




Article

Bullying, Cyberbullying and the Overlap: What Does Age Have to Do with It?

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Abstract: School bullying and cyberbullying represent the most common forms of victimization during childhood and adolescence in many countries across the globe. Although they can be studied as distinct phenomena with their own defining characteristics, there is evidence to suggest that they are related and often co-occur. The present research aimed to estimate the rates of school bullying and cyberbullying, studied their evolution by age, and analyzed any possible overlap between the two. An empirical study was carried out with a large sample of children and adolescents in Galicia, Spain (N = 2083), where 10–17 year olds were presented with The European Bullying Intervention Project Questionnaire and European Cyberbullying Intervention Project Questionnaire. School bullying was found to be more prevalent than cyberbullying, with 25.1% involved as victims and 14.3% as bully-victims, while the cyberbullying rates were 9.4% for victims and 5.8% for bully-victims. Perpetration rates were similar for school and cyberbullying (4.4% and 4.3% respectively). The overlap between both phenomena adds to the evidence for a whole-community approach to tackling all types of bullying and victimization experiences, as opposed to each in silo. The clear age differences in bullying behaviours also suggest the appropriateness of tailoring anti-bullying programs to target specific age groups.

Keywords: school bullying; cyberbullying; childhood; adolescence; age; overlap



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1. Introduction

School violence and bullying constitute some of the most common forms of victimization during childhood and adolescence, generating an important public health problem worldwide [1–3]. The increasingly widespread use of the internet and the so-called Information and Communication Technologies (ICT) has led to an increase in the risks associated with the safety and well-being of adolescents, leading to the transfer of bullying and victimization behaviours to digital environments, which is known as cyberbullying [4–6]. The need to delimit these new forms of victimization from the many other forms of aggression that occur online has largely led to the definitions incorporating the criteria of intentionality, repetition and imbalance of power [7]. However, the inherent peculiarities of the digital world make it difficult to align these traditional criteria of school bullying with those of cyberbullying [8,9]. There are currently authors who defend that cyberbullying should be understood as a subtype of bullying [10] and others who describe it as a separate phenomenon to offline or school bullying [11,12]. This debate generated around the conceptualisation and operationalisation of cyberbullying has been reflected in the disparity of prevalence reported in the literature [13,14], which joins the previous controversy and variability of rates reported for school bullying [15,16]. These conceptual problems extend to the terminology used when describing bullying and the actors involved

and have implications for measurement. All this calls for the need to reach a consensus [17], but in the meantime research relies on existing and validated instruments and attempts to align itself with the terminology of said instruments [18,19].

These definitional and conceptual issues are further complicated by the vast means and modes of engagement with digital technologies, communication and socialisation that characterise childhood and adolescence today. Young people move between the digital and online world fluidly and are often active in both simultaneously [20]. This has ramifications for victimisation, in that bullying and cyberbullying can co-occur [17]. In this sense, perpetrators of school bullying seem also prone to engage in online aggression and off-line victims tend to be cyberbullying victims as well [19,21]. Furthermore, students themselves believe that cyberbullying can be a result of offline relationship problems [22]. Besides the co-occurrence of school bullying and cyberbullying, there can also be an overlap between roles [15,21], leading to a profile that has been named “bully-victims” as opposed to “pure victims” and “pure bullies” [23]. There is even literature suggesting that an overlap may occur between one role of school bullying (e.g., victim) and a different one in cyberbullying (e.g., bully) [24,25].

The negative health consequences of bullying involvement have been well documented and consistently demonstrate that involvement in bullying (in any role) can have an impact on mental health even into adulthood [26–29]. This significant and negative impact has led researchers and health care professionals to highlight the need to study and prevent bullying as early as possible [30,31]. The increasingly early access to technology could also be contributing to an increase in the prevalence of cyberbullying among younger children [31,32]. Furthermore, how both school bullying and cyberbullying are perpetrated or suffered can change over their life span. For the most part, there is a consensus in the literature that a curvilinear relationship exists between age and victimization [12], with a peak in prevalence among 12 and 15 year olds [33]. Regarding perpetration, school bullying seems to decrease in late adolescence, while cyberbullying rates appear to increase [34,35]. The results of a recent meta-analysis also suggest that there may be higher rates of bully-victims with an increasing age [36]. Furthermore, specific behaviours appear to be more frequent at different ages. For example, physical bullying rates are the most affected by age, and it is often replaced by more indirect or subtle forms as adolescents grow older [37], while other studies have found no difference for age between physical, verbal, and relational victimization [38]. The contexts in which cyberbullying takes place can also vary, with preadolescents mainly using chatrooms, and 13–14 year-olds mainly using instant messaging, social media or sharing platforms [35]. However, there is a need for more research on the specific bullying behaviours by age to better guide prevention and intervention efforts [39].

Taken the above literature into account, the overarching aim of the present study was to investigate prevalence rates of bullying and cyberbullying in a large sample of 10–17 year-olds in Spain. More specifically, we had three main objectives: (1) to obtain updated data on the prevalence of school bullying and cyberbullying; (2) to study the evolution of both phenomena by age; and (3) to analyze the possible overlap or co-occurrence of school bullying and cyberbullying. Three hypotheses have been derived from these objectives and in accordance with previous literature: (1) the prevalence of school bullying will be higher than those of cyberbullying [13]; (2) following the reviews of the literature [12,33], we expect to obtain a curvilinear relationship between age and victimisation (both in bullying and cyberbullying); and (3) we expect a high percentage of co-occurrence between bullying and cyberbullying [17,19,21].

2. Materials and Methods

2.1. Participants

In order to meet the aforementioned objectives, an empirical study was carried out with students from primary and secondary schools in Galicia (Northwest of Spain). An intentional sampling procedure was employed, contacting 15 schools from two Galician

municipalities (12 public and 3 charter schools), who all agreed to participate in the study. The initial sample consisted of 2262 students, of which 179 cases were eliminated because they were outside the age range (10–17 years old), they had too many missing values in the questionnaire, or had not indicated their age. Therefore, the final sample consisted of 2083 children and adolescents between 10 and 17 years old (Mean = 13.42; S.D. = 2.12), from which 50.7% self-identified themselves as female, 48.6% as male, and 0.7% as an 'other' gender.

2.2. Materials

A paper survey was used for data gathering purposes consisting of both the European Bullying Intervention Project Questionnaire (EBIPQ) and the European Cyberbullying Intervention Project Questionnaire (ECIPQ). A section relating to socio-demographic information was included at the beginning of the survey with questions on age, gender ("female", "male" or "other"), and academic grade.

The Spanish version of the EBIPQ was employed to assess school bullying [25]. It contains two sub-scales, one for victimization and one for perpetration, which are made up of seven items each. The items describe behaviours that may have been suffered and/or perpetrated during the previous two months through a Likert scale with five response options: "No", "Yes, once or twice", "Yes, once or twice a month", "Yes, once a week", and "Yes, several times a week". Answers from once or twice a month, once a week and several times a week were coded as being one of three mutually exclusive profiles: pure victims, pure bullies or those who were bullies and victims at the same time (bully-victims). The internal consistency evaluated through the Cronbach alpha coefficient was 0.82 for the victimization scale and 0.80 for the perpetration scale.

The Spanish version of the ECIPQ [25,40] was employed for calculating the rates and roles of cyberbullying involvement (either a victim, bully or bully-victim). The ECIPQ presents the same structure to the EBIPQ in both timeframe (i.e., previous two months) and response options, but it has a total of 22 items (11 for victimization and 11 for perpetration). The Cronbach alpha coefficient in the present study was 0.82 for victimization and 0.80 for perpetration in cyberbullying.

2.3. Procedure

Collaboration with the management of each school was secured prior to data collection. Due to the health situation derived from the COVID-19 pandemic, the research team could not retrieve the school data in person. Instead, the prevention technicians who were already working with the target schools were trained by the research team to collect the data. Prevention technicians are a resource in the Spanish education system where they are employed by municipalities to work in a range of schools on topics related to well-being such as addiction and bullying. School principals delivered letters to the adolescent participants explaining the objectives of the research and date when the surveys were to be administered. These letters also sought parental consent for their children to be included in the study.

Data gathering took place in school classrooms during the first quarter of the year 2021. The students received a detailed explanation and set of instructions for completing their individual paper survey. They were also informed that their participation was voluntary, the confidentiality of their answers, and that the possibility to opt-out was available at any time. The average time to complete the questionnaire was 30 min. The study was approved by the first authors' Bioethics Committee at their University.

2.4. Statistical Analyses

An analysis of the missing values was carried out to verify a low percentage of missing values and the randomness of those values. From the initial sample of 2262 subjects, 51 were removed from the database because they had more than one missing value in the questionnaire, 51 had not indicated their age, and 77 were outside the age range targeted

(10 to 17 years old). Following the criterion of the original authors and the Spanish validation [25,40], both the EBIPQ and the ECIPQ were coded such that answers of at least “Yes, once or twice a month” counted as involvement in either victimization, perpetration, or both (bully-victims). Bivariate tabulations were carried out, with the application of contrasts χ^2 for the comparison of percentages and contingency coefficients (CC) or Cramér’s V to calculate the effected size. An ANOVA test and partial eta-squared coefficients (η^2) were used for the comparison of age among the bullying involvement groups. To ensure the appropriate use of ANOVA, the assumption of normality (using the K-S test with Lilliefors correction) and the assumption of homogeneity of variances (using the Levene test) were previously checked. Given the non-compliance with both assumptions, the Kruskal-Wallis H test was applied as a complementary non-parametric test, as recommended in these cases [41]. A simple correspondence analysis was also performed to explore the relationship between the different profiles of school bullying and those of cyberbullying, and the results are presented and interpreted following Joaristi & Lizasoain and Sourial et al.’s recommendations [42,43]. Due to the small size of the sample that had self-identified as ‘other gender’ (0.7%), they were excluded from the gender comparisons. These analyses were performed with the IBM SPSS Statistics 25 statistical package.

The original authors of the EBIPQ and ECIPQ previously found that each of the scales of the questionnaires had a one-dimensional structure [25], so a confirmatory factor analysis (CFA) was performed with AMOS 23 to confirm said one-dimensionality in the present study. The unweighted least squares (ULS) method was used, which in addition to robustness requires no further assumptions as to its distribution [44]. The model’s goodness of fit was evaluated with the following indexes: GFI (goodness of fit index), AGFI (adjusted goodness of fit index), and NFI (normed fit index). In accordance with the criteria of Byrne and Kline [45,46], the CFA showed high adjustment values for the EBIPQ in the victimization scale (GFI = 0.993, AGFI = 0.986, and NFI = 0.985) and in the perpetration scale (GFI = 0.990, AGFI = 0.979, and NFI = 0.976), and also for the ECIPQ in both the victimization scale (GFI = 0.989, AGFI = 0.983, and NFI = 0.977) and the perpetration scale (GFI = 0.982, AGFI = 0.973, and NFI = 0.958).

3. Results

The overall involvement in school bullying was broken down as follows: 25.1% victims, 4.4% bullies and 14.3% bully-victims. Regarding cyberbullying, the rates found were lower such that 9.4% were victims, 4.3% bullies and 5.8% bully-victims. Gender differences were explored in addition to age differences and are presented in detail in Table 1. There were more victims among females and more bullies and bully-victims among males for school bullying. The cyberbullying results were very similar, with the exception that there were no significant differences for perpetration.

Table 1. Rates of involvement in school bullying and cyberbullying. Overall (total sample), by gender and age group.

School Bullying	Overall	Gender		Age (Years)						ANOVA			
		Female	Male	χ^2	V	10–11	12–13	14–15	16–17	χ^2	CC	Mean Age (S.D.)	F (ηp^2)
Pure Victims	25.1%	28.1%	22.1%	9.571 *	0.069	27.1%	28.7%	23.5%	20.1%	11.299 *	0.074	13.22 (2.07)	15.507 **
Pure Bullies	4.4%	3.2%	5.7%	7.486 *	0.061	0.9%	3.4%	4.7%	9.3%	38.521 **	0.136	14.78 (1.91)	(0.022)
Bully-victims	14.3%	11.9%	16.6%	9.290 *	0.068	9.6%	15.4%	16.8%	14.1%	12.066 *	0.076	13.65 (1.91)	
Cyberbullying	Overall	Female	Male	χ^2	V	10–11	12–13	14–15	16–17	χ^2	CC	Mean Age (S.D.)	F (ηp^2)
Pure Victims	9.4%	11.5%	7%	12.017 *	0.077	3.7%	10.4%	12.5%	9.7%	24.668 **	0.109	13.95 (1.83)	20.552 **
Pure Bullies	4.3%	3.8%	4.8%	1.425	-	2.2%	3.6%	4.9%	6.7%	12.313 *	0.077	14.34 (1.96)	(0.029)
Bully-victims	5.8%	4.2%	7.4%	9.257 *	0.068	1.8%	5.1%	7.2%	9.2%	24.542 **	0.11	14.35 (1.79)	

* $p < 0.05$; ** $p \leq 0.001$.

The 12–13-year-old group had the highest rate of school victimization and the 14–15 year olds had the highest cyber victimization rate. Both types of perpetration (school and cyber) increased with age. School bully-victimization rates peaked for the 14–15 year

olds group but grew steadily with age for cyberbullying. In addition, an ANOVA analysis found significant differences in age by involvement in bullying and cyberbullying. More specifically, victims were significantly younger for both school bullying and cyberbullying, while bullies were significantly older in school bullying, and cyberbullying bullies and bully-victims had similar ages. These results are corroborated by the application of the non-parametric test, both for school bullying ($H = 44.84$; $p < 0.001$) and cyberbullying ($H = 60.82$; $p < 0.001$).

Age differences were explored for the specific bullying behaviours reported in both the EBIPQ (see Table 2) and the ECIPQ (see Table 3). The rates reported in Tables 2 and 3 refer to answers of at least “Yes, once or twice a month” in each of the items. Regarding offline victimization, 12–13 year olds had highest rates of being insulted, having nasty things said about them, being threatened, being excluded or ignored and having rumours spread about them. Rates of being hit, kicked or pushed decreased as age increased. Three significant behavioural differences in perpetration rates were found. The 16–17-year-olds presented higher rates of insulting and calling other students names, as well as saying nasty things about someone to other people, while hitting, kicking, or pushing others was more frequent among 12–13-year-olds.

Table 2. Rates of the specific school bullying behaviours. Overall and age comparison.

Victimization	Age (Years)					χ^2	CC
	Overall	10–11	12–13	14–15	16–17		
Someone hit me, kicked me or pushed me	8%	13.4%	10.1%	5%	3.4%	40.803 **	0.139
Someone insulted me or called me names	26.9%	27.9%	34%	25%	18.1%	32.791 **	0.125
Someone has said nasty things about me to others	22.4%	18.2%	25.2%	24.9%	19.6%	11.424 *	0.074
Someone threatened me	7.4%	7.8%	9.9%	5.9%	5.3%	10.462 *	0.071
Someone stole my stuff or broke it	4.8%	4.3%	5.8%	5.4%	3.1%	4.3	-
I have been excluded or ignored by others	12.1%	13.1%	15%	11.4%	7.5%	13.699 *	0.081
Someone spread rumours about me	15%	9.8%	17.3%	16.4%	15.2%	13.456 *	0.080
Perpetration	Overall	10–11	12–13	14–15	16–17	χ^2	CC
I have hit, kicked, or pushed someone	5.9%	4.3%	7.9%	6.4%	4.1%	9.104 *	0.066
I have insulted someone or called them names	11.7%	6.7%	11.3%	13.9%	14.4%	16.693 *	0.090
I said nasty things about someone to other people	7.8%	3.2%	9.3%	7.5%	11.1%	21.657 **	0.102
I've threatened someone	2.8%	1.3%	3.2%	3.9%	2.4%	6.87	-
I've stolen or broken something from someone	2.1%	1.1%	2.7%	2.2%	2.2%	3.419	-
I have excluded or ignored someone	4%	2.8%	5.1%	3.9%	4.1%	3.455	-
I've spread rumours about someone	2.5%	1.1%	2.9%	2.3%	3.6%	6.429	-

* $p < 0.05$; ** $p < 0.001$.

Table 3. Rates of the specific cyberbullying behaviours. Overall and age comparison.

Cybervictimization	Age (Years)					χ^2	CC
	Overall	10–11	12–13	14–15	16–17		
Someone said nasty things to me or called me names using texts or online messages	9.2%	4.1%	10.1%	11.6%	10.4%	19.643 **	0.097
Someone said nasty things about me to others either online or through text messages	8.1%	2.6%	9.4%	10.4%	8.9%	24.541 **	0.108
Someone threatened me through texts or online messages	3.5%	0.9%	4.2%	4.7%	3.6%	12.867 *	0.079
Someone hacked into my account and stole personal information	0.8%	0.4%	1.5%	0.8%	0.2%	6.072	-
Someone hacked into my account and pretended to be me	1.1%	0.4%	1.7%	1%	1%	3.945	-
Someone created a fake account, pretending to be me	1.2%	0.9%	1%	1.2%	1.7%	1.436	-
Someone posted personal information about me online	0.7%	0.2%	0.8%	1%	0.5%	2.859	-
Someone posted embarrassing videos or pictures of me online	0.6%	0%	0.8%	0.3%	1.2%	6.766	-
Someone altered pictures or videos of me that I had posted online	1%	0%	1.2%	0.7%	2.4%	13.482 *	0.081
I was excluded or ignored by others in a social networking site, internet chat room, or a messenger app	3.3%	1.8%	3.7%	4%	3.1%	4.876	-
Someone spread rumours about me on the net	3.2%	0.7%	4.2%	3.4%	4.1%	12.767 *	0.079

Table 3. Cont.

Cyberperpetration	Overall	Age (Years)					χ^2	CC
		10–11	12–13	14–15	16–17			
I said nasty things to someone or called them names using texts or online messages	4.6%	0.9%	4.2%	5.1%	8.7%	30.700**	0.121	
I said nasty things about someone to other people, either online or through text messages	4.3%	0.7%	4.4%	4.9%	7.5%	25.236**	0.110	
I threatened someone through texts or online messages	1.7%	0.2%	1.5%	2.5%	2.4%	9.758*	0.069	
I hacked into someone's account and stole personal information	0.6%	0%	0.3%	0.8%	1.4%	8.536*	0.064	
I hacked into someone's account and pretended to be them	0.3%	0%	0.2%	0.3%	1%	6.854	-	
I created a fake account, pretending to be someone else	1.1%	0%	0.8%	1.5%	2.2%	10.560*	0.071	
I posted personal information about someone online	0.3%	0%	0%	0.5%	0.7%	6.644	-	
I posted embarrassing videos or pictures of someone online	0.6%	0.2%	0.7%	0.3%	1.4%	6.477	-	
I altered pictures or videos of another person that had been posted online	0.9%	0.4%	1.4%	0.5%	1.4%	4.755	-	
I excluded or ignored someone in a social networking site, internet chat room, or a messenger app	3.1%	2.2%	2.2%	3.7%	4.6%	6.649	-	
I spread rumours about someone on the internet	0.9%	0.4%	1.2%	0.7%	1.4%	3.27	-	

* $p < 0.05$; ** $p < 0.001$.

In cases of cyber victimization, it was found that older adolescents presented higher rates of having pictures or videos they posted online altered, while among the 12–13 year olds it was more common to have rumours spread about them online, and 14–15 years olds reported more experiences of having nasty things said about them either directly or to other people and being threatened. Cyber perpetration behaviours were more frequent among 16–17 year olds, and significant differences were found for saying nasty things to someone or calling them names, threatening, hacking accounts to steal personal information and creating fake accounts pretending to be someone else.

The final aim of the present study was to analyse the possible overlap of involvement in school bullying and cyberbullying. For this purpose, a new variable was created from the EBIPQ and ECIPQ results, in which participants could be involved in school bullying only, cyberbullying only or in both (“overlapping”), regardless of profile of involvement. From the sample, 26.9% were involved in the school bullying only group, 2.9% in cyberbullying only, and 16.3% in the overlap (school and cyber) group. These results are presented in detail in Table 4. Gender differences were found showing a higher involvement in both school bullying only and cyberbullying only among males, but the overlap showed no statistical significance. On the other hand, involvement in cyberbullying only increased by age, and the overlap showed a curvilinear relationship with the peak at 14–15 years old. The ANOVA also found that those involved in the school bullying only group were significantly younger than the students in both of the other groups, with results once again corroborated by the Kruskal-Wallis test ($H = 69.06$; $p < 0.001$).

Table 4. Rates for involvement in school bullying only, cyberbullying only, and their overlap. Overall and by gender and age group.

	Overall	Gender		χ^2	V	Age (years)				χ^2	CC	ANOVA	
		Female	Male			10–11	12–13	14–15	16–17			Mean Age (S.D.)	F (ηp^2)
School Bullying	26.9%	25.1%	29%	3.864*	0.044	30.1%	29.1%	23.9%	24.5%	7.565	-	13.23 (2.13)	23.816** (0.034)
Cyberbullying	2.9%	2%	3.8%	5.418*	0.052	0.4%	0.9%	4.6%	6.1%	39.190**	0.137	15.08 (1.57)	
Overlapping	16.3%	17.3%	15%	1.864	-	6.8%	17.9%	20.1%	18.9%	39.940**	0.139	14 (1.85)	

* $p < 0.05$; ** $p \leq 0.001$.

To further explore the relationship between the different profiles of school bullying and those of cyberbullying, a Correspondence Analysis was performed and the resulting Correspondence Map is presented in Figure 1. The position of the line and column categories indicates which profiles are related or corresponding to each other. Both bullies' and bully-victims' profiles are similar, as they are in a common quadrant of the map, while those not involved in bullying are together in another quadrant and victims of both kinds of bullying are in another one. Their position in the vertical axis shows that both victims profiles (i.e., school and cyber) are the most distinct with respect to all the other profiles. The relationship between the profiles of involvement in school bullying and cyberbullying was statistically significant ($\chi^2 = 570.776$; $p < 0.001$).

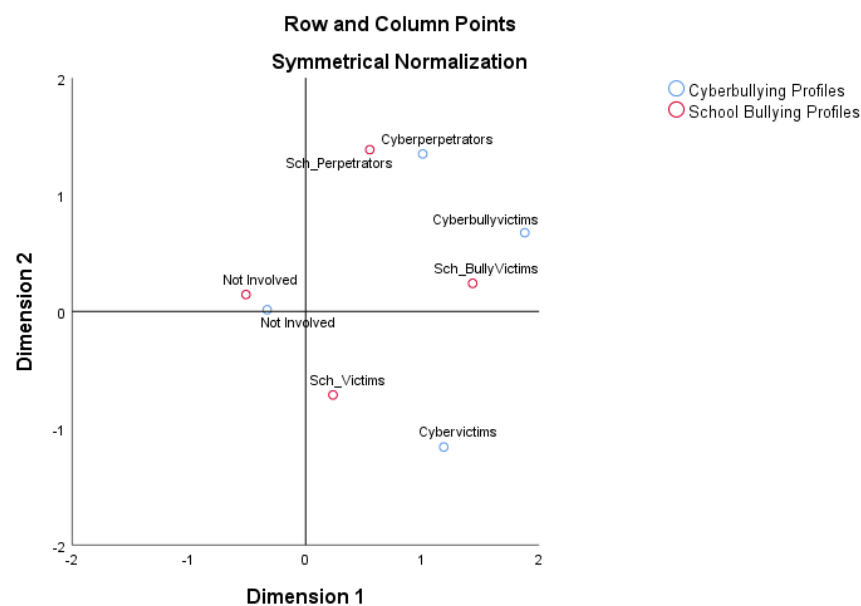


Figure 1. Correspondence map between school bullying and cyberbullying profiles.

4. Discussion

The present study aimed to investigate the prevalence rates of school bullying and cyberbullying in a large sample of 10–17-year-olds in Spain. School bullying was found to be more prevalent than cyberbullying, with 25.1% involved as victims and 14.3% as bully-victims, while for cyberbullying the rates were 9.4% and 5.8% respectively. However, perpetration rates were similar, being 4.4% for school bullying and 4.3% for cyberbullying. As expected by our first hypothesis, these results are in line with previous bullying literature in that school bullying is still more prevalent than cyberbullying [13,47], despite the increasing access to technology for young people today. These results appear to point to an increase in both online and offline victimization compared to a study in the same geographic area (Galicia) prior to the COVID-19 lockdown [48]. This rise in cyberbullying rates during the COVID-19 pandemic has been found elsewhere and is attributed to the rapid increase in time students have spent online [49,50]. Interestingly, the current results also appear to suggest that the return to the school (after the closure period due to public health advice) may also have been a risk for off-line violence to resume even more vehemently.

Although it was not an objective of the present research, gender differences were also tested. The results are in line with previous research which found that victims are more likely to be females and bullies more likely to be male [51,52], but conflict with recent research in Galicia indicated that the greatest differences were in specific behaviours and not in overall rates [48]. Therefore, these results add to the disparity of findings reported in the bullying literature [16], remaining a topic where more research is needed, especially to find the underlying causes of said disparity. Furthermore, the present results should be

interpreted with caution, given that, although statistically significant, the effect sizes found in the gender contrasts are smaller than in the age contrasts. Even though some researchers indicate that it is acceptable to consider relevant effect sizes as low as 0.05 [53], it is more conservative to adopt the 0.10 standard to deem valid the effect size in the field of bullying research, tough yet small [54].

A secondary aim was to study the evolution of bullying by age. In accordance with previous research [12,33], victimization presented an inverted u-shaped relationship with a peak among the 12–13 years old in school bullying and among the 14–15 years old for cyberbullying. However, there was an increase for both kinds of perpetration by age, and not only in the case of cyberbullying, as the literature suggested [34,35]. School bully-victimization seemed to present a curvilinear relationship with the peak at 14–15 years old as our second hypothesis proposed, but with cyber bully-victimization increasing with age. Regarding the specific behaviours of school bullying, physical bullying was replaced by more indirect or subtle forms with age, like verbal and relational behaviours, a finding which has been demonstrated elsewhere in the literature [37]. In the online environment, specific cyber perpetration increased in late adolescence (as did the overall rate of cyberbullying), while the most frequently experienced behaviours varied according to age. Older adolescents presented higher rates of having pictures or videos they posted online altered, while the 14–15 year olds suffered more from having nasty thing said about them either directly or to other people and being threatened. The 12–13 year olds reported higher rates of having rumours spread about themselves online. Although the results presented here should be interpreted with caution due to the small effect sizes found [54], they remain important for anti-bullying programs and should be taken into account when adjusting specific strategies according to the age of the targets. In doing so, educators could target specific bullying behaviours at specific age groups so as to have the most impact. Of course, prevention methods are better than intervention and anti-bullying efforts should be implemented at a young (rather than older) age [30,55]. The inclusion of 10- and 11-year-olds in this research study has allowed us to see that, although it is not the group that suffers the most from specific behaviours besides physical bullying, the overall rates are quite high, with 1 in 4 students (27.1%) already being a victim at this age, and almost 1 in 10 being a bully-victim (9.6%). Yet, the rate of pure perpetrators among this age group is remarkable low, not even reaching a 1% (0.9%).

The final aim of the present study was to analyse the possible overlap between school bullying and cyberbullying. Results found that school bullying most often occurred in an isolated manner, with 1 in 4 adolescents involved in any role (26.9%), while 16.3% of the sample presented an overlap between any role in school bullying and another in cyberbullying, in line with our third hypothesis. It should be particularly noted that cyberbullying seems to rarely occur outside the context of school bullying, as only 2.9% of adolescents presented involvement in only this modality of bullying. It has been previously highlighted that cyberbullying overlaps with off-line bullying [56]. Said overlap could be understood as evidence in favour of the need to measure cyberbullying in a general bullying context [57] and intervene in school bullying and cyberbullying as two dimensions of the same experience [17]. It also suggests that offline relationship problems may be filtering into the online world for young people as opposed to the other way around. Again, thinking of cyberbullying as an extension of broader peer and relationship issues could have implications for anti-bullying programs.

Regarding the overlap of the profiles, the correspondence analysis showed that the profiles of school bullying were more similar to their cyberbullying counterparts and vice versa. Previous literature has focused on poly-victimization referring to face-to-face and cybervictimization [15]. Yet, in contrast, our results seem to point out that school and cyber perpetrators are the profiles where the most overlap occurs. This may imply that perpetration is more strongly based on the characteristics of the individual, which affects both pure perpetrators and bully-victims (in both cyber and offline contexts), and so tackling one kind of perpetrator would mean tackling the other one in the same

preventive effort. Recent research has pointed to an increased ability to disengage from emotional consequences of harmful actions as a possible explanation for the involvement in perpetration, especially in the off-line setting [58].

This study has three main limitations that should be mentioned. The first is the non-probability sampling used, making the results less generalizable to the wider population. Secondly, its transversal nature makes it impossible to clarify the extent to which age affects bullying behaviours beyond a correlational effect. Thirdly, the study is based on a set of limited constructs and instruments that are defined by researchers without reference to how children and young people themselves define and categorise bullying and cyberbullying. As such, our study may not grasp the nuances and intricacies in the technological processes of inclusion and exclusion among peer groups [18] and further qualitative research is needed to provide a deeper understanding of the differences and similarities identified in our data. Furthermore, more research is needed to make direct age comparisons regarding victimization and perpetration, not only of cyberbullying [59], but also of school bullying.

In conclusion, this study shows that school bullying and cyberbullying remain a problem in the lives of adolescents in Galicia after the COVID-19 pandemic, which was characterised by a lockdown and return to schools. The overlap between both phenomena adds to the evidence in favour of a combined approach to prevention and intervention, in tackling both cyber and offline bullying. In addition, age differences suggest the appropriateness of tailoring prevention efforts to the target age group. The holistic whole-education approach proposed by UNESCO should also be taken into account as it provides a comprehensive and systemic framework, including legal and policy influence beyond each school management [17].

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Informed Consent Statement: All participants were informed that the survey was voluntary, anonymous, and that the possibility to opt-out was available at any time. Participants and parents received a written informed consent form before participating in the study that included information regarding the questionnaire. No personal data were collected that would make it possible to identify individual participants.

Data Availability Statement: Data has not been shared in a publicly accessible repository.

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