Psychosocial Intervention

Victimization and Perpetration of Bullying/Cyberbullying: Connections with Emotional and Behavioral Problems and Childhood Stress

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ABSTRACT

The purpose of the study was to analyze the connections between victimization and perpetration of face-to-face bullying and cyberbullying with self-perceived childhood stress and diverse emotional and behavioral problems (EBPs) evaluated by parents. Participants were 1,993 students, aged 9-13 years, from the Basque Country (Spain) (49.8% females). The results of the analyses of variance (MANOVA-ANOVA) and correlational analyses showed that: (1) students who had higher scores in victimization and perpetration of bullying/cyberbullying had significantly high levels of stress and many EBPs; (2) participants who had higher scores in victimization/cybervictimization and perpetration of bullying obtained higher scores in all the dimensions of stress, while those who had higher scores in cyberaggression only showed higher school stress; (3) students who had higher scores in victimization/cybervictimization manifested internalizing and externalizing EBPs, whereas those who had higher scores in perpetration of bullying/cyberbullying had fewer internalizing problems; and (4) children who obtained higher scores in victimization and perpetration of bullying/cyberbullying had received psychological counseling significantly more frequently in the past year than those who had lower scores in indicators of bullying/cyberbullying. The importance of preventing/intervening in bullying situations to reduce psychopathological problems is emphasized in the discussion.

La victimización y perpetración de acoso/ciberacoso escolar: su relación con los problemas emocionales y de comportamiento y con el estrés infantil

RESUMEN

El estudio tuvo como objetivo analizar la relación entre victimización y perpetración de acoso escolar presencial y ciberacoso con el estrés infantil autopercibido y con los problemas emocionales y de conducta (PEC) evaluados por los padres. Participaron 1,993 estudiantes, de 9 a 13 años, del País Vasco (España) (49,8% mujeres). Los resultados de los análisis de varianza (MANOVA-ANOVA) y correlacionales mostraron que: (1) los estudiantes que tenían mayores puntuaciones en victimización y perpetración de acoso/ciberacoso escolares tenían significativamente alto nivel de estrés y muchos PEC; (2) los participantes que tenían puntuaciones superiores en victimización/cibervictimización y perpetración de acoso escolar obtuvieron mayores puntuaciones en todas las dimensiones del estrés, mientras que aquellos que tenían altas puntuaciones en ciberagresión únicamente mostraban mayor estrés escolar; (3) los participantes que tuvieron mayor puntuación en victimización/cibervictimización mostraban PEC internalizantes y externalizantes y aquellos con mayor puntuación en agresión/ciberagresion tenían menos problemas internalizantes; (4) los niños que obtuvieron mayores puntuaciones en victimización y perpetración de acoso/ciberacoso escolares habían acudido significativamente más al psicólogo en el último año que aquellos que tuvieron menores puntuaciones en los indicadores de acoso/ciberacoso escolares. El debate destaca la importancia de prevenir/tratar el acoso para disminuir los problemas psicopatológicos.

Presential or face-to-face bullying is a type of aggression characterized by the intention to harm, repetition, and the power imbalance between victim and aggressor (Olweus, 2013), and cyberbullying uses information and communication technologies (ICT), mainly the Internet and mobile phones, to harass peers. Taking the prevalence and consequences of bullying/cyberbullying into account, especially for the victims (depression, anxiety, posttraumatic stress, psychosomatic problems, low self-esteem, school rejection,

suicidal ideation, and consummation of suicide), it is necessary to further investigate its connections with different personal and contextual variables (Garaigordobil, 2015).

So far, most studies on cyberbullying have focused their analysis on secondary school students and adolescents (Kowalski, Limber, & McCord, 2018), a reason why identification of variables such as emotional problems, behavioral problems, or childhood stress will be useful for early intervention and prevention both in victims and in aggressors. This study fills a gap by analyzing children's daily stress and ten emotional and behavioral problems in relation to both bullying and cyberbullying in an often-overlooked educational stage.

In general, studies have shown that victims of bullying present more physical and psychosomatic problems (Cassidy, 2009; Fekkes, Pijpers, Frediks, Vogels, & Verloove-Vanhorick, 2006; Modin, Låftman, & Östberg, 2015; Vernberg, Nelson, Fonagy, & Twemlow, 2011), more depression (Lemstra, Nielsen, Rogers, Thompson, & Moraros , 2012; Price, Chin, Higa-McMillan, Kim, & Frueh, 2013), suicidal ideation (Hinduja & Patchin, 2010), anxiety (Price et al., 2013), social anxiety (Pabian & Vandebosch, 2016), self-perceived stress (Williams, Turner-Henson, Davis, & Soistmann, 2017), low academic performance (Garaigordobil, 2013), and more mental health problems (Bannink, Broeren, van de Looij-Jansen, de Waart, & Raat 2014). Nevertheless, the study of Forlim, Stelko-Pereira, and Williams (2014) did not find depression in pure victims, although it did find depressive symptoms in aggressive-victims. Bullying aggressors present more behavioral problems, attentional-hyperactivity problems, somatic complaints (Vernberg et al., 2011), depression and anxiety (Price et al., 2013), somatic problems (Modin et al., 2015), and greater emotional problems in general (Dooley, Gradinger, Strohmeier, Cross, & Spiel, 2010; Fletcher et al., 2014).

A number studies have shown that cybervictims have depression (Aoyama, Saxon, & Fearon, 2011; Ayas & Deniz, 2014; Dooley, Shaw, & Cross, 2012; Gámez-Guadix, Orue, Smith & Calvete, 2013; Jung et al., 2014; Kowalski & Limber, 2013; Mitchell, Ybarra, & Finkelhor, 2007; Price et al., 2013; Salmivalli, Sainio, & Hodges, 2013; Stewart, Drescher, Maack, Ebesutani, & Young, 2014), anxiety (Aoyama et al., 2011; Ayas & Deniz, 2014; Kowalski & Limber, 2013; Stewart et al., 2014), emotional symptoms, behavioral problems, and problems with classmates (Dooley et al., 2012), low academic performance (Hinduja & Patchin, 2007, 2008), psychosomatic problems (Ayas & Deniz, 2014), stress (Aoyama et al., 2011), mental health problems (Bannink et al., 2014), violent behavior (Hinduja & Patchin, 2007, 2008), and display both internalizing and externalizing problems (Tsitsika et al., 2015). Cyberaggressors show symptoms of depression and anxiety (Campbell, Slee, Spears, Butler, & Kift, 2013; Price et al., 2013), and disruptive and aggressive behaviors (Hinduja & Patchin, 2007, 2008; Jung et al., 2014). Both cybervictims and cyberaggressors obtained worse grades (Hinduja & Patchin, 2008; Wright, 2015). In addition, González-Cabrera, Calvete, León-Mejía, Pérez-Sancho, and Peinado (2017) in a recent study found that cybervictims and cybervictims-cyberaggressors had significantly more stress (perceived and measured by cortisol).

Comparing bullying and cyberbullying, some studies report that cybervictims suffer more symptoms of depression and anxiety than victims of traditional bullying (Campbell, Spears, Slee, Butler, & Kift, 2012), but other studies find the opposite, that is, that victims of bullying have higher levels of depression than cybervictims (Salmivalli et al., 2013). Along the same lines, Sjursø, Fandrem, and Roland (2016) found that victims of face-to-face bullying suffer higher levels of depression than cybervictims, whereas the symptoms of anxiety were more severe in cybervictims than in face-to-face bullying victims. In addition, it was found that victims of bullying show significantly more internalizing problems than cybervictims, and that both aggressors and cyberaggressors display externalizing problems, although cyberaggressors have fewer aggressive characteristics than face-to-face aggressors (Kubiszewski, Fontaine, Potard, & Auzoult,

2015). Finally, Bradshaw, Waasdorp, and Johnson (2015) suggested that overlap in different forms of victimization led to the greatest risk for social-emotional problems.

Within this context, the main purpose of this study was to analyze the connections between victimization and perpetration of face-to-face bullying and cyberbullying with self-perceived childhood stress and different emotional and behavioral problems (EBPs: withdrawal, somatization, anxiety, infantile-dependence, thought problems, attention-hyperactivity, disruptive behavior, academic performance, depression, and violent behavior) evaluated by the parents. Complementarily, this study explores whether children with higher scores in victimization and perpetration of bullying and cyberbullying in the last year had visited a psychologist significantly more frequently that those who had lower scores in indicators of bullying/cyberbullying.

With this objective and taking as reference the results of previous studies, four hypotheses were proposed:

*H*1. Participants with higher scores in victimization, cybervictimization, aggression, and cyberaggression will have significantly high levels (≥ 85 percentile scores) of stress and many internalizing and externalizing EBPs compared with children who show lower scores on bullying/cyberbullying indicators.

*H*2. Positive correlations will be found between victimization, cybervictimization, aggression, and cyberaggression and general stress and its dimensions (health/psychosomatic problems, school, and family stress).

*H*3. Positive correlations will be found between victimization, cybervictimization, aggression, and cyberaggression and internalizing EBPs (somatization, withdrawal, anxiety, infantile-dependence, thought problems, and depression) and externalizing EBPs (attention-hyperactivity, disruptive behavior, academic performance, violent behavior), although students with higher scores in victimization and cybervictimization will have more internalizing EBPs than those with higher scores in aggression and cyberaggression.

*H*4. Participants with higher scores in victimization, cybervictimization, aggression, and cyberaggression had requested in the last year psychological counseling due to different symptoms (internalizing and externalizing) significantly more frequently that those who have lower scores on indicators of bullying/cyberbullying.

Method

Participants

Participants were 1,993 students from 5th and 6th grade of primary education. The participants were 9 to 13 years old (*M* = 10.68, *SD* = 0.71), 50.2% males and 49.8% females, and were enrolled in 25 schools (51% in public facilities, 49% private centers). The sample included 12.2% of participants of low socioeconomic level, 48.9% of medium level, and 38.9% of medium-high level. In the general identification questionnaire, 15.9% (*n* = 316) of the entire sample reported having requested psychological assistance in the past year due to various problems and/or symptoms (anxiety, depression, problems with academic performance, problems related to violence, eating problems, phobias, fears, enuresis, etc.).

The randomly selected sample is representative of these school age groups of the Basque Country (northern Spain). To select the sample, we took into account the population of students of these ages published in the population survey (education) of the Basque Country Statistics Institute (eustat.es statistics). A confidence level of .99 was used, with a sampling error of .03, for a population variance of .50. To select the sample, we took into account the level of population in each type of school (public-private) and in each of the three provinces of the Basque Country. In addition, 1,864 (93.5%) of the student parents participated.

Design and Procedure

In this research, we used a descriptive, comparative, and correlational cross-sectional design. Firstly, an e-mail was sent to the randomly selected schools, explaining the research. We sent informed consent forms to the parents and participants of the schools whose principals agreed to participate. Subsequently, members of the research team visited the schools to administer the self-reports (Cyberbullying, IECI) during a 50-minute session, and parents received the SPECI, which they completed and returned 15 days later. The study received the favorable report of the Ethics Committee of the University of the Basque Country (CEISH/229/2013).

Measures

To measure the target variables, we used three assessment instruments with adequate psychometric guarantees of reliability and validity.

Cyberbullying: Screening of peer harassment (Garaigordobil, 2013, 2017). This assesses face-to-face (physical, verbal, social, and psychological) bullying and cyberbullying. The Bullying Scale measures 4 types of aggressive behavior, and the Cyberbullying Scale explores 15 behaviors related to technological bullying (sending offensive and insulting messages, making offensive calls, recording a beating and uploading it to YouTube, disseminating compromising photos or videos, stealing and disseminating photos, making anonymous frightening calls, blackmailing, or threatening someone, sexual harassment, spreading rumors, secrets, and lies, stealing email passwords, faking photos or videos and uploading them to YouTube, isolating others from social networks, blackmailing with disclosing intimate details about someone, death threats, slandering). On the two scales, participants report the frequency with which they have suffered and carried out the behaviors during the past year (Likert scale: 0 = *never*, 1 = *sometimes*, 2 = *quite a few times*, 3 = *always*). The test provides a global level of victimization and aggression on both scales. The psychometric studies confirm adequate internal consistency both in the bullying scale (α = .81) and in the cyberbullying scale (α = .91), in the same direction as those obtained with the sample of this study (bullying α = .84; cyberbullying α = .91).

SPECI (Screening de Problemas Emocionales y de Conducta Infantil) [Screening for Children's Emotional and Behavioral Problems] (Garaigordobil & Maganto, 2012). This identifies emotional and behavioral problems (EBP) in children aged 5 to 12 years through their parents' appraisals. Ten EBP or diagnostic categories are appraised through a series of illustrative examples of the problem, that are rated on a Likert scale (0 = *not at all*, 1 = *quite a lot*, 2 = *very much*). Besides a global score in EBP, two factors are obtained: 1) internalizing problems, consisting of behaviors of emotional content, behaviors that indicate inadequate conflict resolution, as they manifest conflicts internally (withdrawal, somatization, anxiety, infantile-dependence, thought problems, depression); and 2) externalizing problems, more related to the external expression of conflicts (attention-hyperactivity, disruptive behavior, poor academic achievement, and violent behavior). Internal consistency of the original sample was adequate for the global scale (α = .82), in the same direction as that obtained with the sample of this study (α = .73).

IECI (Inventario de Estrés Cotidiano Infantil) [Inventory of Children's Daily Stress] (Trianes, Blanca, Fernández-Baena, Escobar, & Maldonado, 2011). It assesses three spheres of childhood stress in 6-12 year-old boys and girls: 1) health and psychosomatic problems (illnesses, visits to the doctor, or minor ailments such as headaches, nausea, etc.); 2) stress in the school setting (excess of homework, teacher-student interaction problems, low school grades, relational difficulties with classmates); 3) stress in the family setting (situations such as lack of contact and parental supervision, perceived loneliness, fights among siblings, or parents' demands). The integration of all three factors of the test provides a score of general stress. It contains 22 dichotomous items describing the occurrence of different events, demands, and annoyances arising in the daily interaction with the environment that can provoke an emotional reaction and may adversely affect the development of school-age children. The internal consistency of the IECI was adequate in the original sample (α = .81) and somewhat lower in the sample of this study (α = .69).

Data Analysis

Firstly, in order to explore whether students with higher scores in victimization and perpetration of bullying and cyberbullying had significantly high levels of stress and EBPs (externalizing and internalizing), participants were classified into two profiles according to their scores in the IECI and the SPECI: low profile ($\leq$ 84 percentile scores) and high profile ($\geq$ 85 percentile scores) in general stress and EBPs (internalizing and externalizing). Next, descriptive analyses (mean and standard deviations) and multivariate (MANOVA) and univariate analyses of variance (ANOVA) were performed as a function of the profile on the four bullying/cyberbullying indicators (victimization, aggression, cybervictimization, and cyberaggression). The four indicators of bullying/cyberbullying and the profile of the variable under study (general stress, internalizing problems, externalizing problems) were included in MANOVA. In addition, effect size statistics (Cohen's *d* and eta squared) were calculated. Secondly, in order to analyze the relationship of concomitance between scores on victimization and aggression in bullying and cyberbullying with the dimensions of childhood stress and different EBPs, partial correlation analyses were performed with the scores of applied tests (Cyberbullying, IECI, SPECI), taking into account the effect of sex, age, and socio-economic-cultural level. Finally, to analyze whether participants with higher scores on victimization/cybervictimization and aggression/cyberaggression had requested more psychological assistance in the last year than those with lower scores on indicators of bullying/cyberbullying, descriptive analyses (means and standard deviations), and MANOVAS and ANOVAS were conducted comparing those who had requested psychological assistance with those who had not.

Results

Stress and EBPs in Participants with Higher Scores on Indicators of Bullying/Cyberbullying

In order to determine whether the low/high profile in general stress was significantly different according to the scores on all four bullying/cyberbullying indicators, a MANOVA was performed with the scores on victimization, aggression, cybervictimization, and cyberaggression. The results revealed significant differences depending on the IECI profile, Wilks lambda, Λ = .857, $F(4, 1901)$ = 79.01, p < .001, with a large effect size, η^2 = .143.

These data show higher scores on general stress in participants who also had higher scores on victimization, aggression, cyberaggression, and cybervictimization.

The MANOVA as a function of the low/high-profile in internalizing problems indicated significant differences, Wilks lambda, Λ = .955, $F(4, 1813)$ = 21.33, p < .001, with a moderate effect size, η^2 = .045. These data confirm that students who had high scores on internalizing problems had higher scores on bullying/cyberbullying indicators. The MANOVA results as a function of the low/high profile in externalizing problems were similar, Wilks lambda, Λ = .943, $F(4, 1808)$ = 27.48,

Table 1. Means and Standard Deviations in Bullying (Victimization, Aggression) and Cyberbullying (Cybervictimization, Cyberaggression) in Participants with High Levels of Stress and of Emotional and Behavioral Problems

		Bullying victimization			Bullying aggression			Cybervictimization			Cyberaggression		
	Profile	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
		M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
IECI General stress	Low	1.07 (1.70)	0.71 (1.38)	0.89 (1.56)	0.56 (1.04)	0.34 (0.83)	0.45 (0.94)	0.35 (1.28)	0.24 (1.02)	0.30 (1.16)	0.09 (0.94)	0.03 (0.26)	0.06 (0.68)
	High	2.82 (2.49)	2.40 (2.65)	2.64 (2.56)	1.41 (1.68)	0.76 (1.25)	1.13 (1.54)	1.45 (3.02)	1.20 (2.37)	1.34 (2.76)	0.20 (0.71)	0.12 (0.48)	0.17 (0.62)
SPECI Internalizing problems	Low	1.18 (1.79)	0.82 (1.58)	1.00 (1.69)	0.63 (1.09)	0.37 (0.89)	0.50 (1.00)	0.38 (1.46)	0.32 (1.18)	0.35 (1.32)	0.08 (0.66)	0.04 (0.30)	0.06 (0.51)
	High	2.15 (2.47)	1.81 (2.45)	1.99 (2.46)	0.93 (1.54)	0.50 (1.08)	0.73 (1.37)	1.14 (2.79)	0.64 (1.86)	0.91 (2.42)	0.23 (1.62)	0.20 (2.21)	0.22 (1.91)
SPECI Externalizing problems	Low	1.13 (1.71)	0.82 (1.60)	0.96 (1.66)	0.56 (1.03)	0.32 (0.80)	0.43 (0.92)	0.34 (1.15)	0.27 (1.05)	0.31 (1.10)	0.07 (0.66)	0.03 (0.25)	0.05 (0.48)
	High	1.88 (2.41)	1.79 (2.34)	1.85 (2.38)	0.94 (1.46)	0.74 (1.33)	0.87 (1.42)	1.00 (2.79)	0.87 (2.13)	0.95 (2.57)	0.22 (1.36)	0.24 (2.19)	0.23 (1.71)
SPECI Global EBP scale	Low	1.20 (1.79)	0.88 (1.64)	1.03 (1.72)	0.61 (1.07)	0.37 (0.88)	0.49 (0.99)	0.40 (0.99)	0.30 (1.13)	0.35 (1.31)	0.07 (0.64)	0.04 (0.28)	0.06 (0.48)
	High	2.09 (2.53)	1.74 (2.43)	1.94 (2.49)	0.98 (1.60)	0.54 (1.15)	0.79 (1.44)	1.18 (2.87)	0.91 (2.16)	1.06 (2.59)	0.29 (1.73)	0.28 (2.51)	0.29 (2.09)

Note. Low profile = percentile scores ≤ 84; high profile = percentile scores ≥ 85.

Table 2. Results of the ANOVA in Bullying (Victimization, Aggression) and Cyberbullying (Cybervictimization, Cyberaggression) Depending on the Level of Stress and EBPs (Profile), and Interaction Profile * Sex, and the Effect Size (Cohen's *d*)

	IECI General stress			SPECI Internalizing problems			SPECI Externalizing problems			SPECI EBP overall scale		
	$F_{1,1797}$ (p) Profile	$F_{1,1797}$ (p) Profile * sex	d	$F_{1,1797}$ (p) Profile	$F_{1,1797}$ (p) Profile * sex	d	$F_{1,1797}$ (p) Profile	$F_{1,1797}$ (p) Profile * sex	d	$F_{1,1797}$ (p) Profile	$F_{1,1797}$ (p) Profile * sex	d
Bullying victimization	243.28 (.000)	0.10 (.749)	0.83	73.72 (.000)	0.01 (.921)	0.47	66.51 (.000)	1.18 (.277)	0.43	50.22 (.000)	0.01 (.916)	0.43
Bullying aggression	99.77 (.000)	11.05 (.001)	0.53	10.86 (.001)	1.64 (.200)	0.19	43.96 (.000)	0.13 (.709)	0.37	14.34 (.000)	2.01 (.156)	0.25
Cybervictimization	113.30 (.000)	0.55 (.457)	0.49	31.12 (.000)	5.08 (.024)	0.29	48.08 (.000)	0.13 (.712)	0.32	44.06 (.000)	0.68 (.409)	0.35
Cyberaggression	5.23 (.022)	0.02 (.865)	0.16	7.13 (.008)	0.01 (.949)	0.11	11.38 (.001)	0.31 (.575)	0.14	13.69 (.000)	0.05 (.819)	0.15

Note. F = variance, *p* = significance. Low profile = percentile scores ≤ 84; high profile = percentile scores ≥ 85.

p < . 001, with a moderate effect size, η² = .057. Therefore, high scores on externalizing problems were also confirmed in participants who had higher scores on bullying/cyberbullying indicators.

As shown in Tables 1 and 2, the results of the descriptive analyses and analyses of variance according to the profile (high and low in IECI and EBP) in the four indicators (victimization, aggression, cybervictimization and cyberaggression) confirm that participants who obtained high scores (percentiles ≥ 85) on general stress, as well as on internalizing/externalizing problems and the total SPECI scale also obtained significantly higher scores on victimization and perpetration of bullying and cyberbullying. In general, the profile * sex interaction was nonsignificant, that is, these results are similar in both sexes. The effect size of victimization with stress was large and it was moderate with EBP. The effect size of aggression and cybervictimization with stress was moderate. The effect size of cyber-aggression with stress and EBP was very low.

Bullying/Cyberbullying: Connections with Stress and Various Diagnostic Categories

The partial correlation coefficients obtained between bullying/ cyberbullying and general stress (see Table 3) showed significant positive correlations between victimization, aggression, and cybervictimization with health/psychosomatic problems, school stress, family stress, and general stress. In cyberaggression, positive significant correlations with school stress and general stress were found, but no significant correlations with health/psychosomatic problems and family stress were observed.

Regarding connections between bullying/cyberbullying and EBPs, correlation coefficients (see Table 3) confirm the results obtained in the ANOVAs (participants with high scores in victimization and aggression in bullying/cyberbullying also had high scores in externalizing and internalizing EBPs). In addition, the correlation coefficients provide specific information of each EBP. With regard to bullying, victimization correlated positively and significantly with all the diagnostic categories except for violent behavior, whereas aggression correlated significantly and positively with all the diagnostic categories except for withdrawal and somatization. In relation to cyberbullying, the coefficients showed

significant positive correlations between cybervictimization and all the diagnostic categories evaluated, whereas cyberaggression did not correlate with withdrawal, somatization, or depression. The magnitude of the correlations was higher in victimization and cybervictimization than in aggression and cyberaggression, although, in general, coefficients were low.

Table 3. Partial Correlations between Bullying (Victimization, Aggression) and Cyberbullying (Cybervictimization, Cyberaggression) with Childhood Stress, Emotional, and Behavior Problems

Problems	Bullying victimization	Bullying aggression	Cybervictimization	Cyberaggression
	r (p)	r (p)	r (p)	r (p)
Health/Psychosomatic	.30 (.000)	.15 (.000)	.18 (.000)	.00 (.955)
School stress	.33 (.000)	.22 (.000)	.23 (.000)	.08 (.000)
Family stress	.23 (.000)	.20 (.000)	.19 (.000)	.03 (.103)
General stress	.39 (.000)	.25 (.000)	.26 (.000)	.05 (.029)
Withdrawal	.07 (.003)	.00 (.992)	.08 (.000)	.00 (.965)
Somatization	.06 (.004)	.00 (.999)	.04 (.050)	.03 (.106)
Anxiety	.19 (.000)	.04 (.041)	.16 (.000)	.08 (.001)
Infantile-Dependence	.21 (.000)	.09 (.000)	.12 (.000)	.05 (.032)
Thought Problems	.10 (.000)	.10 (.000)	.16 (.000)	.07 (.002)
Attention-Hyperactivity	.19 (.000)	.16 (.000)	.19 (.000)	.14 (.000)
Disruptive behavior	.13 (.000)	.16 (.000)	.20 (.000)	.13 (.000)
Academic achievement	.15 (.000)	.07 (.001)	.18 (.000)	.14 (.000)
Depression	.16 (.000)	.08. (.000)	.09 (.000)	.00 (.723)
Violent Behavior	.04 (.082)	.17 (.000)	.06 (.006)	.19 (.000)
Internalizing problems	.22 (.000)	.08 (.001)	.18 (.000)	.07 (.003)
Externalizing problems	.21 (.000)	.19 (.000)	.24 (.000)	.19 (.000)
EBP overall scale	.26 (.000)	.14 (.000)	.24 (.000)	.14 (.000)

Request for Psychological Counseling in Participants with Higher Scores on Indicators of Bullying/Cyberbullying

In order to determine whether the condition of "having received psychological assistance in the past year" was significantly different in those who had higher scores on the four bullying/cyberbullying indicators, we performed a MANOVA with the scores on victimization,

Table 4. Means, Standard Deviations, Results of the ANOVA, and Effect Size (Cohen's *d*) in Bullying/Cyberbullying Indicators in Participants who Received Psychological Assistance in the Past Year

	Psychological assistance (*n* = 316)			No psychological assistance (*n* = 1,624)			$F_{1, 1938}$ (*p*) Assistance	$F_{1, 1938}$ (*p*) Assistance*Sex	*d*
	Males	Females	Total	Males	Females	Total			
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)			
Bullying victimization	2.08 (2.49)	1.88 (2.58)	2.00 (2.52)	1.24 (1.83)	0.83 (1.55)	1.03 (1.70)	66.54 (.000)	0.78 (.367)	0.45
Bullying aggression	1.01 (1.52)	0.68 (1.15)	0.87 (1.38)	0.64 (1.11)	0.37 (0.88)	0.50 (1.01)	25.84 (.000)	0.16 (.688)	0.30
Cybervictimization	0.88 (2.16)	0.86 (2.20)	0.87 (2.17)	0.42 (1.54)	0.32 (1.23)	0.37 (1.39)	26.55 (.000)	0.21 (.642)	0.27
Cyberaggression	0.22 (1.53)	0.24 (2.36)	0.23 (1.91)	0.08 (0.64)	0.05 (0.31)	0.06 (0.50)	8.78 (.000)	0.32 (.571)	0.12

aggression, cybervictimization, and cyberaggression depending on this condition. The MANOVA yielded significant differences, Wilks lambda, Λ = .962, *F*(4, 1933) = 18.97, *p* < .001, with a moderate effect size, η^2 = .041.

The results of descriptive analysis and ANOVA show (see Table 4) that participants who had higher scores on victimization, cybervictimization, aggression, and cyberaggression had visited a psychologist in the past year for various symptoms (internalizing and externalizing) significantly more frequently that those who had lower scores on indicators of bullying/cyberbullying.

The effect size was moderate with bullying victimization, small with bullying aggression and cybervictimization, and very small with cyberaggression. The psychological counseling * sex interaction was nonsignificant.

Discussion

The main purpose of this study was to analyze the connections between victimization and perpetration of face-to-face bullying and cyberbullying with self-perceived childhood stress and different emotional and behavioral problems (EBPs). Firstly, the ANOVAs confirm that students who had higher scores on victimization and perpetration of bullying and cyberbullying had significantly high levels of general stress and many internalizing and externalizing EBPs. *H*1 is therefore confirmed.

Secondly, the correlations suggest that those students with higher scores on victimization, cybervictimization, and perpetration of bullying were more likely to obtain higher scores on general stress (they are generally more stressed by daily events) and its sub-dimensions, health/psychosomatic problems (they are more likely to suffer slight ailments such as headaches or nausea), school stress (academic problems), and family stress (they perceive conflict in their family environment). However, students with higher scores on cyberaggression only showed high school stress. Therefore, *H*2 is almost completely confirmed, as there was no relationship between cyberaggression and two sub-dimensions of stress (health/psychosomatic problems and family stress). These results point to the same direction as the studies that have found more psychosomatic problems in victims (Cassidy, 2009; Modin et al., 2015; Vernberg et al., 2011) and cybervictims (Ayas & Deniz, 2014), and also more stress in victims (Williams et al., 2017) and cybervictims (Aoyama et al., 2011; González-Cabrera et al., 2017).

Thirdly, the correlations suggest that students with higher scores on victimization and cybervictimization had higher symptoms of withdrawal, somatization, anxiety, infantile-dependence, thought problems, attention-hyperactivity, disruptive behavior, academic performance, and depression; in addition, students with higher scores on cybervictimization also presented violent behavior. Students with higher scores on aggression and cyberaggression had higher symptoms of anxiety, infantile-dependence, thought problems, attention-hyperactivity, disruptive behavior, academic performance, and violent behavior; in addition, those with higher scores on aggression also had depressive symptoms. However, aggression and

cyberaggression did not correlate with withdrawal or somatization. Therefore, comparing the four indicators we highlight that those students with higher scores on victimization and cybervictimization manifest more internalizing and externalizing EBPs, and that those students with higher scores on aggression and cyberaggression present fewer internalizing problems. These results confirm *H*3.

The results obtained on face-to-face bullying confirm the studies finding that bullying victims suffer from depression (Lemstra et al., 2012; Price et al., 2013), although they contradict the results of the study by Forlim et al. (2014), who did not find depression in pure victims, although aggressive-victims did present depression. The discrepant results of the Forlim et al.'s (2014) study may be related to the characteristics of their sample because their participants presented high social vulnerability. The study also points to the same direction as those that have found a connection between victimization and anxiety (Price et al., 2013), academic performance (Hinduja & Patchin, 2007), and mental health problems (Bannink et al., 2014). The results of our study also ratify studies that have found that bullying aggressors have more behavior problems, attention-hyperactivity (Vernberg et al., 2011), depression, and anxiety (Price et al., 2013). However, no somatic problems were observed in aggressors, in contrast to the findings of Modin et al. (2015) with adolescents, which may be explained by the different ages of the sample in the two studies.

The results obtained for cyberbullying confirm the findings of other studies that have found that cybervictims have more depression (Aoyama et al., 2011; Ayas & Deniz, 2014; Dooley et al., 2012; Gámez-Guadix et al., 2013; Jung et al., 2014; Kowalski & Limber, 2013; Mitchell et al., 2007; Price et al., 2013; Stewart et al., 2014), more anxiety (Aoyama et al., 2011; Ayas & Deniz, 2014; Kowalski & Limber, 2013; Stewart et al., 2014), and more violent behavior (Hinduja & Patchin, 2007), get worse grades (Wright, 2015), and present internalizing and externalizing problems (Tsitsika et al., 2015). In addition, it is confirmed that cyberaggressors achieve the worst grades (Wright, 2015) and present disruptive and aggressive behavior (Jung et al., 2014). However, we did not find that cyberaggressors have symptoms of depression, as it has been found in other studies (Campbell et al., 2013; Price et al., 2013). This is consistent with studies indicating that cyberaggressors mainly have more externalizing problems (Jung et al., 2014; Kubiszewski et al., 2015).

Comparing face-to-face bullying and cyberbullying, results have revealed that students with higher scores on victimization and cybervictimization present more stress and more internalizing and externalizing problems than those with higher scores on aggression and cyberaggression. Participants with higher scores on victimization present more depression than those with higher scores on cybervictimization, which is consistent with other studies (Salmivalli et al., 2013; Sjursø et al., 2016). In addition, in this study, students with higher scores on aggression presented more stress and more internalizing and externalizing problems than those with higher scores on cyberaggression. These results confirm those obtained by Kubiszewski et al. (2015), who found that aggressors and cyberaggressors present externalizing problems, although

cyberaggressors have fewer aggressive characteristics than face-to-face aggressors.

Finally, the results have confirmed that students with higher scores on victimization, cybervictimization, aggression, and cyberaggression had received psychological counseling significantly more frequently in the past year than those who have lower scores in indicators of bullying/cyberbullying, thus confirming *H*4.

The paper provides results that add more evidence on the connections between bullying/cyberbullying and child psychopathology. Compared with previous studies, this study confirms that participants with (1) higher scores on aggression have higher stress levels and more EBPs than those with higher scores on cyberaggression, in particular, more depression and more family stress and (2) higher scores on victimization and cybervictimization suffer more stress and internalizing and externalizing EBPs than those with higher scores on aggression and cyberaggression.

In addition, a contribution of this study is to have found that it is more likely for (1) participants with higher scores on victimization to present withdrawal behaviors (he/she is withdrawn and inhibited, prefers to be alone and seems isolated; he/she is reserved and not very active in relationships with others), infantile-dependence (he/she behaves childishly, prefers to interact with younger children, is immature and dependent), thought problems (he/she says atypical and inconsistent things, thoughts are difficult to categorize due to their rarity), attention-hyperactivity (he/she does not pay attention in class, unable to concentrate, distracted very easily; he/she is very active, restless, and moves around a lot) and disruptive behavior (he/she behaves badly in class and calls attention; swears, lies; plays truant and conceals it from the family, and answers older people disrespectfully); (2) students with higher scores on aggression to present infantile-dependent behavior, thought problems, disruptive behavior, violent behavior (he/she is very aggressive and violent, assaults other children and can be cruel; threatens, steals, and makes fun of others), and low academic performance (he/she does not do class tasks or study; lacks motivation and expresses lack of interest, lower performance compared with students of own age); (3) children with higher scores on cybervictimization to present behaviors of withdrawal, infantile-dependent behaviors, thought problems, attention-hyperactivity and disruptive behavior; and (4) participants with higher scores on cyberaggression to present infantile-dependent behaviors, thought problems, and attention-hyperactivity. Another contribution of the study is to have shown that students with higher scores on indicators of bullying/cyberbullying have more psychological problems that are highlighted in a greater request for psychological assistance than those with lower punctuations.

The identification of a wide range of EBP at the last stage of primary education related to both bullying and cyberbullying victimization and aggression constitutes a relevant and novel finding, particularly that of daily stress which had proven to affect children's emotional and physical well-being and several other domains such as school and family functioning, but had seldom been analyzed with bullying and cyberbullying.

Even if most literature on bullying/cyberbullying has focused its analyses on secondary education and youth (Kowalski et al., 2018), it is of the utmost importance to unveil and intervene in related factors from an early age. Bullying and cyberbullying have proven to have long lasting effects (Bannink et al., 2014) and victimization in middle childhood can serve as a marker of internalization disorders in later stages of development (Schwartz, Lansford, Dodge, Pettit, & Bates, 2015). Moreover, victimization has been related to the development of maladaptive schemas that can lead to its chronification (Calvete, Fernández-González, González-Cabrera, & Gámez-Guadix, 2018) while the cumulative bullying victimization is associated with more negative developmental outcomes (Evans, Smokowski & Cotter, 2014).

But not only victims and aggressors' mental health is shown to be affected. Our results also show that that aggressors of face to-face bullying perform many disruptive and violent behaviors, and several studies report that being a perpetrator of bullying is related to subsequent behaviors associated with delinquency, gender violence, alcohol and drug consumption, etc. which often lead to problems with the law. In this sense, Sourander et al. (2011) found that being a bully at age 8 was a predictor of delinquency in 20-year-old men. In this sense, Huesman, Eron, Lefkowitz, and Walder (1984) found that males and females who were considered aggressors by their peers at age 8 had pending penal causes at age 30. Hence, the results also allow us to emphasize the need to intervene to stop victimization and perpetration of bullying, which would reduce legal problems during adolescence, youth, and even in adulthood. However, Rodkin, Espelage, and Hanish (2015) suggest that being perpetrator of bullying could be incidental to more global anti-social tendencies, influenced by various contextual factors.

Moreover, the results reveal that school counsellors and psychologists should be aware that children who show high levels of stress and EBPs might be at greater risk for bullying/cyberbullying victimization and perpetration.

In sum, these findings suggest the urgent need to curb bullying in all its forms. Not only through preventive actions against bullying which may have an effect against stress and EBPs during childhood, that is, against child and adolescent psychopathology, but also the results highlight the need to create intervention programs for this educational stage in order to tackle those problems that are already taking place and avoid their chronification and worsening.

The limitations of this study include its cross-sectional nature, which precludes proposing causal connections between bullying/cyberbullying, stress, and EBPs. Therefore, for future studies, we suggest: (1) implementing intervention programs to reduce bullying/cyberbullying, evaluating their effects on stress and EBPs; (2) using longitudinal designs to study the consequences of bullying; (3) performing retrospective analyses with clinical patients; and (4) analyzing different age groups (for example, 8-18 years) to determine whether the connections between bullying/cyberbullying, stress, and EBP increase with age, that is, whether the magnitude of the relationships between these variables increases with age.

This study has practical implications for clinical and educational contexts. Given the harmful consequences of being involved in bullying/cyberbullying situations, for both victims and aggressors, we recommend that evidence-based antibullying prevention programs be implemented in schools to prevent these situations from occurring (e.g., Garaigordobil, 2018; Garaigordobil & Martínez-Valderrey, 2015, 2018).

Conflict of Interest

The authors of this article declare no conflict of interest.

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