



Article

I Was the Violence Victim, I Am the Perpetrator: Bullying and Cyberbullying Perpetration and Associated Factors among Adolescents

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Abstract: Bullying and cyberbullying significantly threaten the development and mental health of both victims and perpetrators. This study aimed to analyze the associations between socioeconomic characteristics, personal experiences of violence, perceived social support from peers, and acceptance of violence and (cyber)bullying perpetration. The study involved 1146 secondary school students, consisting of 698 females and 448 males, aged 13 to 16. Prevalence ratios (PRs) were calculated using Poisson regression with robust variance. The results indicated that 12.32% of girls and 18.97% of boys reported engaging in bullying and/or cyberbullying. The likelihood of perpetration was lower among adolescents who had not experienced physical and/or sexual abuse before age 15, but higher among those in romantic relationships who had been victims of dating violence or had experienced (cyber)bullying victimization. Additionally, perceived social support from classmates was associated with a lower likelihood of becoming a perpetrator, whereas acceptance of violence was positively associated with (cyber)bullying perpetration. Preventing adolescents from becoming perpetrators of bullying and/or cyberbullying requires early intervention to prevent all forms of violence in childhood and adolescence, as well as bolstering personal and environmental resources by providing social support.

Keywords: bullying; cyberbullying; adolescents; abuse in childhood; dating violence; social support; acceptance of violence; peer violence; sexual abuse

1. Introduction

Bullying is a form of aggressive, intentional behavior aimed at hurting or harming another person. It is characterized by repetition and an imbalance of power, making it difficult for the victim to defend themselves (Olweus 1999; Smith 2014; Smith et al. 2019). This behavior has significant implications for the psychological well-being of both victims and perpetrators, making it a critical issue to address.

1.1. Types of Bullying

Bullying can manifest in several forms, each with its unique characteristics and impacts on both victims and perpetrators. Physical bullying is perhaps the most easily recognizable form, involving direct physical aggression such as hitting, kicking, or pushing. This type of bullying can result in visible injuries, but its effects extend beyond the physical, often leaving emotional and psychological scars (Shetgiri 2013).

Verbal bullying involves the use of words to harm others. This can include name-calling, insults, threats, or teasing. While verbal bullying may not leave physical marks, it can deeply affect a victim's self-esteem and mental health, leading to issues such as anxiety, depression, and long-term emotional trauma (Olweus 1999).

Relational bullying is more subtle and involves harming someone's social relationships or reputation. This type includes behaviors like spreading rumors, social exclusion, or manipulating friendships. Relational bullying can be particularly damaging because it attacks the victim's social standing and can lead to feelings of isolation and loneliness (Crick and Grotpeter 1995). Since it often occurs within social groups, it can be harder for adults to detect and address (Espelage and Swearer 2004).

Cyberbullying, a relatively new form of bullying, takes place over digital platforms, including social media, text messages, and online forums (Smith et al. 2008). Unlike traditional forms of bullying, cyberbullying allows perpetrators to harass their victims from a distance, often under the cover of anonymity. This anonymity can embolden bullies, leading to more severe and relentless forms of harassment. Additionally, the digital nature of cyberbullying means that harmful content can be rapidly spread to a wide audience, significantly amplifying the damage (Kowalski et al. 2014; Pyżalski 2022). Victims of cyberbullying might find themselves targeted all the time, making it difficult to escape the abuse. This constant exposure can lead to severe emotional distress, as the harmful messages, images, or videos can be shared, saved, and revisited repeatedly (Slonje and Smith 2008).

The persistent nature of cyberbullying can also contribute to the victim feeling as though the harassment is inescapable, leading to heightened feelings of fear and helplessness. Moreover, the digital footprint left by cyberbullying can have long-lasting consequences, as harmful content may remain online indefinitely, potentially affecting the victim's future social and professional life (Patchin and Hinduja 2010).

1.2. Bullying Perpetration Risk and Protective Factors

Numerous studies have identified risk factors that increase the likelihood of becoming a perpetrator, as well as protective factors that help prevent bullying behavior. Risk factors include low socioeconomic status (Malecki et al. 2020), male gender, externalizing problems (Clark et al. 2022), engagement in risky behaviors, and family-related factors such as domestic violence and poor relationships with classmates (Foshee et al. 2016a; Spriggs et al. 2007).

A consistent high-risk predictor for bullying is violence experienced in childhood and especially in a violent family context where parents are involved in domestic violence (Nocentini et al. 2019; Foshee et al. 2016a; Holt et al. 2009; Broll and Reynolds 2021); neglectful parenting is also associated with cyberbullying perpetration (Broll and Reynolds 2021). In addition, other family risk factors include poverty, low socioeconomic status, and poor parental education (Saracho 2016; Hlavaty and Haselschwerdt 2019; Veenstra et al. 2005), or conflicts in the family (Xue et al. 2022), which are important.

Age also plays a role in bullying, with research indicating that the prevalence of bullying increases among older adolescents (Sentse et al. 2015). Research also consistently shows a higher proportion of male perpetrators in traditional bullying (Smith et al. 2019; Cook et al. 2010; Craig et al. 2009), though the role of gender in cyberbullying is less clear and requires further investigation (Kowalski et al. 2014). This complexity may be due to differences in how boys and girls engage in relational violence (Sun et al. 2016; Snell and

Englander 2010) such as gossip or public humiliation, which are often facilitated by social networks (Alipieva 2019).

Being a perpetrator of violence can also result from violent thinking (Walker and Bowes 2013). The acceptance of violence reflects a cognitive style that assumes violence can be justified, has important behavioral correlates, and puts people at risk of becoming perpetrators (Walker 2005). The acceptance of violence includes the overt enjoyment and acceptance of violence in everyday life (Walker and Bowes 2013) (e.g., in the media and in sport) and perceptions of violence as an acceptable behavior (Walker 2005). Although the measurement does not relate to personality, but to beliefs, the pro-violence tendency may be relatively stable, as it is likely to be reinforced by peers, media, and confrontational situations. Moreover, cognitive styles rather than personality dimensions may be amenable to change, either through natural development processes or direct intervention (Walker 2005).

In the area of protective factors, the strongest factor against being a bully seems to be positive interactions with peers as well as good academic performance and social skills (Zych et al. 2019). Other protective factors include a supportive relationship with parents (Wang et al. 2009; Shetgiri et al. 2013), maternal warmth (Bowes et al. 2009), school bonds (Jain et al. 2018), and a supportive school social climate (Yang et al. 2020).

1.3. Bullying among Adolescents and Peer Social Dynamics

According to previous research, bullying is common among adolescents (Modecki et al. 2014; Olweus 2013), and both traditional bullying and cyberbullying have substantial negative effects on psychological well-being not only among victims but also perpetrators. There is a lot of evidence linking bullying experiences to the development of emotional, cognitive, social, and behavioral problems (Patchin and Hinduja 2010; Loch et al. 2020). For example, bullies reported a higher level of externalizing problems (Menesini et al. 2009), while the perpetration of cyberbullying is associated with poor peer relationships and externalizing and internalizing problems (Betts 2016; Selkie et al. 2015).

Bullying is also closely linked to other forms of violence, such as dating violence and sexual harassment (Connolly et al. 2000). Studies suggest that bullying behavior can predict the perpetration of physical dating violence in both boys and girls and may even lead to later sexual harassment (Foshee et al. 2014; Espelage et al. 2012). Additionally, bullies often seek to gain a higher status within their peer group through their aggressive behavior, which is more instrumental than emotional (Schwartz 2000). This desire for social dominance is often reinforced by peer acceptance, making it a significant factor in the continuation of bullying behaviors (Perren and Hornung 2005).

The social dynamics within peer groups are crucial in understanding bullying behavior. A lack of classmate support has been associated with bullying behaviors (Espelage and Holt 2007). Students who are not involved in bullying others report higher peer support than those who are involved (Demaray and Malecki 2003). Teenagers who bully their peers can also become victims of bullying (Georgiou and Stavrinos 2008; Stein et al. 2007). Bully victims are described as having more anger and more difficulty controlling their anger than bullies (Georgiou and Stavrinos 2008). It is worth mentioning that bullies usually do not exhibit greater degrees of anxiety, depression, and withdrawal compared to those who are not involved in bullying (Menesini et al. 2009), and their aggression is not emotional, but instrumental, motivated by the desire to gain a high position in the peer group (Schwartz 2000), and research shows that persecutors have a greater level of acceptance from peers than victims of bullying (Perren and Hornung 2005).

1.4. Research Questions

Because bullying and cyberbullying pose serious developmental and mental health threats to both victims and perpetrators, there is a need to prevent these behaviors by promoting positive development conditions (Ganotz et al. 2021). The assumption that contexts can be intentionally changed to increase developmental success and individual characteristics (Benson et al. 2006) formed the basis of the Lights, Camera and Action

Against Gender Violence Project (Lights4Violence) (Vives-Cases et al. 2019). We aimed to analyze how socioeconomic characteristics, personal experiences of violence, and both personal and environmental assets are related to teenagers' experiences of becoming a (cyber)bully.

In this text, we present data from the pre-intervention phase of research in the project. This study allowed us to identify the following aspects:

- The likelihood of becoming a (cyber)bullying perpetrator in adolescents with different sociodemographic characteristics (age, sex, and mothers' education);
- The likelihood of becoming a (cyber)bullying perpetrator in adolescents with personal experiences of violence (physical and sexual abuse in childhood, bullying and cyberbullying victimization, dating violence);
- The likelihood becoming a bullying and cyberbullying perpetrator in adolescents with a different perception of peer social support and acceptance of violence.

The study results and answers to research questions can help to develop recommendations for evidence-based prevention that can be implemented in school settings and other forms of work with adolescents (Farrell and Flannery 2006).

2. Materials and Methods

2.1. Design

The study employed a cross-sectional design. The Lights4Violence project was co-financed by the European Commission, Directorate-General for Justice and Consumers Rights, Equality and Citizen Violence Against Women Program of 2016. Central to the project was the development and implementation of an educational program aimed at fostering healthy peer and romantic relationships among adolescents in six European cities: Alicante, Rome, Iasi, Poznan, Matosinhos, and Cardiff. Data collection occurred in the baseline stage of participants' involvement in the project (pre-test) (Vives-Cases et al. 2019). Adolescents provided data through an online questionnaire that included demographic variables, socioeconomic variables, experiences of violence (both victimization and perpetration), the Student Social Support Scale (Malecki and Demary 2002), the Maudsley Violence Questionnaire (MVQ) (Walker 2005), and other scales specifically defined by the Lights4Violence project. Data collection took place in 12 schools between October 2018 and February 2019, with a participation rate of 98.78% from all students in the selected classes.

2.2. Ethical Considerations

Data collection was conducted by project partners based at universities in six countries, ensuring the confidentiality of all gathered information. Participation was voluntary throughout all stages of the project. Each partner obtained permission from their respective ethics committees and acquired signed informed consent from schools, headteachers, parents, and students. Participants created unique participant codes at the initial data collection point. In instances where a student reported abuse by an adult, each country followed its protocol to inform the school and implement appropriate support measures.

The Lights4Violence project protocol received approval from the ethical committee of the University of Alicante and the respective ethics committees of all participating universities. These approvals extended to the individual schools where the intervention was carried out. Additionally, the project was registered with ClinicalTrials.gov by the coordinator (Clinicaltrials.gov: NCT03411564, Unique Protocol ID: 776905, date registered: 18 January 2018).

2.3. Participants

The sample came from data collected in the pre-intervention phase of the Lights, Camera and Action Against Gender Violence Project (Lights4Violence) (Vives-Cases et al. 2019) and included participants aged 13–16. The data were collected using an online questionnaire including demographic and socioeconomic variables, the participants' experience of violence and dating violence, and other scales defined by the project Lights4Violence.

The data were gathered in 12 schools between October 2018 and February 2019. The program content was presented, and the opportunity to participate was offered to the school headteachers. Participation was offered to all the students of the classes selected. The percentage of participation was 98.78%.

After eliminating missing values ($n = 9$), the final sample included 1146 students from Alicante, Spain (95 girls and 81 boys); Rome, Italy (172 girls and 64 boys); Iasi, Romania (157 girls and 96 boys); Matosinhos, Portugal (108 girls and 102 boys); Poznan, Poland (76 girls and 32 boys); and Cardiff, UK (90 girls and 73 boys). A statistical power analysis was conducted to estimate the sample size, utilizing data from a previously published random-effects meta-analysis of 23 studies on school-based interventions aimed at preventing violence and negative attitudes in teen dating relationships (De La Rue et al. 2017).

2.4. Measures

2.4.1. Dependent Variable

In this study, the primary outcome variable was the perpetration of bullying and/or cyberbullying. The bullying and cyberbullying scales were adapted from the Lodz Electronic Aggression Questionnaire (LEAQ) (Pyżalski 2012). This tool measures bullying and cyberbullying, defined as serious forms of peer violence that are regular, intentional, involve an imbalance of power, and include a perpetrator and a victim. The four questions referenced the past three months: “you have used bullying against others”; “others have used bullying against you”; “you have used cyberbullying against others”; “others have used cyberbullying against you”. Responses were recorded using a Likert scale (never, once, twice, three times or more).

In this article, we focused on the questions regarding perpetration: “you have used bullying against others” and “you have used cyberbullying against others”. A dichotomous variable was constructed to answer whether participants had used bullying or cyberbullying against others in the last three months. The response options were yes/no. If a participant answered once, twice, or three times or more, their response was classified as “yes”. If they selected “never” for both traditional bullying and cyberbullying, the response was classified as “no”.

2.4.2. Covariates

Sociodemographic Characteristics: The study collected data on students’ age, sex, and mother’s education. The mother’s education was categorized as “primary” (completed at most primary school) and “secondary/university” (completed secondary school or higher education).

Experiences of Abuse and/or Violence by an Adult in Childhood: Participants were asked two dichotomous questions (yes/no) to identify experiences of abuse before the age of 15: “Before you were 15 years old, did any adult—defined as someone 18 years or older—physically hurt you in any way (e.g., slapped, kicked, pushed, grabbed, or shoved you)?” and “Before you were 15 years old, did someone 18 years or older force you to participate in any form of sexual activity when you did not want to?” (Vives-Cases et al. 2019).

Dating Violence Victimization: Participants who had been in dating relationships were asked about their experiences of dating violence with the following questions: “Has anyone you have dated ever physically hurt you (e.g., slapped, kicked, pushed, grabbed, or shoved you)?”; “Has anyone you have dated ever attempted to force or forced you to participate in any form of sexual activity when you did not want to?”; “Has anyone you have dated ever tried to control your daily activities (e.g., who you could talk with, where you could go, how to dress, check your mobile phone)?”; “Has anyone you have dated ever threatened you or made you feel threatened in any way?” Exposure to dating experiences was categorized for analysis as follows: never been in a relationship, been in a relationship without experiencing violence, and been in a relationship with experiences of violence (Vives-Cases et al. 2019).

Bullying and Cyberbullying Victimization: Using the Lodz Electronic Aggression Questionnaire (LEAQ) (Pyżalski 2012), participants answered questions about being victims of bullying and cyberbullying: “others have used bullying against you” and “others have used cyberbullying against you”. Responses were classified dichotomously as yes/no. If participants indicated experiencing bullying or cyberbullying once, twice, or three times or more in the last three months, their response was classified as “yes”. If they chose “never” for both traditional and cyberbullying, the response was classified as “no”.

Perceived Social Support: Social support was measured using the Child and Adolescent Social Support Scale (Malecki and Demary 2002), a 60-item scale assessing support from parents, teachers, classmates, friends, and other school personnel (e.g., principal, counselor). Each subscale, containing 12 items, utilized six Likert-type response categories ranging from never to always, providing a score range of 12–72 per area. For this study, only the frequency dimension was analyzed, as its trend was similar to the availability dimension in relation to dependent and co-variables. The scale demonstrated satisfactory internal consistency in this study, with a Cronbach’s alpha of 0.96.

Acceptance of violence was collected by The Maudsley Violence Questionnaire (MVQ) (Walker 2005). It is composed of 56 items (true–false scale) that represent norms and beliefs that justify and support violence. It is made up of two subscales: “machismo” (42 items; 0–42 range) and “acceptance of violence” (14 items; 0–14 range). Cronbach’s Alpha for the acceptance of violence subscale was in the range of 0.755.

2.4.3. Statistical Analyses

A description of bullying and/or cyberbullying perpetration was carried out for sociodemographic variables, experiences of violence, social support, and acceptance of violence. In the case of continuous variables, the mean and standard deviations have been calculated. To understand which variables were associated with bullying and/or cyberbullying perpetration, we calculated prevalence ratios (PRs) using Poisson regression with robust variance. Statistical significance was a p -value < 0.05 . We used a t -test and Chi-square test to calculate statistical significance. Stata 15.1 was used. All the models were adjusted by country (Poland, Portugal, Spain, Italy, Romania, and the UK).

3. Results

3.1. Bullying and/or Cyberbullying Perpetration

Table 1 presents data on the entire sample concerning bullying and/or cyberbullying perpetration. According to the data, 12.32% of girls and 18.97% of boys reported being perpetrators of bullying and/or cyberbullying. Additionally, the average age was higher among those who engaged in bullying compared to those who did not (15.03 vs. 14.01).

The percentage of bullying and/or cyberbullying perpetrators was higher among adolescents who had experienced dating violence compared to those who had never dated or had dated without experiencing dating violence. Additionally, there was a greater proportion of adolescents who had been perpetrators of bullying and/or cyberbullying who suffered physical and/or sexual abuse before the age of 15 by an adult, compared to those who did not experience childhood abuse.

The mean social support from classmates for those who had been perpetrators of bullying and/or cyberbullying was 11.88, whereas it was 12.40 for those who did not engage in bullying. Acceptance of violence was higher among perpetrators of bullying and/or cyberbullying (6.81) compared to students who did not bully others (5.22).

Table 1. Bullying and/or cyberbullying perpetration by sociodemographic variables, experiences of violence, social support, and acceptance of violence.

	Bullying/Cyberbullying Perpetration		
	Yes n (%)	No n (%)	p-Value
Sex			
Girls	86 (12.32)	612 (87.68)	0.002
Boys	85 (18.97)	363 (81.03)	
Mother’s education			
Primary	18 (11.92)	133 (88.08)	0.254
Secondary/university	154 (15.48)	841 (84.52)	
Dating violence			
Never dating	57 (13.19)	375 (86.81)	<0.001
Yes	57 (26.27)	160 (73.73)	
No	58 (11.74)	436 (88.26)	
Has suffered physical and/or sexual abuse before 15 by an adult			
Yes	63 (29.58)	150 (70.42)	0.001
No	106 (11.29)	833 (88.71)	
	Mean (SD)	Mean (SD)	p-Value
Age	15.03 (1.14)	14.01 (1.35)	<0.001
Social support from classmates	42.80 (11.88)	49.48 (12.40)	<0.001
MVQ—acceptance of violence	6.81 (3.52)	5.22 (3.45)	<0.001

MVQ—Maudsley Violence Questionnaire.

3.2. Bullying and/or Cyberbullying Perpetration and Associated Factors

Table 2 shows the robust Poisson regression (crude model).

Table 2. Factors associated with bullying and cyberbullying perpetration (crude model).

Variable (Reference)	Bullying/Cyberbullying Perpetration			p-Value
	IRR	CI 95%		
Age	1.592	1.453	1.745	<0.001
Sex (Reference group: “girls”)				
Boys	1.540	1.169	2.028	0.002
Mother’s education (Reference group: primary)				
Secondary/university	1.298	0.822	2.051	0.263
Dating violence (Reference group: “I have never been in a dating relationship”)				
Yes	1.991	1.433	2.767	<0.001
No	0.890	0.632	1.253	0.504
Has suffered physical and/or sexual abuse before 15 by an adult (Reference group “yes”)				
No	0.382	0.290	0.502	<0.001
Victim of bullying/cyberbullying (Reference group: “yes”)				
No	4.090	3.016	5.547	<0.001
MVQ—acceptance of violence	1.111	1.071	1.152	<0.001
Social support from classmates	0.966	0.957	0.975	<0.001

IRR—Incidence Rate Ratio; CI—Confidence Interval.

Table 2 shows that the likelihood of being a perpetrator of bullying and/or cyberbullying was higher for boys [PR (CI 95%): 1.540 (1.169, 2.028)] and older adolescents [PR (CI 95%): 1.592 (1.453, 1.745)]. Compared to adolescents who had never been in a dating relationship, those in a romantic or dating relationship who had been victims of violence were more likely to be perpetrators of bullying and/or cyberbullying [PR (CI 95%): 1.991 (1.433, 2.767)]. The likelihood of bullying and/or cyberbullying perpetration was lower for adolescents who had not experienced physical and/or sexual abuse before the age of 15 by an adult [PR (CI 95%): 0.382 (0.290, 0.502)], but higher for those who had not been victims of bullying and/or cyberbullying [PR (CI 95%): 4.090 (3.016, 5.547)]. Furthermore, the likelihood of perpetration was higher for adolescents with higher acceptance of violence [PR (CI 95%): 1.111 (1.071, 1.152)] and lower perceived social support from classmates [PR (CI 95%): 0.966 (0.957, 0.975)].

Tables 3–5 show the robust Poisson adjusted regression. In Table 3, Model 1 is adjusted by sociodemographic variables, and in Table 4, Model 2 is adjusted by experience of violence. Model 3 (Table 5) is adjusted by the acceptance of violence and social support.

Table 3. Factors associated with bullying and/or cyberbullying perpetration (Model 1, sociodemographic characteristics).

Variable (Reference)	Model 1 Sociodemographic Characteristics			
	IRR	CI 95%		p-Value
Age	1.369	1.143	1.639	0.001
Sex (Reference group: “girls”)				
Boys	1.716	1.321	2.229	<0.001
Mother’s education (Reference group: primary)				
Secondary/university	0.772	0.454	1.313	0.340

Table 4. Factors associated with bullying and/or cyberbullying perpetration (Model 2, experience of violence: Model 1 + experience of violence).

Variable (Reference)	Model 2 Experience of Violence			
	IRR	CI 95%		p-Value
Age	1.201	1.006	1.433	0.042
Sex (Reference group: “girls”)				
Boys	1.610	1.243	2.085	<0.001
Mother’s education (Reference group: primary)				
Secondary/university	0.769	0.471	1.256	0.294
Dating violence (Reference group “I have never been in a dating relationship”)				
Yes	1.490	1.076	2.064	0.016
No	1.040	0.760	1.425	0.804
Has suffered physical and/or sexual abuse before 15 by an adult (Reference group: “yes”)				
No	0.613	0.466	0.808	0.001
Victim of bullying/cyberbullying (Reference group: “No”)				
Yes	2.927	2.127	4.026	<0.001

Table 5. Factors associated with bullying and/or cyberbullying perpetration (Model 3: Model 2 + acceptance of violence and social support).

Variable (Reference)	Model 3 Self-Esteem and Social Support			
	IRR	CI 95%		p-Value
Age	1.154	0.966	1.379	0.115
Sex (Reference group: “girls”) Boys	1.132	0.853	1.503	0.391
Mother’s education (Reference group: primary) Secondary/university	0.681	0.410	1.130	0.137
Dating violence (Reference group: “I have never been in a dating relationship”) Yes	1.452	1.050	2.009	0.024
No	1.062	0.779	1.449	0.702
Has suffered physical and/or sexual abuse before 15 by an adult (Reference group: “yes”) No	0.729	0.552	0.965	0.027
Victim of bullying/cyberbullying (Reference group: “No”) Yes	2.662	1.933	3.669	<0.001
MVQ—acceptance of violence	1.118	1.068	1.170	<0.001
Social support from classmates	0.981	0.970	0.993	0.002

The negative effect of age and sex that was present in the first and second model (Model 1, Table 3; Model 2, Table 4) was explained only when the acceptance of violence and social support scales were included in the model (Model 3, Table 5). In the final model, it was confirmed that perpetrators of bullying experienced violence themselves in various relationships (with adults and in romantic relationships), and they were victims of bullying (Model 2, Table 4). The likelihood of being a perpetrator of bullying and/or cyberbullying was lower when teens had not experienced physical and/or sexual abuse before 15 years old by an adult [PR (CI 95%): 0.613 (0.466, 0.808)] and higher when adolescents were in a romantic or dating relationship and had been a victim of dating violence [PR (CI 95%): 1.490 (1.076, 2.064)], taking as a reference those who had never been in an intimate relationship (Model 2, Table 4). Also, the likelihood of bullying and/or cyberbullying perpetration was higher when teenagers were victims of bullying and/or cyberbullying [PR (CI 95%): 2.927 (2.127, 4.026)] (Model 2, Table 4).

Including the child and adolescent social support scale and acceptance of violence in Model 3 (Table 5) showed that the effect of experiences of violence on the likelihood of becoming a perpetrator of bullying and/or cyberbullying remains.

Moreover, perceived social support from classmates [PR (CI 95%): 0.981 (0.970, 0.993)] was associated with a lower likelihood of becoming a perpetrator of bullying and/or cyberbullying, and acceptance of violence [PR (CI 95%): 1.118 (1.068, 1.170)] was associated with a higher likelihood of becoming a perpetrator of bullying and/or cyberbullying (Table 5, Model 3).

4. Discussion

The research problems considered in this text pertain to the likelihood of becoming a (cyber)bullying perpetrator in adolescents with different sociodemographic characteristics (age, sex, and mothers’ education), with personal experiences of violence (physical and

sexual abuse in childhood, bullying and cyberbullying victimization, dating violence, and with a different perception of peer social support and acceptance of violence.

In our study, a significant proportion of young people declared that they had bullied and/or cyberbullied peers. The prevalence seems considerable especially given the young age of the study's participants and the fact that, according to other studies, the prevalence of bullying increases with age (Sentse et al. 2015). However, in our research, the negative age effect on bullying and/or cyberbullying perpetration is explained when acceptance of violence and social support are included in the model.

In line with the literature, boys, more often than girls, are the perpetrators of bullying (Smith et al. 2019), but according to the results obtained in this study, the negative effect of male sex is explained when the variables of acceptance of violence and perceived peer support are included in the model. Thus, it seems that it is not age and sex themselves, but certain personal beliefs somehow, according to previous studies (Khan and Rogers 2015; Pérez-Martínez et al. 2022), connected with being male and an older student, related to the normalization of violence and lack of peer support, that position an individual at risk of becoming a perpetrator of violence. Responding to the first research objective, it should be concluded that sociodemographic variables alone did not increase the likelihood of becoming a perpetrator of bullying and/or cyberbullying.

The second objective of the study was to identify the likelihood of becoming a bullying and cyberbullying perpetrator in adolescents with personal experiences of violence. Youths are less likely to bully others if they have not experienced physical and/or sexual violence from an adult before the age of 15. Thus, according to the results of previous research (Nocentini et al. 2019; Foshee et al. 2016a; Holt et al. 2009) and those obtained in this study, a strong risk factor for becoming a perpetrator of bullying and/or cyberbullying is childhood victimization. In addition, adolescents who are or have been in romantic or dating relationships and have been victims of violence are also perpetrators of bullying and/or cyberbullying against peers.

Previous research indicates that perpetrators of dating violence and bullying share common risk factors that tend to co-occur in both forms of violence (Foshee et al. 2016b; Jaskulska et al. 2022). Bullying perpetration is a significant predictor of sexual harassment perpetration over time (Espelage et al. 2012). The results of our study indicate that the perpetrators of peer violence are also persons who are victims of violence in a romantic relationship. According to previous studies, teenagers who bully their peers may also become victims of bullying (Georgiou and Stavrinides 2008; Stein et al. 2007). In this study, the perpetrators of bullying and/or cyberbullying are those who are themselves victims of bullying and/or cyberbullying. Thus, in response to the second research problem, experiences of violence in childhood and experiences of violence in adolescence increase the likelihood of becoming a perpetrator of bullying and/or cyberbullying. It seems that early experiences of childhood violence can shape the approach to close relationships as such where violence is something to be expected. Teens with such experiences become both bullying and/or cyberbullying perpetrators and dating violence victims. Relationships are built based on activated negative mechanisms, for example, coercion or mutual learning of antisocial behaviors (Snyder et al. 2008).

The last research objective concerned social support and acceptance of violence. Perceived social support from classmates was associated with a lower likelihood of becoming a perpetrator of bullying and/or cyberbullying. Considering the model of positive youth development, prosocial peer attachment and sociability are important protective factors of many risk behaviors including (cyber)bullying (Benson et al. 2006). As the available research results indicate, adolescents' use of overt aggression correlates positively with peer rejection in early and middle childhood, which in turn reduces affiliation in pro-social peer groups and increases the chances of interactions with similarly aggressive peers (Foster 2005). It is worth noting that according to the results obtained, acceptance of violence was associated with a higher likelihood of becoming a perpetrator of bullying and/or cyberbullying. If teens who use bullying associate with other aggressive youths, their

beliefs about aggression as a common accepted behavior will be reinforced (Walker 2005) and their anti-social behavior patterns may become permanent.

Some limitations should be considered when interpreting our results. Given that the study is cross-sectional, all causal relationships inferred from the findings are theoretical and would benefit from confirmation in longitudinal studies. The sampling procedure used does not support the generalization of the survey results to the broader population of any specific country, although it was designed with sufficient statistical power for the analysis conducted. Perceptions of perpetrating violence may vary significantly based on the cultural context of the students involved. To mitigate this, our models were adjusted for country, but there remains a possibility of residual confounding. Furthermore, there may be additional variables not included in our models that influence both the dependent and independent variables in our study. Future research could explore these aspects further to provide a more comprehensive understanding of the factors influencing bullying and cyberbullying perpetration among adolescents.

5. Conclusions

This study provides crucial insights for guiding prevention and intervention programs aimed at addressing bullying and cyberbullying perpetration. The findings highlight that these behaviors are influenced by multiple risk and protective factors and are interconnected with other forms of violence. Therefore, effective responses must recognize this complexity and implement robust strategies. Our results underscore the importance of early interventions that strengthen social mechanisms protecting children from adult violence and promote positive parenting practices. It is clear that promoting adolescent mental health begins in childhood, emphasizing the importance of fostering non-violent environments from an early age. Future research should focus on identifying pathways from childhood victimization to various forms of adolescent violence. Given that different types of violence often co-occur during adolescence, comprehensive prevention programs are warranted. These programs should target not only bullying and cyberbullying but also dating violence, enhancing both individual and environmental resources for youth.

One significant finding from our study is that adolescents who have been victims of bullying and/or cyberbullying are more likely to become perpetrators themselves. This underscores the need for differentiated interventions that address the unique circumstances and roles of both perpetrators and victims in peer violence dynamics.

Interestingly, our research found that specific factors like acceptance of violence, rather than sex and age alone, differentiate experiences of perpetrating violence. This insight suggests targeted prevention efforts should address gender stereotypes and misconceptions about violence.

Based on our findings regarding personal and environmental assets, investing in prevention models focused on positive youth development is crucial. Creating school climates where youths feel supported and where violence is not tolerated can significantly contribute to reducing bullying and cyberbullying. Developing individual protective factors that help adolescents navigate challenging peer relationships and avoid victimization is also essential.

In conclusion, our study emphasizes the need for comprehensive, multifaceted approaches to prevent bullying and cyberbullying. By addressing underlying risk factors and promoting protective factors, we can foster safer and healthier environments for adolescents.

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Data Availability Statement: The datasets and material that was produced during the current study are available from the main author on reasonable request that guarantees their use according to the ethical procedures adopted in this project and participants’ informed consent documents’ content.

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