

The Impact of Cyberbullying and Social Bullying on Optimism, Global and School-Related Happiness and Life Satisfaction Among 10-12-year-old Schoolchildren

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Abstract Previous research has indicated that victims and perpetrators of bullying are vulnerable to poorer psychological well-being. In this study, we examined whether the roles of victim and perpetrator in cyberbullying and social bullying are related to guarded optimism, global and school-related happiness and specific domains of life satisfaction as indicators of subjective well-being. The relations between these variables were then examined with a sample of Spanish 10-12-year-old schoolchildren ($n=1058$). Cyberbullying and social bullying negatively correlated with indicators of subjective well-being. After controlling for gender and grade, multiple regression analyses confirmed these findings, except that cyberbullying perpetration had no predictive value on school-related happiness and specific domains of satisfaction with life. These findings suggest that cyberbullying and social bullying victims, and also social bullying perpetrators, report less subjective well-being than uninvolved children. However, cyberbullying perpetration is associated with guarded optimism and global happiness, but not with less school-related happiness and life satisfaction domains. Implications for prevention and intervention programs are examined.

Keywords Cyberbullying · Social bullying · Optimism · Happiness · Life satisfaction · Children

Introduction

Bullying has been defined as any form of repeated psychological or physical aggression carried out by one or several individual(s) on a person who is not capable of defending

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himself/herself (Roland and Idsøe 2001). After decades of research, substantial literature on correlates of bullying in schools now exists. This literature includes the impact that bullying has on children's and adolescents' interpersonal relationships and psychological functioning. Bullying has a negative impact on victims, but also on perpetrators. Compared to their peers who are not involved in bullying, youths who are victimized are also more likely to experience lack of acceptance in their peer groups (Bruyn et al. 2010; Heras and Navarro 2012), feelings of loneliness (Cava et al. 2010), present poorer academic performance (Arseneault et al. 2006) and report more psychological problems such as depression, low self-esteem, higher levels of social anxiety (Estevez et al. 2009; Fitzpatrick and Bussey 2011), and considerable psychosomatic problems (Gini and Pozzoli 2009). Being a perpetrator of bullying is associated with an increased risk of depression and suicidal ideation, maladaptive and antisocial behavior, and risk of alcohol and drug dependency (Cowie 2013).

Over the last decade, increasingly more attention has been paid to a new and evolved manifestation of peer maltreatment: cyberbullying. This relatively new form of bullying is defined as a behavior displayed through electronic or digital media such as "email, mobile phone calls, text messages, instant messenger contact, photos and social networking sites with the intention of causing harm to another person through repeated hostile conduct" (Ortega et al. 2012, p.342). Cyberbullying, like traditional bullying, is an intentional aggressive behavior done repeatedly to the same target. Initial studies on cyberbullying have suggested that it is a form of social bullying through digital media (Beran and Li 2007). Social bullying refers to a repeated behavior (e.g., threats to end friendship, social exclusion, rumor spreading or mean stares) that intentionally damage a victim's self-esteem and social status (Fitzpatrick and Bussey 2011; Galen and Underwood 1997). The nature of cyberbullying may be consistent with social bullying because both types often occur in the context of relationship difficulties, such as friendships breaking up or envying a peer's success (Hoff and Mitchell 2009). However, research has found that cyberbullying differs from conventional bullying, including social bullying, in several ways (Smith 2012). First, it depends on technological expertise to a certain extent. Second, it potentially reaches a large audience rapidly. This feature may contribute to a greater negative impact on the victim who could feel more embarrassed and ashamed (Slonje and Smith 2008). Third, cyberbullying has been described as an indirect form of bullying because it is not made face-to-face and the perpetrator can be anonymous. Conversely, social bullying can be indirect or direct. Fourth, it is difficult to escape from cyberbullying because it can reach youths wherever they go online. Fifth, perpetrators do not usually see victims' reactions. This last feature makes the perpetrator's empathy or remorse difficult and can mean that bullying continues longer (Slonje et al. 2013).

Similarly to past research on traditional bullying, a growing number of studies has found that cyberbullying has a negative impact on victims and perpetrators. Specifically, cyberbullying victimization has been associated with psychological maladjustment in terms of higher levels of depression and somatic symptoms (Gámez-Guadix et al. 2013; Gradinger et al. 2009), social anxiety (Navarro et al. 2012), low self-concept (Katzner et al. 2009), family-related problems (Pieschl et al. 2013) and poorer academic performance (Zhou et al. 2013). Cyberbullying perpetration has been linked to positive attitudes toward aggression (Cowie 2013), externalizing and internalizing problems (Låftman et al. 2013), problem behaviors (e.g., drinking, smoking, violence) and less positive family relationships (Patchin and Hinduja 2006; Ybarra and Mitchell 2004).

However, research has also pointed out that the impact on victims' and perpetrators' psychological functioning can vary according to the specific form of bullying experienced or perpetrated. Studies on mental health correlates have found that cyberbullying and traditional bullying have distinct effects on social anxiety (Juvonen and Gross 2008), symptoms of depression (Wang et al. 2011) or subjective health (Låftman et al. 2013). Research has also shown that the co-occurrence of traditional and cyber victimization and/or perpetration is related more with internalizing and externalizing problems (Campbell et al. 2013; Gradinger et al. 2009). Further research about how different types of bullying impact children who are victims or perpetrators is needed.

Victims and perpetrators of aggressive behaviors are not only vulnerable to having accomplishing poorer mental health outcomes, but aggression and victimization also have a negative impact on the positive internal strengths that make life worth living. Consequently, research is now attempting to explain the relationships between bullying behaviors and subjective well-being understood as an individual's evaluation of his/her own life in terms of satisfaction and happiness (Holder and Coleman 2008). Subjective well-being has been used as a synonym for happiness (Diener 2000) and has been defined as a general positive mood or an emotion that changes depending on the context (Diener 2006). Research into happiness as a general mood or an emotion related with school experiences has revealed that victimized children and those who behave badly with others experience less subjective happiness and feel less satisfied at school (Arseneault et al. 2006; Holder and Coleman 2008; Ivens 2007; Jankauskiene et al. 2008).

Apart from happiness, other constructs have been proposed as psychological indicators of subjective well-being (Casas et al. 2012; Diener 2006; Lippman et al. 2011). However, the very few studies that have addressed bullying and its impact on well-being have predominantly focused on the relationship between peer victimization and life satisfaction, defined as a subjective evaluation of overall quality of life (Diener et al. 1995). Flouri and Buchanan (2002) found that being victimized correlates negatively with life satisfaction in a sample of boys aged 13–19 in England, although they assessed life satisfaction by asking participants to rate their satisfaction with life on a scale anchored with “least happy” and “most happy”. Martin et al. (2008) investigated this same relationship to find that the negative peer experiences related with victimization processes lead to a lower degree of life satisfaction in adolescents. More recently, Valois et al. (2012) reported that early adolescents experiencing victimization present less life satisfaction. Two studies have also suggested linkages between life satisfaction and perpetration of bullying behaviors. Buelga et al. (2008) found a negative relation between satisfaction with life and aggressive peer behavior in adolescents aged 11–16. Flaspohler et al. (2009) reported that both perpetrators and victims reported lower levels of life satisfaction as compared to peers not involved.

Nevertheless, despite both the indicators used to assess psychological well-being and the increasing body of research that describes the negative impact of traditional bullying on subjective well-being, examinations of the impact of cyberbullying are limited. As far as we know, only one study has linked cyberbullying with subjective well-being by analyzing the relationships among cyberbullying victimization and perpetration, and global life satisfaction and satisfaction, with specific life domains such as friendship, family or school (Moore et al. 2012). This study revealed that adolescents who are perpetrators or victims of cyberbullying experience less global and domain-specific life satisfaction. If we consider that few studies have analyzed and

compared differences in subjective well-being indicators for the victims and perpetrators of different types of bullying, research into these variables is still required. Understanding these relationships can help practitioners promote children's well-being. Consequently, the present study was planned to improve our comprehension of the impact of bullying behaviors on children's subjective well-being.

The Current Study

In Spain, the examination of positive aspects of children's well-being is relatively new and studies on the relationship between bullying and subjective well-being are still scarce. The studies that are available on the above variables have been conducted with adolescent populations and analyze the emotional responses linked to traditional bullying and cyber victimization (Ortega et al. 2012) or to the moderating role of global life satisfaction on peer aggression perpetration (Buelga et al. 2008). Considering that research on this topic is limited, the current study in a Spanish sample, built upon previous research (Moore et al. 2012), tests the assumption that different types of bullying negatively relate to subjective well-being. Therefore, the present study aims to:

- 1) Report the prevalence of victimization and perpetration of two different types of bullying: cyberbullying and direct social bullying. Although there is evidence that social bullying and cyberbullying have particular characteristics, we decided to analyze the impact of social bullying on its direct forms to explore the impact on children's subjective well-being of not only two kinds of bullying, but also two forms of aggression (indirect and direct).
- 2) Examine the associations between cyberbullying and direct social bullying and children's reports of subjective well-being indicators. Subjective well-being is understood as a category of phenomena which include emotional responses, domains satisfaction and global judgments of life satisfaction (Proctor et al. 2009). Specifically, this research analyzes four positive indicators of subjective well-being with standardized measures: *Optimism*, as a positive emotional response, refers to the general expectation that good things will happen (Peterson 2000); *Subjective happiness* is understood as a broader concept than life satisfaction. In this study, happiness is defined as a global judgment about how favorably or enjoyable an individual judges his/her quality of life (Veenhoven 1984 cited by Uusitalo-Malmivaara 2012); *School-related happiness* is described as the individual child's experience of school, including positive and negative thoughts and feelings (Ivens 2007).; *Life satisfaction* is defined as the "judgment of one's satisfaction with life as a whole" (Huebner et al. 1999, p.2) which, in this study, is examined by the following specific domains: satisfaction with school, satisfaction with family, satisfaction with friends and self-satisfaction.
- 3) Analyze whether students belonging to particular groups of victims (cyber only, social only, or both) and bullies (cyber only, social only, or both) differ in terms of optimism, happiness and specific domains of life satisfaction.

Basically, this article aims to increase our knowledge of children's subjective well-being and their relation with school bullying and cyberbullying. This study extends the existing literature by: analyzing previously identified bullying and cyberbullying well-being correlates in a Spanish sample of schoolchildren; offering a more comprehensive

approach to the association between aggressive behaviors and well-being by focusing on many positive indicators of subjective well-being; examining various types of psychological bullying behaviors (cyberbullying and social bullying) and different roles (victims and perpetrators); contributing to the database of children aged under 12 since most cyberbullying Spanish studies have included older study samples.

Method

Sample and Procedure

The initial sample comprised 1,252 children aged between 10 and 12 years. Participants were students from 35 classrooms of 17 primary schools in the Castilla-La Mancha Autonomous Community (Spain). Schools were randomly selected from among a total of 52 public primary schools. Depending on the size of the schools, at least 5 classes of 1 year (aged 10 to 11) and 6 classes of another year (aged 11 to 12) were randomly chosen per primary school. Of these schoolchildren, 131 did not obtain parental consent to participate, so 1,121 students completed the instruments. Before the analysis, all the data were checked for missing values. Only the cases with complete data of all the predictors and criterion variables were analyzed. Sixty-three cases were excluded as some measures had missing data. Thus, the final sample included 1,058 children (516 females and 542 males, mean ages=11.08, SD=0.80). Of these, 495 children (46.8 %) were in year 5 and 563 were in year 6.

Data were collected by self-reported questionnaires which were handed out 4 months after the 2012/2013 academic year began. Participants were voluntarily asked to participate in a study on Internet use. The students who returned signed forms with their own and their parent's written consents participated. Questionnaires were administered anonymously with no information to identify individual respondents. Two researchers administered the questionnaires to participants after clarifying the meaning of certain items and answering questions whenever necessary. The procedure took approximately 40 min.

Instruments

Bullying Behaviors

Cyberbullying Victimization and Perpetration Cyberbullying experiences were devised by using items from the Spanish Cyberbullying Questionnaire, measuring cyberbullying victimization (CBQ-V, Estévez et al. 2010) and cyberbullying perpetration (CBQ; Calvete et al. 2010). Each scale used was a 10-item self-reported measure in which participants indicated how often they had been victim of different behaviors over the Internet in the last 3 months. Items were scored on a 5-point scale (1=never, 2=once or twice, 3=2 or 3 times a month, 4=once a week, 5=several times a week). After reading the definition of cyberbullying provided in the Introduction section, participants rated each behavior. An example item measuring cyberbullying perpetration was "writing embarrassing jokes, rumors, gossip, or comments about a classmate on the Internet". The equivalent item measuring cyberbullying victimization was "writing embarrassing

jokes, rumors, gossip, or comments about me on the Internet”. A principal component analysis (PCA) with Oblimin rotation was conducted to test the factor structure postulated by the original authors. The PCA showed that items loaded on one factor and explained 40.1 % of the variance for the victimization scale and 44.1 % for the perpetration scale. Factor loadings were greater than 0.66 in both scales. The internal consistency coefficient in this sample, measured through Cronbach’s Alpha, was 0.82 for the victimization scale, and 0.83 for the perpetration one.

Direct Social Bullying Victimization and Perpetration Social bullying behaviors were assessed by using the social victimization and social bullying scales for the Social Involvement Scales (SBIS; Fitzpatrick and Bussey 2011). Each scale used was a 12-item self-reported measure where participants indicated how often they had been a victim of social bullying or a social bully in the last 12 weeks. Items were scored on a 6-point scale (1=not at all, 2=about once a term, 3=about once a month, 4=a few time a month, 5=about once a week, 6=many times a week). Participants first read the definition of social bullying provided by Fitzpatrick and Bussey (2011). After reading the definition, participants rated each behavior. One example item measuring direct social victimization was “a student or some students stopped talking when I went near their group”. The equivalent item measuring direct social bullying perpetration was “have you stopped talking about a kid when he/she went near your group”. The confirmatory factor analysis conducted to test the factor structure yielded a one-factor structure in both scales. Items factor loadings were greater than 0.70. The obtained one-factor solution explained 63.5 % for the victimization scale and 61.2 % for the perpetration scale. Internal consistency in this sample (Cronbach’s Alpha) was 0.94 for the victimization scale and 0.91 for the perpetration scale.

Subjective Well-Being Indicators

Optimism We used the optimism subscale from the Mental Health Measure from the U.S Longitudinal Survey of Youth (Sabatelli and Anderson 2005). This subscale is made up of four items. Children had to indicate the level of optimism they felt about themselves and their future using a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). One sample item was “I rarely count on good things happening to me”. Scores were obtained by summing items and were interpreted in the sense that higher scores indicated a higher degree of optimism. The confirmatory factor analysis showed that items loaded on one factor and explained 47.19 % of variance. The internal consistency in this sample was $\alpha=0.73$.

Subjective Happiness The Subjective Happiness Scale (Lyubomirsky and Lepper 1999) assessed global happiness. The scale contains 4 items using a 7-point Likert scale ranging from 1 (not a very happy person) to 7 (a very happy person). Firstly, children had to indicate how happy they were by using absolute ratings. Second, children were asked to rate their happiness in comparison with their peer’s happiness. Third, they compared their happiness to very happy persons. Fourth, they were asked to compare their happiness to very unhappy persons. The composite score is obtained by summing the 4-item ratings; the higher the scores, the greater global happiness is. The confirmatory factor analysis showed that items loaded on one factor and explained

43.55 % of variance. Items factor loadings ranged between 0.65 and 0.80. The internal consistency in this sample was $\alpha=0.63$.

School Happiness We used The School Children's Happiness Inventory (SCHH, Ivens 2007), which consists of 15 positive and 15 negative subjective well-being items (e.g., "I felt positive", or "I felt sorry for myself"). Participants had to rate their thoughts and feelings during the past week at school. Each item is scored from 1 to 4, with four indicating a high level of happiness. Half the items are reverse-coded to yield an overall school happiness score. The composite score is computed by averaging all the items. The confirmatory factor analysis showed that items loaded on one factor and explained 37.31 % of variance. Items factor loadings ranged between 0.51 and 0.62. The internal consistency in this sample was $\alpha=0.88$.

Life Satisfaction The abbreviated version of the Multidimensional Student's Life Satisfaction Scale (MSLSS; Huebner et al. 2012) assessed specific domains of life satisfaction. For this study, we extracted the 30 items of the abbreviated version from the Spanish adaptation by Galindez and Casas (2011). The scale is a 30-item self-report measure designed to assess life satisfaction of youths in five domains: family, friends, school, self, and living environment. The response format is a 6-point Likert scale, ranging from 1=strongly disagree to 6=strongly agree. In our study, we used only four subscales to measure specific domains: family satisfaction (for example, "My family is better than most"), satisfaction with friends (for example, "My friends will help me if I need it"), satisfaction with school (for example, "I enjoy school activities") and self-satisfaction (for example, "I am a nice person"). Specific domain scores are obtained by summing the ratings for the items constituting each subscale; the higher the scores, the greater the life satisfaction in a specific domain. A confirmatory factor analysis with Oblimin rotation was conducted on all the items included in our study. The PCA yielded a four-factor structure. Items factor loadings were greater than 0.55 in each factor. The obtained four-factor solution explained 58.8 % of variance. The first factor explained 36.9 % of variance referring to friends satisfaction (Cronbach's $\alpha=0.90$). The second factor explained 10.6 % of variance and was related to family satisfaction (Cronbach's $\alpha=0.82$). The third factor explained 6.4 % of variance referring to school satisfaction (Cronbach's $\alpha=0.86$). The fourth factor explained 5.1 % of variance and was related to self-satisfaction (Cronbach's $\alpha=0.82$).

Analysis Plan

We first computed general descriptive statistics for each variable in the study and conducted a Student's *t*-test to examine gender differences. Second, Pearson correlations were performed for predictor and criterion variables. Third, given the continuous nature of the criterion variables (subjective well-being indicators), we subsequently computed 14 hierarchical regressions analyses to estimate the impact of bullying behaviors on subjective well-being after controlling the effects of gender and grade. Finally, we performed several analyses of variance to examine whether the relationship between bullying behaviors and subjective well-being differed depending on being a victim or a perpetrator of cyberbullying, social bullying or both types of bullying.

Results

Descriptive Analyses, Bivariate Correlations and Student's t-test

Table 1 presents the prevalence rate for each type of bullying behaviors in the previous 3 months. Given the emphasis placed on cyberbullying and traditional bullying as a repetitive behavior (Slonje and Smith 2008), Table 1 includes only those children who reported that they had participated in each behavior “several times a week” in the previous 3 months. Following this categorization procedure, 49 children (4.6 %) indicated that they had been victims of cyberbullying and 21 participants (2 %) reported that they had cyberbullied others. The most commonly reported specific type of cyberbullying was “excluding from an online group” for cyber victimization (2.17 %) and also for cyberbullying perpetration (1.13 %). Regarding social bullying, 112 children (10.6 %) had been victims and 44 (4.2 %) had been perpetrators. The most

Table 1 Prevalence and type of bullying experiences ($n=1058$)

	Victimization	Perpetration
	% several times a week (n)	
Cyberbullying behaviors		
Receive threatening or insulting messages by e-mail	1.5 (16)	0.2 (3)
Receive threatening or insulting messages by cell phone	0.7 (8)	0.3 (4)
Posting on the Internet or sending humiliating images	0.7 (8)	0.4 (5)
Writing embarrassing jokes, rumors, gossip, or comments on the Internet	1.3 (14)	0.4 (5)
Hacking to send messages by e-mail or social networks	1.03 (11)	0.9 (10)
Recording a video or taking pictures of humiliating situations by cell phone	0.4 (5)	0.4 (5)
Recording a video or taking pictures by cell phone while someone is hit or hurt	0.4 (5)	0.4 (5)
Broadcasting online secrets, compromising information or images	0.5 (6)	0.6 (7)
Deliberately excluding from a online group	2.1 (23)	1.1 (12)
Recording a video or taking cell phone pictures performing some type of behavior of a sexual nature	1.1 (12)	0.4 (5)
Direct social bullying behaviors		
Criticized a kid so that others would not be friends with him/her	3.9 (42)	1.03 (11)
Told a kid's friends not to like him/her	2.0 (22)	0.5 (6)
Tried to make a kid's friends not like him/her	3.0 (32)	1.2 (13)
Spread rumors about a kid	4.7 (50)	1.3 (14)
Gossiped about a kid to others	5.1 (54)	1.03 (11)
Told lies about a kid	6.04 (64)	1.1 (12)
Told a kid's friends no to invite him/her to go out	3.3 (35)	0.3 (4)
Stopped talking about a kid when he/she went near your group	4.1 (44)	1.5 (16)
Told a kid that you won't work with him/her anymore	2.8 (30)	0.3 (4)
Turned away from a kid when he/she walked up to you	3.4 (36)	1.1 (12)
Stared at a kid in a mean way to stop him/her joining in activities	3.9 (42)	1. (17)
Written a note saying that a kid no longer forms part of your group	2.7 (29)	0.5 (6)

Reflects experiences in the previous 3 months

commonly reported type of direct social bullying was “told lies about a kid” for victimization (6.04 %) and “stared at a kid in a mean way to stop him/her joining in activities” for perpetration (1.6 %).

Prior to examining the associations between predictor variables (bullying behaviors) and the criterion variables (subjective well-being), bivariate correlations were initially performed among all the study variables. Table 2 displays the correlation matrix of the variables, general means and means according to gender and grade. All the correlations, except one, were significant and in the expected directions. Positive correlations were found between the two types of bullying behaviors (cyberbullying and social bullying) and between the roles in those behaviors (victimization and perpetration). In contrast, both types of bullying behaviors, as well as the roles in those situations, correlated negatively with all but one of the indicators of subjective well-being. No significant relationships were found between cyberbullying perpetration and self-satisfaction.

Regarding the means of these variables, statistically significant gender and grade differences are provided in Table 2. In gender differences terms, boys reported higher levels of direct social bullying perpetration than girls. The means of the girls were significantly higher than those of the boys in school, family, friends and self-satisfaction. These results suggest that girls experience greater life satisfaction than boys in all the specific domains examined. No statistically significant differences were found between boys and girls in cyberbullying and social bullying victimization, cyberbullying perpetration, optimism and global and school happiness. In grade differences terms, the schoolchildren in year 5 reported higher levels of school happiness and school and family satisfaction in comparison to those in year 6. No statistically significant differences were found in the remaining study variables.

Multiple Regression Analyses

Once the correlations analyses had proved the existence of relationships between the predictor and criterion variables, hierarchical multiple regression analyses were used to estimate the impact of cyberbullying and direct social bullying on subjective well-being measured by optimism, global and school happiness and specific domains of life satisfaction. Before including the predictor variables, demographic variables (gender and grade) were entered for control purposes in all 14 regression analyses. The regression models are presented first for victimization experiences (Tables 3 and 4) and then for perpetration behaviors (Tables 5 and 6).

As seen in the tables (see Model 1 for each well-being indicator), the schoolchildren in year 6 experienced less school happiness, boys and older children reported less school and family satisfaction, and boys were significantly more likely to report less friends and worse self-satisfaction. However, either together or alone, these variables (gender and grade) explained very little variation in these subjective well-being indicators.

Regarding the victimization roles, after introducing cyberbullying victimization and direct social victimization into the model (see Model 2 for each well-being indicator), the proportion of explained variance increased, especially in optimism and satisfaction with friends. The children who reported having suffered cyberbullying and those who had experienced social bullying were much more likely to also report lower levels of optimism, global and school happiness, and also less life satisfaction in all the specific domains examined.

Table 2 Means (Standard Deviations), Intergroup Comparisons (Student's *t*-test), and correlation matrix of the study variables

	1	2	3	4	5	6	7	8	9	10	11
1. Cyberbullying victimization	—										
2. Social bullying victimization	.442**	—									
3. Cyberbullying aggression	.191**	.134**	—								
4. Social bullying aggression	.148**	.296**	.340**	—							
5. Optimism	-.445**	-.302**	-.122**	-.121**	—						
6. Global happiness	-.345**	-.263**	-.122**	-.099**	.381**	—					
7. School happiness	-.368**	-.307**	-.107**	-.143**	.466**	.420**	—				
8. School satisfaction	-.136**	-.146**	-.119**	-.202**	.246**	.238**	0.461**	—			
9. Family satisfaction	-.189**	-.189**	-.122**	-.183**	.330**	.321**	.422**	.490**	—		
10. Friends satisfaction	-.495**	-.412**	-.074*	-.119**	.471**	.418**	.459**	.334**	.511**	—	
11. Self satisfaction	-.325**	-.296**	-.033	-.161**	.423**	.419**	.466**	.425**	.604**	.658**	—
Total sample [M (SD)]	1.11 (0.27)	1.41 (0.75)	1.05 (0.21)	1.15 (0.38)	2.88 (0.60)	4.97 (0.99)	3.15 (0.45)	3.95 (1.31)	4.96 (0.90)	5.01 (1.07)	4.77 (0.90)
M Females/Males	1.11/1.11	1.43/1.38	1.04/1.06	1.13/1.18	2.92/2.84	5.00/4.93	3.17/3.13	4.23/3.69	5.01/4.91	5.12/4.90	4.83/4.72
(<i>r</i> value)	(-0.04)	(1.15)	(-1.84)	(-1.94)*	(1.91)	(1.14)	(1.56)	(6.88)***	(1.93)*	(3.43)***	(1.99)*
M Year 5/Year 6	1.10/1.12	1.42/1.39	1.04/1.06	1.15/1.16	2.86/2.89	4.95/4.99	3.19/3.11	4.19/3.75	5.07/4.86	4.98/5.03	4.79/4.76
(<i>r</i> value)	(-0.93)	(0.60)	(-1.52)	(-0.48)	(-0.51)	(-0.65)	(2.60)**	(5.58)***	(3.90)***	(-0.80)	(0.48)

p*<.05 *p*<.01 ****p*<.001

Table 3 Regression analyses: the effects of victimization measures on optimism, global happiness and school happiness

Dependent measures	Optimism		Global Happiness		School Happiness	
	b (S.E)	β	b (S.E)	β	b (S.E)	β
Model 1						
Gender	-0.081 (0.043)	-0.058	-0.068 (0.061)	-0.034	-0.046 (0.028)	-0.50
Grade	0.019 (0.043)	0.013	-0.037 (0.061)	0.019	-0.075 (0.028)	-0.082**
F (<i>df</i>)	1.91 (2)		0.083 (2)		4.76 (2)	
R ² (Δ R ²)	0.004 (0.002)		0.002 (0.001)		0.009 (0.007)	
Model 2						
Gender	-0.086 (0.038)	-0.062	-0.076 (0.057)	-0.039	-0.051 (0.026)	-0.056
Grade	0.030 (0.038)	-0.022	0.048 (0.057)	0.024	-0.071 (0.026)	-0.078
Cyberbullying victimization	-0.968 (0.076)	-0.387***	-1.055 (0.114)	-0.295***	-0.468 (0.052)	-0.285***
Social bullying victimization	-0.123 (0.028)	-0.133***	-0.176 (0.042)	-0.134***	-0.112 (0.019)	-0.184***
F (<i>df</i>)	72.64 (4)		43.5 (4)		54.00 (4)	
R ² (Δ R ²)	0.216 (0.213)		0.141 (0.138)		0.170 (0.167)	

* $p < .05$; ** $p < .01$; *** $p < .001$

For the perpetration role, the variance of subjective well-being explained by bullying behaviors was lower, but still significant, if compared with victimization roles. Direct social bullying offending was associated with lower rates of optimism, global and school happiness and school, family, friends and self-satisfaction. Nevertheless, cyberbullying perpetration significantly related only with lower rates of optimism and school happiness. No associations were found between cyberbullying aggression and the rest of the subjective well-being indicators.

In general terms, the regression analyses indicated that victimization experiences had a significant impact on children's subjective well-being. Furthermore, social bullying perpetration also had a moderately negative, yet significant, impact on well-being. Yet conversely, cyberbullying perpetration was not significantly associated with all the subjective well-being indicators examined.

Differences Between Groups of Victims and Perpetrators on Cyberbullying and Direct Social Bullying

Finally, in order to assess the relationship between bullying experiences and subjective well-being further, we computed the analysis of variance to examine differences in the well-being indicators on particular groups of victims (uninvolved, cyber victims, social victims, or both victims) and also the differences among groups of perpetrators (uninvolved, cyber aggressors, social aggressors, or both aggressors). The children classification in the different victim or perpetrator groups followed a highly restrictive categorization procedure, which was in line with previous research (Scheithauer et al. 2006). Students were considered victims of cyber or social bullying if they reported

Table 4 Regression analyses: the effects of victimization measures on school, family, friends and self-satisfaction

Dependent measures	School satisfaction		Family Satisfaction		Friends satisfaction		Self-satisfaction	
	b (S.E)	β	b (S.E)	β	b (S.E)	β	b (S.E)	β
Model 1								
Gender	-0.565 (0.078)	-0.214***	-0.117 (0.055)	-0.064*	-0.225 (0.066)	-0.105***	-0.112 (0.056)	-0.062*
Grade	-0.469 (0.078)	-0.177***	-0.220 (0.056)	-0.121***	-0.045 (0.066)	0.021	-0.032 (0.056)	-0.017
F (df)	42.39 (2)		9.71 (2)		6.18 (2)		2.14 (2)	
R ² (Δ R ²)	0.074 (0.073)		0.018 (0.016)		0.012 (0.010)		0.004 (0.002)	
Model 2								
Gender	-0.576 (0.077)	0.219***	-0.125 (0.054)	-0.069*	-0.242 (0.055)	-0.113***	-0.124 (0.052)	-0.068*
Grade	-0.470 (0.077)	-0.178***	-0.218 (0.054)	-0.120***	-0.058 (0.055)	-0.027	-0.027 (0.052)	-0.015
Cyberbullying victimization	-0.361 (0.155)	-0.076***	-0.405 (0.109)	-0.124***	-1.50 (0.111)	-0.388***	-0.784 (0.105)	-0.239***
Social bullying victimization	-0.217 (0.057)	-0.123***	-0.168 (0.040)	-0.139***	-0.35 (0.041)	-0.244***	-0.233 (0.039)	-0.193***
F (df)	30.43 (4)		19.17 (4)		115.76		42.55	
R ² (Δ R ²)	0.104 (0.100)		0.068 (0.064)		0.305 (0.303)		0.139 (0.136)	

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 5 Regression analyses: the effects of perpetration measures on optimism, global happiness and school happiness

Dependent measures	Optimism		Global Happiness		School Happiness	
	b (S.E)	β	b (S.E)	β	b (S.E)	β
Model 1						
Gender	-0.081 (0.043)	-0.058	-0.068 (0.061)	-0.034	-0.046 (0.028)	-0.050
Grade	0.019 (0.043)	0.013	0.037 (0.061)	0.019	-0.075 (0.028)	-0.082**
F (<i>df</i>)	1.91 (2)		0.083 (2)		4.75 (2)	
R ² (Δ R ²)	0.004 (0.002)		0.002 (0.000)		0.009 (0.007)	
Model 2						
Gender	-0.068 (0.042)	-0.049	-0.049 (0.061)	-0.025	-0.036 (0.028)	-0.039
Grade	0.025 (0.042)	0.018	0.049 (0.061)	0.025	-0.071 (0.028)	-0.077**
Cyberbullying perpetration	-0.329 (0.126)	-0.087**	-0.472 (0.153)	-0.100***	-0.131 (0.070)	-0.060
Social bullying perpetration	-0.149 (0.059)	-0.084*	-0.163 (0.082)	-0.064*	-0.139 (0.038)	-0.119***
F (<i>df</i>)	6.41 (4)		5.37 (4)		8.56 (4)	
R ² (Δ R ²)	0.024 (0.020)		0.020 (0.016)		0.031 (0.028)	

* $p < .05$; ** $p < .01$; *** $p < .001$

having suffered at least one of the behaviors included in the questionnaire several times a week. Those children who reported having suffered at least one of the behaviors (cyber and social bullying) on both scales several times a week were considered victims of both bullying types. The procedure resulted in 31 (2.9 %) children categorized as victims of cyberbullying, 94 (8.9 %) as victims of social bullying, 18 (1.8 %) were classified as cyber and social bullying victims, and 914 (86.4 %) were uninvolved. The same procedure was followed in the perpetrators categorization and resulted in 14 (1.2 %) perpetrators of cyberbullying, 37 (3.6 %) perpetrators of social bullying, 7 (0.6 %) perpetrators of both bullying kinds, and 1,000 (94.6 %) uninvolved youths.

In the first ANOVA (Table 7), we examined differences in subjective well-being among groups of victims to find a moderately significant main effect for the groups in all the well-being indicators, except family satisfaction. The Bonferroni follow-up test indicated that uninvolved children experienced significantly more optimism, global and school happiness and school, friends and self-satisfaction than victims of only cyber bullying, victims of only social bullying, or victims of both bullying types. No significant differences were found among groups of victims in school happiness, school satisfaction and self-satisfaction.

The second ANOVA (Table 8), which tested perpetrators' group differences on subjective well-being, yielded a moderate, but significant, effect for the groups. In this case, a *post-hoc* Bonferroni comparison showed that uninvolved children reported higher rates of optimism than the rest of the groups. Additionally, victims of both cyber and social bullying reported less global happiness than the other groups. Uninvolved children and cyberbullying perpetrators reported significantly higher degrees of global happiness, school-related happiness and life satisfaction in all the

Table 6 Regression analyses: the effects of perpetration measures on school, family, friends and self satisfaction

Dependent measures	School satisfaction		Family Satisfaction		Friends satisfaction		Self-satisfaction	
	b (S.E)	β	b (S.E)	β	b (S.E)	β	b (S.E)	β
Model 1								
Gender	-0.565 (0.078)	-0.214***	-0.117 (0.055)	-0.064*	-0.225 (0.066)	-0.105**	-0.112 (0.056)	-0.062
Grade	-0.469 (0.078)	-0.177***	-0.220 (0.056)	-0.121***	0.045 (0.066)	0.021	-0.032 (0.056)	-0.017
F (df)	42.39 (2)		9.71 (2)		6.18 (2)		2.14 (2)	
R ² (ΔR^2)	0.074 (0.073)		0.018 (0.016)		0.012 (0.010)		0.004 (0.002)	
Model 2								
Gender	-0.531 (0.077)	-0.201***	-0.093 (0.055)	-0.051	-0.207 (0.066)	-0.096**	-0.097 (0.055)	-0.053
Grade	-0.456 (0.077)	-0.173***	-0.209 (0.055)	-0.115***	0.053 (0.066)	0.025	-0.029 (0.055)	-0.016
Cyberbullying perpetration	-0.255 (0.194)	-0.041	-0.262 (0.138)	-0.061	-0.180 (0.165)	-0.035	0.119 (0.140)	0.028
Social bullying perpetration	-0.586 (0.105)	-0.173***	-0.367 (0.074)	-0.158***	-0.280 (0.089)	-0.102**	-0.390 (0.075)	-0.167***
F (df)	32.74 (4)		14.69 (4)		6.90 (4)		8.02 (4)	
R ² (ΔR^2)	0.111 (0.107)		0.053 (0.049)		0.026 (0.022)		0.030 (0.026)	

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 7 Means, F values, eta values and *Post Hoc* Bonferroni¹ procedure for cyberbullying victims, social bullying victims, cyberbullying-social bullying victims, and uninvolved youths

	Uninvolved youths (n=914)		Cyberbullying victims (n=31)		Social bullying victims (n=94)		Cyberbullying- bullying victims (n=18)		ANOVA	
	M	SD	M	SD	M	SD	M	SD	F (3, 1058)	η^2
Optimism	2.95 ^a	0.63	2.16 ^c	0.90	2.53 ^b	0.74	2.01 ^c	0.85	35.28***	0.09
Global Happiness	5.04 ^a	0.95	4.45 ^b	0.85	4.67 ^b	1.04	3.84 ^c	1.29	15.34***	0.04
School Happiness	3.19 ^a	0.43	2.77 ^b	0.65	2.91 ^b	0.44	2.69 ^b	0.38	26.26***	0.07
School Satisfaction	4.80 ^a	0.76	4.13 ^b	1.17	4.22 ^b	0.85	4.08 ^b	0.89	25.68***	0.06
Family Satisfaction	4.02	1.28	3.60	1.49	3.46	1.40	3.61	1.47	6.94	0.01
Friends Satisfaction	5.14 ^a	0.95	3.96 ^b	1.53	4.39 ^b	1.26	3.47 ^c	1.33	41.12***	0.10
Self-Satisfaction	4.86 ^a	0.83	4.19 ^b	1.36	4.26 ^b	1.02	4.00 ^b	1.38	23.05***	0.06

¹ $\alpha=.05$; a>b>c/**p<.001

the line mean values with different subscripts are significantly different

specific domains than social bullying offenders and perpetrators of both bullying types. However, no differences were found between uninvolved youth and cyberbullying perpetrators in all the indicators, except those mentioned above on optimism. No differences were found between social bullies and perpetrators of both bullying types in all the indicators examined.

Discussion

The current study examines the impact of cyberbullying and direct social bullying on subjective well-being in 1,058 children aged 10–12 years old. First, we analyzed the prevalence of victimization and perpetration on experiences of both bullying types. Second, we considered the influence of gender and grade on the study variables. Third, we analyzed the association between bullying behaviors and subjective well-being indicators (the optimism, happiness and life satisfaction specific domains). Fourth and finally, we evaluated the subjective well-being indicators across each group of victims (cyber bullying only, social bullying only, or both bullying types) and perpetrators (cyber bullying only, social bullying only, or both bullying types).

Prevalence of Bullying Behaviors

The current study found lower rates of cyberbullying victimization (4.6 %) and cyberbullying perpetration (2 %) than those encountered for the prevalence of bullying behaviors in most studies done previously into online victimization (Buelga et al. 2010; Estévez et al. 2010; Li 2007; Navarro et al. 2013) and online offending (Buelga and Pons 2012; Calvete et al. 2010; Hinduja and Patchin 2008; Moore et al. 2012). Indeed, the rates reported herein are on the lower end of those informed internationally (Smith et al. 2008; Ortega et al. 2008). These differences can be explained by methodology reasons

Table 8 Means, F values, eta values and *Post Hoc* Bonferroni¹ procedure for cyberbullying perpetrators, social bullying perpetrator, cyberbullying-social bullying perpetrators, and uninvolved youths

	Uninvolved youths (n=1000)		Cyberbullying perpetrators (n=14)		Social bullying perpetrators (n=37)		Cyberbullying and social bullying aggressors (n=7)		ANOVA	
	M	SD	M	SD	M	SD	M	SD	F (3, 1058)	η^2
Optimism	3.16 ^a	0.45	2.99 ^b	0.55	2.87 ^b	0.37	2.73 ^b	0.42	7.64***	0.02
Global Happiness	4.99 ^a	0.97	4.75 ^a	1.44	4.62 ^a	0.91	3.82 ^b	1.49	5.11**	0.01
School Happiness	2.93 ^a	0.68	2.59 ^a	0.60	2.53 ^b	0.65	1.82 ^b	0.81	9.88***	0.02
School Satisfaction	4.00 ^a	1.30	3.70 ^a	1.41	3.06 ^b	1.31	2.97 ^b	1.32	7.67***	0.02
Family Satisfaction	4.99 ^a	0.89	4.83 ^a	0.84	4.42 ^b	1.30	4.34 ^b	0.97	7.98***	0.02
Friends Satisfaction	5.03 ^a	1.07	4.88 ^a	0.85	4.52 ^b	0.98	4.33 ^b	1.53	3.77**	0.01
Self-Satisfaction	4.80 ^a	0.89	5.06 ^a	0.65	4.09 ^b	1.07	4.30 ^b	1.12	8.44***	0.02

¹ $\alpha=.05$; a>b>c/** $p<.01$ *** $p<.001$

The line mean values with different subscripts are significantly different

as the time frame in which cyberbullying occurred (in the previous 3 months), participants' ages (most studies have been conducted with adolescent populations), the self-reported measure, and the case selection procedure (we classified only those children who reported such experiences "several times a week") is a highly restrictive criterion.

The frequencies of participation in social bullying are, however, higher than those reported for cyberbullying: 10.6 % reported being bullied and 4.2 % informed they were bullying others. This is consistent with previous research works which have found that the prevalence of traditional bullying is higher than that of cyberbullying (Gan et al. 2013; Smith et al. 2008). Moreover, the prevalence rates of direct social bullying are lower than those reported by research on relational bullying by measuring behaviors such as gossip or social exclusion (Siyahhan et al. 2012). Yet despite the decline of bullying behaviors noted over the last decade (Rigby and Smith 2011), there is still a significant number of youths involved in traditional bullying behaviors, at least in social bullying.

One possible explanation for the high levels of direct social bullying is that children are not aware of its effects on victims and may still perceive that rumoring or excluding someone from a group is less dangerous than other types of bullying, such as physical forms (Batsche and Knoff 1994). Additionally, children in Spanish schools normally have the same classmates grade by grade, so they get to know each other very well. Knowledge of the peer group can be used by bullies to hurt victims through socially aggressive behaviors.

The cyberbullying scores reveal no gender differences as to the extent to which students engage as victims or perpetrators. These results are consistent with previous findings, which have not reported clear gender differences in cyberbullying (Beran and Li 2007; Patchin and Hinduja 2010). The social victimization scores show no gender differences, although this kind of victimization has been associated more with girls. Our data support previous research by indicating very few differences in the social bullying suffered by young boys and girls (Fitzpatrick and Bussey 2011). However, boys reported more social bullying perpetration than girls. This finding is contradictory

to former research, which has shown that girls engage in more socially aggressive behaviors than boys (Owens et al. 2005; Salmivalli et al. 2000). More recent research has indicated that social bullying is not predominantly the domain of girls (Card et al. 2008; Fitzpatrick and Bussey 2011). Although the difference found between boys and girls is slight, this tendency can be analyzed as a result of physical bullying currently being less acceptable, which may enhance the use of other forms of bullying that are more “socially tolerated”.

Subjective Well-Being and Bullying Behaviors

After controlling for gender and grade, the results of the regression analyses indicate that gender and grade variables have a low predictive value, and that they are almost irrelevant in most models. However as previous studies on traditional bullying and cyberbullying have indicated, our results find that children who suffer victimization are considerably more likely to also report less subjective well-being (Moore et al. 2012; Valois et al. 2012). One particularly significant finding is the negative predictive value of victimization on optimism and satisfaction with friends. These results are consistent with former research, which has indicated that negative social experiences, including online and offline relationships with peers, contribute negatively to well-being (Holder and Coleman 2008; Fitzpatrick and Bussey 2011), and also with previous research findings showing that bullying behaviors result in children’s psychosocial maladjustment (Låftman et al. 2013). Thus in this study, negative interactions like cyberbullying and social bullying significantly reduce optimism, happiness and satisfaction with life.

The results of the analyses done to determine differences among specific groups of victims also suggest that victims of any bullying experience obtain lower rates of optimism, happiness and life satisfaction than uninvolved children, as previously found. Also consistently with former research works on poly-victimization (Campbell et al. 2013; Finkelhor et al. 2007; Gradinger et al. 2009), victims of both bullying types (cyber and social) obtained the lowest rates of optimism, global happiness and friend satisfaction in comparison to victims of only one type of victim.

Social bullying perpetrators are also more likely to report significantly less subjective well-being. These results partly support previous research works which have indicated that youths engaging in bullying report worse psychological well-being (Rigby and Slee 1993; Buelga et al. 2008), although the predictive value of social perpetration is modest. Yet contrary to our results, different studies on social and relational bullying have found that perpetration results in increased externalized behaviors, but not in more internalizing distress (Card et al. 2008; Fitzpatrick and Bussey 2011). These discrepancies can be accounted for by the different participants’ age in these former studies, and also by the differences in the psychological functioning indicators analyzed. As previous research works have shown, social bullying perpetrators may experience less social anxiety and depression than aggressors through physical forms (Fitzpatrick and Bussey 2011). Nevertheless, our results indicate that they experience less optimism, happiness and life satisfaction. Indeed, victims of only social bullying and victims of both social bullying and cyberbullying accomplish lower rates in all the subjective well-being indicators, except for school-related happiness, than perpetrators of only cyberbullying and uninvolved children. Hence, social bullying seems to have a worse negative impact than cyberbullying.

Contrary to recent studies (Moore et al. 2012), cyberbullying perpetration is negatively related only to optimism and global happiness, and has no predictive value on perpetrators' school-related happiness and specific domains of life satisfaction. Our findings indicate that not all the factors associated with traditional bullying can also be linked to cyberbullying perpetration. Indeed, the analysis of variance reveals that there are no differences between cyberbullying perpetrators only and uninvolved children in the subjective well-being indicators rates, except for levels of optimism. These results support the idea that cyberbullying is not simply a form of social bullying through digital media because, although both are associated with less subjective well-being (global happiness), they also have different correlates on perpetration when analyzing specific domains.

The lack of a relationship between cyberbullying offending and well-being indicators may be related with greater perceived anonymity and social distance in online environments, but also with the prediction that cyberbullying may be perpetrated by those children with a high status (Piazza and Bering 2009), thus perceived popularity might buffer the negative effects of cyberbullying perpetration on subjective well-being. Future research should address this hypothesis with differently aged populations.

Practical Implications

The results of the present study reveal that the online and offline bullying types are associated with poorer subjective well-being in the form of reduced optimism, happiness and life satisfaction. If we consider that these subjective well-being indicators have been linked to outcomes such as good health, effective coping, supportive relationships, academic and occupational success (Cohn et al. 2009; Peterson 2000), identifying and intervening bullying and victimization is still a challenge for researchers and educators. Prevention and intervention programs need to not only raise awareness of the negative impact of cyberbullying and traditional bullying, but to also understand the importance of promoting subjective well-being for its contribution to quality of life.

The current research findings, and also previous ones, reveal that lower levels of life satisfaction are a risk factor for adverse peer relationships (Martin et al. 2008), and suggest that school professionals should monitor children's levels of subjective well-being and develop programs to promote personal and social resources for good living. Indeed, initiatives to tackle traditional bullying that have focused on interpersonal qualities, such as optimism, altruism, empathy and resilience, already exist and have provided positive outcomes in terms of increasing general well-being and empowerment to deal with conflict (Chessor 2008; Richards et al. 2008). Furthermore, it is noteworthy that these initiatives also address cyberbullying for both parties since available evidence shows that cyberbullying victimization and perpetration reduce subjective well-being. Programs that center on teaching children to be aware of the importance of well-being can improve resilience to negative events and can buffer any impact on victims. Intervening specifically with perpetrators is also necessary to first make them aware of the consequences of their actions on victims' well-being and, second, to promote empathy, social acceptance and fairness in order to also develop higher optimism, happiness and satisfaction with life.

Limitations

Although the findings from the present study are valuable for our understanding of the impact of bullying experiences on children's subjective well-being, several study limitations should be taken into account when evaluating these results. First, the sample consisted of primary school students from a specific region of Spain. The associations between perceived subjective well-being and bullying behaviors may differ in other samples. Future research should replicate this study with a more broadly representative sample. Second, although self-report instruments are an effective, reliable data collection method, accuracy of the data obtained is subject to interpretation, and children's responses may be biased by social desirability and insincere responses. Third, the interpretation of the results should be cautious in causal terms because of the correlational and cross-sectional nature of the study design. Without a longitudinal design, it is impossible to determine whether cyberbullying and victimization contribute to subjective well-being, or vice versa. Fourth, the present study is also limited in that it does not assess physical and indirect forms of aggression and victimization. The relationships between subjective well-being and physical or indirect bullying might differ from that reported herein. Finally, given the small number of participants in the groups of victims and perpetrators categorized for the analyses of variance, significant differences should be cautiously examined.

Conclusion

Results from this study indicate that cyberbullying and traditional bullying appeared to be associated with lower levels of subjective well-being among 10–12 years old. However, longitudinal studies are needed to examine these relationships more thoroughly and objectively. Overall, the present findings contribute to a better understanding of the consequences of bullying behaviors and open up new directions to study the correlates of online and offline victimization and perpetration. Although previous research has indicated negative relations between cyberbullying and traditional bullying and subjective well-being, this study is one of the first to analyze this association in a Spanish sample by paying attention to multiple indicators of subjective well-being, and by analyzing not only victims, but also perpetrators. These findings extend the database by indicating that negative peer relationships have a significant impact on personal strengths that make life worth living.

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