*Email: maite.garaigordobil@ehu.es

of cyberbullying—has recently become a relevant problem, present in all developed countries. The review revealed considerable prevalence in all countries, approximately between 40% and 55% of school children were involved somehow, between 10% and 50% had experience of cybervictimization, although only 2–7% were cybervictims of severe harassment. A new review of the latest studies published between 2011 and 2013 is presented in Table 1.

As shown in Table 1, the prevalence of cybervictims in the most recent studies ranges between 3.2% (Allen 2012) and 33% (Fenaughty and Harré 2013) and cyberaggressors range between 1% (Allen 2012) and 29.7% (Wade and Beran 2011). The review shows that the current volume of research on cyberbullying is low in Spain, and there are considerable percentages of students affected by cyberbullying, either moderate (sometimes) or severe (frequently).

Therefore, and taking previous studies as reference, this investigation has the main goal of performing an epidemiological study of the prevalence of cyberbullying in the Basque Country, in order to identify the percentage of adolescents and youth who are involved as cybervictims, cyberaggressors, and cyberobservers (population: 101,757; risk period: one year). The results will allow us to compare the data with data from other countries and to appraise the severity of the situation, as well as the need for prevention and intervention. With this rationale, the study proposes four hypotheses: (1) during the past year, 50% of all students will have been involved in cyberbullying, either as cybervictim, cyberaggressor, or cyberobserver; (2) the prevalence, both in global cybervictimization and in global cyberaggression (suffering or performing the behaviors assessed sometimes, fairly often, and always), will range between 1% and 10%, whereas severe cybervictimization and cyberaggression (suffering or performing the behaviors fairly often and always) will be lower than 2%; (3) a high level of concordance will be found between the most prevalent cyberbullying behaviors in all three roles; and (4) significant positive correlations will be found among the four cyberbullying indexes (cybervictimization, cyberaggression, cyberobservation, and aggressive-cybervictimization).

Method

Participants

The sample comprised 3026 participants from the Basque Country (northern Spain), aged between 12 and 18 years, 1469 (48.5%) males and 1557 (51.5%) females. The participants studied Compulsory Secondary Education (2283; 75.4%) and High School (743; 24.6%), and were enrolled in various public (1381; 45.6%) and private (1645; 54.4%). To obtain the representative sample of the Basque Country, the latest population survey presented by the Basque Statistical Institute was consulted, confirming a population of students of Compulsory Secondary Education and High School of 101,757. With a .99 confidence level, a sample error of .024, for a population variance of .50, the representative sample comprises 2802 students. To select a representative sample of students from the Basque Country, we used a stratified, proportional, and randomized sampling technique, taking into account the proportionality of the schools in each province and balancing the diverse conditions (socioeconomic–cultural level, type of network: public–private, etc.).

Table 1. Prevalence studies of cyberbullying between 2011 and 2013: a review.

Studies	Country	Sample: *N* (age)	Results
Pelfrey and Weber (2013)	USA	3403 (12–18)	6.8% cybervictims and 10% cyberaggressors
Låftman et al. (2013)	Sweden	22,544 (15–18)	5% cybervictims, 4% cyberaggressors, and 2% victim-cyberaggressors
Fenaughty and Harré (2013)	New Zealand	1668 (12–19)	33% suffered at least one experience of electronic harassment by Internet or cellphone
Allen (2012)	USA	820 (14–19)	3.2% cybervictims and 1% cyberaggressors
Moore, Huebner, and Hills (2012)	USA	855 (mean age: 13)	20% cybervictims and 14% cyberaggressors
del Barco, Castaño, Bullón, and Carroza (2012)	Spain	1700 (12–16)	6% cybervictims and 6.4% cyberaggressors
Monks, Robinson, and Worlidge (2012)	England	220 (7–11)	20.5% cybervictims and 5% cyberaggressors
Olenik-Shemesh, Heiman, and Eden (2012)	Israel	242 (13–16)	16.5% cybervictims
Olweus (2012)	USA and Norway	450,490 USA (8–18) 9000 Norway (9–16)	Cybervictims:4.5% in USA and 3.4% in Norway; cyberaggressors: 2.8% in USA and 1.4%in Norway
Ortega et al. (2012)	Italy, Spain, and England	1964 Italians, 1671 Spaniards, 2227 English (11–17)	Cybervictimization in England, Italy, and Spain: cyberbullying by cellphone 4.1%, 9.5%, and 4.2%; cyberbullying by Internet 6.6%,7.3%, and 7.5%
Gofin and Avitzour (2012)	Israel	2610 (12–14)	14.4% cybervictims and 8.9% cyberaggressors
Renati, Berrone, and Zanetti (2012)	Italy	819 (mean age: 16.08)	9.87% female and 3.67% male cybervictims; 3.83% female and 7.73% male cyberaggressors. 3.3% female and 3.3% male victim-cyberaggressors
Sakellariou, Carroll, and Houghton (2012)	Australia	1530 males (9–18)	11.5% cybervictims and 8.5% cyberaggressors
Schenk and Fremouw (2012)	USA	799 (18–24)	8.6% cybervictims
Schneider et al. (2012)	USA	20,406 (14–18)	15.8% cybervictims
Pyzalski (2012)	Poland	2143 (15)	4.9% cyberaggressors
Wensley and Campbell (2012)	Australia	528 (18–25)	11.6% cybervictims and 3.8% cyberaggressors
Lemstra et al. (2011)	Canada	204 (10–16)	30.3% cybervictims
Wade and Beran (2011)	Canada	529 (10–17)	21.9% cybervictims and 29.7% cyberaggressors

Table 1 (*Continued*)

Studies	Country	Sample: *N* (age)	Results
Popović-Ćitić, Djurić, and Cvetković (2011)	Serbia	387 (11–15)	20% cybervictims and 10% cyberaggressors
Vieno, Gini, and Santinello (2011)	Italy	2667 (13–16)	19.4% cybervictims in the past two months
Yilmaz (2011)	Turkey	756 (14)	17.9% cybervictims and 6.4% cyberaggressors
Walrave and Heirman (2011)	Belgium	1318 (mean age: 15.1)	64.3% cybervictims and 39.9% cyberaggressors

Assessment instrument

To measure the target variables, we used a standardized instrument with psychometric guarantees of reliability and validity, the Cyberbullying Test (Garaigordobil 2013). This test assesses 15 cyberbullying behaviors (e.g., sending offensive/insulting messages by cellphone or by Internet, recording a beating and uploading the video to YouTube, sexual harassment, spreading rumors to discredit someone, stealing someone's password, isolating someone on social networks, and death threats). It has 45 items, grouped around the role performed in the situation of aggression: victim, perpetrator, and observer. The task consists of reading the behaviors and reporting the frequency with which they were suffered, performed, or observed during the past year (see Appendix). The order of questions for cybervictims, cyberaggressors, and cyberobservers was counterbalanced. The test yields percentile scores and four indexes: level of cybervictimization, cyberaggression, cyberobservation, and aggressive-cybervictimization. To correct the test, each behavior is scored (never = 0; sometimes = 1; several times = 2; and always = 3) and is obtained directly overall score for each role respectively. When administering the instrument, data triangulation was performed (collecting data from the three roles) and was also taken into account in the data analysis (comparing the data from the three perspectives). Reliability studies confirm high-internal consistency (α = .91). Confirmatory factor analysis yielded a three-factor structure that explained 40.15% of the variance.

Design and procedure

We used a descriptive, correlational, and cross-sectional design. With regard to the procedure, the following phases were established: (1) a letter was sent to the directors of the randomly selected schools from the list of educational centers in the Basque Country, explaining the project and requesting their collaboration; (2) communication with the directors: we performed an interview with those who agreed to collaborate in order to present the project and hand out the informed consent forms for the parents of the participants in the study; when the director of the selected center refused to collaborate, the procedure was repeated with the next center on the list, taking into account the type (public–private), and/or the socioeconomic–cultural level of the center that declined to participate; and (3) after receiving the parents' consent, we administered the Cyberbullying Test. The administration was carried out in a single 30-minute assessment session. The study respected the ethical values required in research with humans (informed consent and the right to the information, protection of personal data and guarantees of

confidentiality, nondiscrimination, and the possibility to leave the study at any phase), and received the favorable report of the University Research and Teaching Ethics Committee of the University of the Basque Country (CEISH/112/2012).

Results

Students involved in cyberbullying situations

We calculated the frequencies and percentages to identify participants involved in cyberbullying in the past year versus those who reported not having suffered, performed, or observed any cyberbullying behavior. The results showed that 69.8% (n = 2114) reported having suffered, seen, and/or carried out some cyberbullying behavior. In addition, 30.2% (n = 912) reported having suffered one or more cyberbullying behaviors (17.6% females and 12.5% males; $\chi^2 = 25.29$; $p < .001$), 15.5% (n = 469) reported having carried out one or more cyberbullying behaviors aimed at others (7.8% males and 7.7% females; $\chi^2 = 0.66$; $p > .05$), and 65.1% (n = 1975) observed these behaviors (38% females and 27.1% males; $\chi^2 = 108.70$; $p < .001$).

Prevalence of cyberbullying from the appraisal of cybervictims, cyberaggressors, and cyberobservers

First, we calculated the frequency and percentage of participants who informed being cybervictims, cyberaggressors, and cyberobservers over the past year in the 15 cyberbullying behaviors assessed. Subsequently, we calculated the global prevalence (how many had suffered/carried out/witnessed the behavior assessed one or more times), and this then was divided into moderate (sometimes) and severe (fairly often and always), identifying the percentage of participants in each condition (see Tables 2 and 3).

Analysis of the prevalence reported by cybervictims (see Table 3) showed that, although the percentages of participants who had suffered the 15 cyberbullying behaviors during the past year were not very high, they were nonetheless worthy of consideration. Cybervictims reported a global prevalence ranging between 1.3% and 10.1% in the 15 cyberbullying behaviors. Analysis of severe cybervictimization showed that between 0.2% and 1.2% of adolescents and youths reported having suffered some of these behaviors very frequently. On the other hand, the cyberaggressors (see Table 3) reported having carried out one or more of the 15 cyberbullying behaviors assessed with a global prevalence ranging between 1.1% and 6.4%. Analysis of severe cyberaggression showed that between 0.2% and 0.8% said they had carried out some of these cyberbullying behaviors very frequently. Lastly, the cyberobservers reported having seen these behaviors with a global prevalence ranging between 6.4% and 38.1%, whereas severe cyberobservation (having seen them very frequently) ranged between 1.2% and 7.5% in the behaviors assessed (see Table 3).

Most prevalent behaviors reported in the three roles

The comparison of the most globally prevalent behaviors reported by the three roles (see Table 3) permitted the identification of a high level of convergence of the three perspectives (V cybervictims = suffer; P cyberaggressors = carry out; O cyberobservers = observe) in the following cyberbullying behaviors: stealing passwords to impede access to blogs or email (V: 10.1%; P: 4.5%, O: 38.1%); anonymous phone calls to frighten others (V: 9.8%; P: 6.4%; O: 23.5%); sending offensive and insulting messages by

Table 2. Frequency (*F*) and percentage (%) of participants who suffered, perpetrated, and observed cyberbullying behaviors in the past year.

	Victims				Aggressors				Observers			
	N	S	F	A	N	S	F	A	N	S	F	A
Items	*F* (%)	*F* (%)	*F* (%)	*F* (%)	*F* (%)	*F* (%)	*F* (%)	*F* (%)	*F* (%)	*F* (%)	*F* (%)	*F* (%)
1	2.758 (91.2)	245 (8.1)	16 (0.5)	5 (0.2)	2.861 (94.8)	139 (4.6)	9 (0.3)	10 (0.3)	2.011 (66.6)	877 (29.0)	113 (3.7)	20 (0.7)
2	2.860 (94.6)	143 (4.7)	17 (0.6)	3 (0.1)	2.917 (96.6)	83 (2.7)	12 (0.4)	7 (0.2)	2.251 (74.6)	666 (22.1)	86 (2.8)	16 (0.5)
3	2.986 (98.7)	33 (1.1)	2 (0.1)	3 (0.1)	2.985 (98.8)	21 (0.7)	9 (0.3)	5 (0.2)	2.651 (87.8)	306 (10.1)	54 (1.8)	9 (0.3)
4	2.893 (95.7)	119 (3.9)	7 (0.2)	5 (0.2)	2.959 (97.9)	55 (1.8)	5 (0.2)	4 (0.1)	2.327 (77.1)	628 (20.8)	46 (1.5)	19 (0.6)
5	2.964 (98.0)	48 (1.6)	7 (0.2)	5 (0.2)	2.978 (98.5)	37 (1.2)	4 (0.1)	4 (0.1)	2.581 (85.5)	387 (12.8)	37 (1.2)	14 (0.5)
6	2.727 (90.2)	267 (8.8)	24 (0.8)	6 (0.2)	2.829 (93.6)	169 (5.6)	18 (0.6)	7 (0.2)	2.310 (76.5)	604 (20.0)	90 (3.0)	16 (0.5)
7	2.903 (96.0)	106 (3.5)	13 (0.4)	2 (0.1)	2.958 (97.8)	55 (1.8)	6 (0.2)	4 (0.1)	2.603 (86.2)	364 (12.1)	42 (1.4)	11 (0.4)
8	2.922 (96.6)	88 (2.9)	8 (0.3)	6 (0.2)	2.989 (98.9)	19 (0.6)	9 (0.3)	6 (0.2)	2.785 (92.2)	197 (6.5)	31 (1.0)	7 (0.2)
9	2.806 (92.8)	198 (6.5)	15 (0.5)	5 (0.2)	2.947 (97.5)	67 (2.2)	5 (0.2)	4 (0.1)	2.184 (72.3)	712 (23.6)	108 (3.6)	16 (0.5)
10	2.721 (90.0)	275 (9.1)	23 (0.8)	5 (0.2)	2.886 (95.5)	121 (4.0)	9 (0.3)	7 (0.2)	1.868 (61.9)	924 (30.6)	194 (6.4)	33 (1.1)
11	2.973 (98.3)	45 (1.5)	4 (0.1)	2 (0.1)	2.981 (98.6)	31 (1.0)	7 (0.2)	4 (0.1)	2.502 (82.9)	447 (14.8)	49 (1.6)	20 (0.7)
12	2.941 (97.2)	72 (2.4)	11 (0.4)	1 (0.0)	2.969 (98.2)	45 (1.5)	5 (0.2)	4 (0.1)	2.636 (87.3)	325 (10.8)	50 (1.7)	8 (0.3)
13	2.952 (97.6)	65 (2.1)	5 (0.2)	3 (0.1)	2.990 (98.9)	21 (0.7)	8 (0.3)	4 (0.1)	2.769 (91.7)	215 (7.1)	30 (1.0)	6 (0.2)
14	2.964 (98.0)	50 (1.7)	8 (0.3)	3 (0.1)	2.987 (98.8)	25 (0.8)	9 (0.3)	2 (0.1)	2.825 (93.6)	157 (5.2)	24 (0.8)	13 (0.4)
15	2.758 (91.2)	232 (7.7)	26 (0.9)	9 (0.3)	2.925 (96.8)	83 (2.7)	10 (0.3)	5 (0.2)	2.185 (72.4)	703 (23.3)	107 (3.5)	24 (0.8)

Notes: Items or target behaviors: 1 = offensive/insulting messages; 2 = offensive/insulting calls; 3 = assaulting, recording, and hanging on Internet; 4 = broadcasting private photos/videos; 5 = taking photos in dressing rooms, beach … to broadcast; 6 = anonymous frightening calls; 7 = blackmailing; 8 = sexual harassment by cellphone/Internet; 9 = identity theft; 10 = theft of password; 11 = rigging photos/videos and broadcasting them; 12 = isolating on social networks; 13 = blackmailing without broadcasting intimacy; 14 = death threats; 15 = slandering and spreading rumors to discredit someone.
Frequency: N = never; S = sometimes; F = fairly often; A = always.

Table 3. Percentage of cybervictims, cyberaggressors, and cyberobservers (global, slight/moderate, and severe/frequent) in cyberbullying behaviors in the past year.

	Cybervictims			Cyberaggressors			Cyberobservers		
Target cyberbullying behaviors	Global	Slight	Severe	Global	Slight	Severe	Global	Slight	Severe
1. Offensive/insulting messages by cellphone/Internet	8.8	8.1	0.7	5.2	4.6	0.6	33.4	29.0	4.4
2. Offensive/insulting calls by cellphone/Internet	5.4	4.7	0.7	3.3	2.7	0.6	25.4	22.1	3.3
3. Assaulting, recording, and hanging on Internet	1.3	1.1	0.2	1.2	0.7	0.5	12.2	10.1	2.1
4. Broadcasting private photos/videos	4.3	3.9	0.4	2.1	1.8	0.3	22.9	20.8	2.1
5. Taking photos in dressing rooms, beach … to broadcast	2.0	1.6	0.4	1.4	1.2	0.2	14.5	12.8	1.7
6. Anonymous frightening calls	9.8	8.8	1.0	6.4	5.6	0.8	23.5	20.0	3.5
7. Blackmailing/threatening by calls or messages	4.0	3.5	0.5	2.1	1.8	0.3	13.9	12.1	1.8
8. Sexual harassment by cellphone/Internet	3.4	2.9	0.5	1.1	0.6	0.5	7.7	6.5	1.2
9. Identity theft	7.2	6.5	0.7	2.5	2.2	0.3	27.7	23.6	4.1
10. Stealing a password	10.1	9.1	1.0	4.5	4.0	0.5	38.1	30.6	7.5
11. Rigging photos/videos and broadcasting them	1.7	1.5	0.2	1.3	1.0	0.3	17.1	14.8	2.3
12. Isolating on social networks	2.8	2.4	0.4	1.8	1.5	0.3	12.8	10.8	2.0
13. Blackmailing without broadcasting intimacy	2.4	2.1	0.3	1.1	0.7	0.4	8.3	7.1	1.2
14. Death threats	2.1	1.7	0.4	1.2	0.8	0.4	6.4	5.2	1.2
15. Slandering and spreading rumors to discredit someone	8.9	7.7	1.2	3.2	2.7	0.5	27.6	23.3	4.3

Note: Global = sometimes, fairly often, and always; slight or moderate = sometimes; severe = fairly often and always.

cellphone or Internet (V: 8.8%; P: 5.2%; O: 33.4%); slandering by telling lies over Internet about others to discredit them (V: 8.9%; P: 3.2%; O: 27.6%); identity theft in another person's blog, making discrediting comments, lies, or telling secrets (V: 7.2%; P: 2.5%; O: 27.7%); and offensive and insulting calls by cellphone or Internet (V: 5.4%; P: 3.3%; O: 25.4%).

Connections among cybervictimization, cyberaggression, and cyberobservation

To analyze the relations between the Cyberbullying Test indexes (cybervictimization, cyberaggression, cyberobservation, and aggressive-cybervictimization), we obtained partial correlation coefficients, controlling for the effect of sex and age. The results (see Table 4) yielded significant positive correlations among the four indexes, suggesting that cybervictims are more likely to use aggressive behaviors toward others through electronic means, they tend to observe more cyberbullying behaviors and to score high in aggressive-cybervictimization.

Table 4. Partial correlations, controlling for the effect of sex and age, among the four Cyberbullying Test indexes.

	1	2	3
1. Level of cybervictimization			
2. Level of cyberaggression	.46*		
3. Level of cyberobservation	.43*	.40*	
4. Level of aggressive-cybervictimization	.85*	.85*	.49*

*$p < .001$.

Complementarily, we performed contingency analysis between cybervictimization and cyberaggression to identify the percentage of pure-cybervictims and aggressive-cybervictims. Out of the 30% of the cybervictims ($n = 906$) who reported having suffered one or more cyberbullying behaviors, 19.7% ($n = 594$) were pure-cybervictims who had never assaulted anyone, whereas 10.3% ($n = 312$) were cybervictims and cyberaggressors. Pearson's chi-square confirmed significant differences ($\chi^2 = 357.34$; $p < .001$). The results of the contingency analysis between cybervictims and cyberaggressors for each one of the 15 behaviors assessed are presented in Table 5. The results (see Table 5) reveal a percentage of participants, ranging between 0.2% and 2.3%, who suffered some of these cyberbullying behaviors and who also performed them. But when severe cybervictimization and cyberaggression were crossed, the percentage decreased to 0.2%.

Discussion

The main goal of this study was to analyze the prevalence of cyberbullying in the Basque Country. First, the results have shown that 69.8% of the students report having suffered, seen, or carried out each cyberbullying behavior in the past year. Of them, 30.2% report having suffered one or more cyberbullying behaviors, 15.5% report having carried out one or more cyberbullying behaviors toward others, and 65.1% report having observed them. Therefore, the data do not confirm Hypothesis 1, as the number of students involved in cyberbullying situations (69.8%) is higher than hypothesized (50%) and than that found in other studies (e.g., Ybarra, Diener-West, and Leaf 2007).

Table 5. Contingency between severe and global cybervictimization and cyberaggression: frequency (*F*) and percentage (%) of cybervictims aggressors and nonaggressors.

	Severe Cybervictimization				Global Cybervictimization			
	Total	No-A	Yes-A		Total	No-A	Yes-A	
Target cyberbullying behaviors	*F* (%)	*F* (%)	*F* (%)	χ^2	*F* (%)	*F* (%)	*F* (%)	χ^2
1. Offensive/insulting messages by cellphone/Internet	21 (0.7)	17 (0.6)	4 (0.1)	114.62**	264 (8.8)	209 (6.9)	55 (1.8)	144.74**
2. Offensive/insulting calls by cellphone/Internet	20 (0.7)	16 (0.5)	5 (0.1)	120.67**	162 (5.4)	134 (4.4)	28 (0.9)	101.25**
3. Assaulting, recording, and hanging on Internet	5 (0.2)	3 (0.1)	2 (0.1)	169.54**	36 (1.2)	28 (0.9)	8 (0.3)	141.01**
4. Broadcasting private photos/videos	12 (0.4)	10 (0.3)	2 (0.1)	108.67**	131 (4.3)	113 (3.7)	18 (0.6)	89.19**
5. Taking photos in dressing rooms, beach … to broadcast	12 (0.4)	9 (0.3)	3 (0.1)	279.09**	60 (2.0)	44 (1.5)	16 (0.5)	264.44**
6. Anonymous frightening calls	30 (1.0)	28 (0.9)	2 (0.1)	12.58**	297 (9.8)	227 (7.5)	70 (2.3)	161.16**
7. Blackmailing/threatening by calls or messages	15 (0.5)	13 (0.4)	2 (0.1)	77.24**	121 (4.0)	102 (3.4)	19 (0.6)	112.16**
8. Sexual harassment by cellphone/Internet	14 (0.5)	9 (0.3)	5 (0.2)	353.09**	102 (3.4)	90 (3.0)	12 (0.4)	107.38**
9. Identity theft	20 (0.7)	16 (0.5)	4 (0.1)	263.11**	218 (7.2)	199 (6.6)	19 (0.6)	36.82**
10. Stealing a password	28 (0.9)	27 (0.9)	1 (0.0)	4.96*	303 (10.0)	250 (8.3)	53 (1.8)	130.59**
11. Rigging photos/videos and broadcasting them	6 (0.2)	6 (0.2)	0 (0.0)	0.02 ns	51 (1.7)	44 (1.5)	7 (0.2)	57.57**
12. Isolating on social networks	12 (0.4)	12 (0.4)	0 (0.0)	0.03 ns	84 (2.8)	68 (2.3)	16 (0.5)	146.68**
13. Blackmailing without broadcasting intimacy	8 (0.3)	6 (0.2)	2 (0.1)	122.76**	73 (2.4)	63 (2.1)	10 (0.3)	110.75**
14. Death threats	11 (0.4)	8 (0.3)	3 (0.1)	220.41**	61 (2.0)	46 (1.5)	15 (0.5)	289.58**
15. Slandering and spreading rumors to discredit someone	35 (1.2)	34 (1.1)	1 (0.0)	3.99*	267 (8.8)	222 (7.3)	45 (1.5)	175.49**

Notes: Severe cybervictimization: Total = total of severe cybervictims (have suffered the behavior frequently: fairly often and/or always); No-A = severe cybervictims who did not frequently perform out aggressive behavior (fairly often and/or always); Yes-A = severe cybervictims who are also frequently aggressors (fairly often and/or always); global cybervictimization: Total = total of global cybervictims (have suffered the behavior one or more times); No-A = cybervictims who have never assaulted; Yes-A = cybervictims who have been aggressors one or more times.
*$p < .05$, **$p < .001$.

Second, results show that 1.3–10.1% of the students have suffered some of the 15 cyberbullying behaviors assessed (sometimes, fairly frequently, and always), and that 0.2–1.2% were victimized frequently (fairly frequently and always). With regard to cyberaggressors, between 1.1% and 6.4% performed the electronic harassment behaviors assessed (sometimes, fairly frequently, and always) and between 0.2% and 0.8% performed them frequently. With regard to the cyberobservers, between 6.4% and 38.1% report having seen some of the 15 cyberbullying behaviors and between 1.2% and 7.5% frequently witnessed these behaviors. The data obtained confirm Hypothesis 2, and point in the same direction as other studies finding levels of cybervictimization prevalence lower than 10% (Allen 2012; del Barco et al. 2012; Låftman, Modin, and Östberg 2013; Olweus 2012; Ortega et al. 2012; Pelfrey and Weber 2013), although they differ from the data obtained in other works that found prevalences of up to 33% (see Table 1). The discrepancies among the studies are largely due to the different instruments employed or to the time interval considered (some ask the extent to which this type of behavior was performed during the past year, while others refer to the past two or three months, and still others establish no time limit).

The most prevalent behaviors by the three roles were: (1) stealing passwords to impede access to blogs or email; (2) anonymous phone calls to frighten others; (3) sending offensive/insulting messages by cellphone or Internet; (4) slandering by telling lies over Internet about people to discredit them; (5) identity theft in another person's blog, making discrediting comments, lying, or telling secrets; and (6) offensive and insulting calls by cellphone or Internet. These results confirm Hypothesis 3 and ratify the data obtained by Ortega et al. (2012). The content of the messages revealed suggests that cyberspace can be a threatening and ugly world with few laws or rules of socially acceptable behavior.

Lastly, the correlations suggest that those who suffer from electronic cybervictimization are also more likely to carry out many cyberaggressions toward others and to observe many cyberbullying behaviors. However, results of contingency analyses between cybervictimization and cyberaggression show that only one-third of the cybervictims were also aggressors. These results confirm Hypothesis 4 and point in the same direction as the work of Kowalski and Limber (2007), although the percentage of aggressive-cybervictims in their work was somewhat higher than 50%. Becoming a cyberaggressor makes some cybervictims feel powerful and superior, relieving the feelings of sadness and helplessness produced by victimization. For other cybervictims, reversing their role to become a cyberaggressor may be a way of externalizing their angry feelings when they are victimized.

The study provides precise information about the prevalence of cyberbullying in the Basque Country in a representative sample aged between 12 and 18 years, and allows comparison of the information provided by all the roles involved (cybervictims, cyberaggressors, and cyberobservers), facilitating data triangulation and thereby increasing reliability. Although the prevalence in the Basque Country is not very high compared with other studies (see Table 1), the percentages found both in cybervictimization and cyberaggression are noteworthy. The results obtained suggest the need to implement psychoeducational interventions in order to prevent and eliminate this type of peer violence. Adolescents' high participation in cyberbullying, as well as the progressive worldwide increase of this phenomenon in all countries, leads us to underline the need for prevention and intervention.

Intervention proposals in bullying and cyberbullying should include: (1) prevention (generic actions aimed at improving coexistence, preventing conflictivity, and the onset of the phenomenon); (2) primary intervention (when situations of incipient maltreatment are detected, preventing their consolidation by administration of a specific program with individual and group interventions); and (3) secondary intervention (when the situations are consolidated, minimizing their impact on those involved, providing therapeutic support and protection to the cybervictims, as well as control of the cyberaggressors).

There should be an action protocol for cases of harassment in all schools, as well as a plan to prevent violence and promote peaceful coexistence. All students should participate in preventive programs in order to inhibit bullying in all its modalities. In general, psychoeducational intervention programs to prevent and reduce bullying/cyberbullying and/or any other type of violence should promote prosocial behavior, social skills and communication, the capacity to solve conflicts, empathy, and anger control (Garaigordobil et al. 2009; Garaigordobil and Martínez-Valderrey 2014a, 2014b). In addition, it is necessary to implement didactic proposals for the family and community with a view to prevention and intervention in cyberbullying.

Intervention to prevent and reduce bullying and cyberbullying should take the individual, the group, and society as a whole into account. In contrast to other theoretical models that interpret violence from an individual perspective, sociology extends this viewpoint. Sociological theory interprets violence as a product of the cultural, political, and economic characteristics of society. Factors such as poverty, marginalization, difficulties to develop intellectually, exploitation, or subjugation to highly competitive systems are observed in the origin of some individuals' deviant behavior, and are thus considered the main cause of people's behavior problems. From this perspective, society's values are considered to be extremely important. In this sense, aggression has a positive value in some cultures, and is not only admitted, but even rewarded. Such tolerance of violence is frequently favored by a key element of social influence: the mass media.

From a sociological interpretation of the bullying phenomenon, it can be said that, although the dimensions of this type of violence (physical, verbal, social, and psychological) are closely linked, they all meet in social violence. From this approach, bullying is considered a crystalizer of interactions steeped in discriminative dynamics. Sustained harassment is a way of stigmatizing people who lack some attribute, whose absence leads to their infravaloration, and whose presence leads to overvaluing other people. Therefore, in order to analyze the social problem, it is first necessary to explore the social ties of the stigmatized people and, second, the attribute for which they are harassed, which can be ethnic, religious, sexual, or referring to their sexuality. Consequently, it is also necessary to intervene in social values and the mass media to eradicate any type of violence (political, religions, family, peer, etc.).

As a limitation of the study, we note the use of self-reports, due to the social desirability involved, although bias was partially neutralized in this study through the use of data triangulation. Future lines of research could analyze the effects (physical, psychological, psychopathological, etc.) of cyberbullying for the cybervictims, cyberaggressors, and cyberobservers, as well as their connections with personal and family factors that could help to identify relevant variables for the prevention and intervention programs.

Funding

This study was financed by the Ministry of Economics and Competitiveness (MINECO) [grant number PSI2012-30956], by the Department of Education of the Basque Government [grant number IT-638-13], and by the University of the Basque Country [grant number UFI PSIXXI 11/04].

References

Allen, K. P. 2012. "Off the Radar and Ubiquitous: Text Messaging and Its Relationship to 'Drama' and Cyberbullying in an Affluent, Academically Rigorous US High School." *Journal of Youth Studies* 15 (1): 99–117. doi:10.1080/13676261.2011.630994.

del Barco, B. L., E. F. Castaño, F. F. Bullón, and T. G. Carroza. 2012. "Cyberbullying in a Sample of Secondary Students: Modulating Variables and Social Networks." *Electronic Journal of Research in Educational Psychology* 10 (2): 771–788.

Fenaughty, J., and N. Harré. 2013. "Factors Associated with Distressing Electronic Harassment and Cyberbullying." *Computers in Human Behavior* 29 (3): 803–811. doi:10.1016/j.chb.2012.11.008.

Garaigordobil, M. 2011. "Prevalence and Consequences of Cyberbullying: A Review." *International Journal of Psychology and Psychological Therapy* 11 (2): 233–254.

Garaigordobil, M. 2013. *Cyberbullying. Screening of Peer Harassment*. Madrid: TEA.

Garaigordobil, M., C. Maganto, J. I. Pérez, and E. Sansinenea. 2009. "Gender Differences in Socioemotional Developmental Factors during Adolescence and Effects of a Violence Prevention Program." *Journal of Adolescent Health* 44 (5): 468–477. doi:10.1016/j.jadohealth.2008.09.014.

Garaigordobil, M., and V. Martínez-Valderrey. 2014a. *Cyberprogram 2.0. An Intervention Program to Prevent and Reduce Cyberbullying*. Madrid: Pirámide.

Garaigordobil, M., and V. Martínez-Valderrey. 2014b. "Effect of Cyberprogram 2.0 on Reducing Victimization and Improving Social Competence in Adolescence." *Revista de Psicodidáctica/ Journal of Psychodidactics* 19 (2): 289–305. doi:10.1387/RevPsicodidact.10239.

Gofin, R., and M. Avitzour. 2012. "Traditional versus Internet Bullying in Junior High School Students." *Maternal and Child Health Journal* 16 (8): 1625–1635. doi:10.1007/s10995-012-0989-8.

Kowalski, R. M., and S. Limber. 2007. "Electronic Bullying among Middle School Students." *Journal of Adolescent Health* 41: 22–30. doi:10.1016/j.jadohealth.2007.08.017.

Låftman, S. B., B. Modin, and V. Östberg. 2013. "Cyberbullying and Subjective Health. A Large-scale Study of Students in Stockholm, Sweden." *Children and Youth Services Review* 35 (1): 112–119. doi:10.1016/j.childyouth.2012.10.020.

Lemstra, M., M. Rogers, L. Redgate, M. Garner, and J. Moraros. 2011. "Prevalence, Risk Indicators and Outcomes of Bullying among On-Reserve First Nations Youth." *Canadian Journal of Public Health* 102 (6): 462–466.

Monks, C. P., S. Robinson, and P. Worlidge. 2012. "The Emergence of Cyberbullying: A Survey of Primary School Pupils' Perceptions and Experiences." *School Psychology International* 33 (5): 477–491. doi:10.1177/0143034312445242.

Moore, P. M., E. S. Huebner, and K. J. Hills. 2012. "Electronic Bullying and Cybervictimization and Life Satisfaction in Middle School Students." *Social Indicators Research* 107 (3): 429–447. doi:10.1007/s11205-011-9856-z.

Olenik-Shemesh, D., T. Heiman, and S. Eden. 2012. "Cyberbullying Victimisation in Adolescence: Relationships with Loneliness and Depressive Mood." *Emotional and Behavioural Difficulties* 17 (3–4): 361–374. doi:10.1080/13632752.2012.704227.

Olweus, D. 2012. "Cyberbullying: An Overrated Phenomenon?" *European Journal of Developmental Psychology* 9 (5): 520–538. doi:10.1080/17405629.2012.682358.

Ortega, R., P. Elipe, J. Mora-Merchán, M. L. Genta, A. Brighi, A. Guarini, P. K. Smith, F. Thompson, and N. Tippett. 2012. "The Emotional Impact of Bullying and Cyberbullying on Cybervictims: A European Cross-national Study." *Aggressive Behavior* 38 (5): 342–356. doi:10.1002/ab.21440.

Pelfrey, Jr., W. V., and N. L. Weber. 2013. "Keyboard Gangsters: Analysis of Incidence and Correlates of Cyberbullying in a Large Urban Student Population." *Deviant Behavior* 34 (1): 68–84. doi:10.1080/01639625.2012.707541.

Popović-Ćitić, B., S. Djurić, and V. Cvetković. 2011. "The Prevalence of Cyberbullying among Adolescents: A Case Study of Middle Schools in Serbia." *School Psychology International* 32 (4): 412–424. doi:10.1177/0143034311401700.

Pyzalski, J. 2012. "From Cyberbullying to Electronic Aggression: Typology of the Phenomenon." *Emotional and Behavioural Difficulties* 17 (3–4): 305–317. doi:10.1080/13632752.2012.704319.

Renati, R., C. Berrone, and M. A. Zanetti. 2012. "Morally Disengaged and Unempathic: Do Cyberbullies Fit These Definitions? An Exploratory Study." *Cyberpsychology, Behavior, and Social Networking* 15 (8): 391–398. doi:10.1089/cyber.2012.0046.

Sakellariou, T., A. Carroll, and S. Houghton. 2012. "Rates of Cyber Cybervictimization and Bullying among Male Australian Primary and High School Students." *School Psychology International* 33 (5): 533–549. doi:10.1177/0143034311430374.

Schenk, A. M., and W. J. Fremouw. 2012. "Prevalence, Psychological Impact, and Coping of Cyberbully Cybervictims among College Students." *Journal of School Violence* 11 (1): 21–37. doi:10.1080/15388220.2011.630310.

Schneider, S. K., L. O'Donnell, A. Stueve, and R. W. S. Coulter. 2012. "Cyberbullying, School Bullying, and Psychological Distress: A Regional Census of High School Students." *American Journal of Public Health* 102 (1): 171–177. doi:10.2105/AJPH.2011.300308.

Smith, P., J. Mahdavi, M. Carvalho, S. Fisher, S. Russell, and N. Tippett. 2008. "Cyberbullying: Its Nature and Impact in Secondary School Pupils." *Journal of Child Psychology and Psychiatry* 49 (4): 376–385. doi:10.1111/j.1469-7610.2007.01846.x.

Vieno, A., G. Gini, and M. Santinello. 2011. "Different Forms of Bullying and Their Association to Smoking and Drinking Behavior in Italian Adolescents." *Journal of School Health* 81 (7): 393–399. doi:10.1111/j.1746-1561.2011.00607.x.

Wade, A., and T. Beran. 2011. "Cyberbullying: The New Era of Bullying." *Canadian Journal of School Psychology* 26 (1): 44–61. doi:10.1177/0829573510396318.

Walrave, M., and W. Heirman. 2011. "Cyberbullying: Predicting Cybervictimization and Cyberaggression." *Children & Society* 25: 59–72. doi:10.1111/j.1099-0860.2009.00260.x.

Wensley, K., and M. Campbell. 2012. "Heterosexual and Nonheterosexual Young University Students' Involvement in Traditional and Cyber Forms of Bullying." *Cyberpsychology, Behavior, and Social Networking* 15 (12): 649–654. doi:10.1089/cyber.2012.0132.

Ybarra, M., M. Diener-West, and P. Leaf. 2007. "Examining the Overlap in Internet Harassment and School Bullying: Implications for School Intervention." *Journal of Adolescent Health* 41: 42−50. doi:10.1016/j.jadohealth.2007.09.004.

Yilmaz, H. 2011. "Cyberbullying in Turkish Middle Schools: An Exploratory Study." *School Psychology International* 32 (6): 645–654. doi:10.1177/0143034311410262.

Appendix: Cyberbullying behaviors explored by the Cyberbullying Test

1. Have they ever sent you offensive and insulting messages by cellphone or Internet?
2. Have you ever received offensive and insulting calls on your cellphone or by Internet (Skype …)?
3. Have you ever been assaulted in order to tape the assault and hang it on the Internet?
4. Have they ever diffused your private or compromising pictures or videos by Internet or cellphone?
5. Have they ever taken pictures of you without your permission in places like locker rooms, beaches, or toilets and hung them on the Internet or diffused them by cellphone?
6. Have you ever received anonymous calls in order to scare or frighten you?
7. Have they ever blackmailed or threatened you with calls or messages?
8. Have they ever harassed you sexually by cellphone or on the Internet?
9. Has anybody ever signed your blog,pretending to be you, making slandering comments, lying, or revealing your secrets?
10. Have they ever stolen your password to prevent your access to your blog or email?
11. Have they ever touched up your photos or videos to diffuse them through social networks or YouTube in order to humiliate you or make fun of you?
12. Have they ever harassed you in order to isolate you from your social network contacts?
13. Have they ever blackmailed you, making you do things you did not want to do in order to prevent them from diffusing your intimate matters on the network?
14. Have they ever threatened to kill you or your family by cellphone, the social networks, or any other type of technology?
15. Have they ever slandered you through the Internet, telling lies about you in order to discredit you? Have they ever spread rumors about you in order to harm you?

Note: The 15 items of the Appendix are applied in the victim role (has suffered), and then in the aggressor role (has carried out), and finally in the observer role (has seen).