

Dating Violence and Associated Factors Among Male and Female Adolescents in Spain

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Abstract

Background: Dating Violence (DV) is a public health problem that is on the rise. In this paper, we aim to analyse different factors associated with DV victimization among female and male adolescents in Spain, considering socioeconomic circumstances, sexual orientation and the presence of different attitudes and experiences related to violence.

Methods: Cross-sectional data from a convenience sample of 640 ever-partnered adolescents aged 13 to 17 at schools in the cities of Alicante (n=359, 50.1% girls) and Terrassa (n=281, 51.9%) in the context of an educational intervention to promote healthy relationships. We calculated the prevalence of different forms of DV (physical, sexual and control and fear) and carried out multivariate regression models by sex.

Results: 5.5% of girls and 8.7% of boys declared having suffered lifetime physical and/or sexual violence, while 22% of girls and 20.5% of boys reported control and/or fear victimization. The likelihood of DV was higher among migrants and those with foreign-born parents (aPR girls=2.1 CI95%: 1.1-3.9; aPR boys= 1.9; CI95%: 1.0-3.6); prior experiences of abuse (aPR girls= 1.6; CI95%: 1.0-2.6; aPR boys= 1.7; CI95%: 1.1-2.6); and those who showed higher levels of machismo (aPR girls= 1.0; CI95%: 1.0-1.1; aPR boys= 1.0; CI95%: 1.0-1.1). In girls, DV increased among those who reported lesbian/bisexual orientation and poor relationship with teachers.

Conclusions: DV is socially patterned and increases among LGB adolescents, migrants, and those with foreign-born parents. Future DV prevention programs should reinforce adolescents' abilities to recognize social support sources and reject machismo and violence.

Background

Teen Dating Violence (DV) refers to physical, sexual, psychological, and stalking behaviours that occur in the context of a close relationship between teenagers. DV is considered to be a type of intimate partner violence [1]. New contemporary concerns are emerging due to its damaging short and long-term effects on teenagers' health and wellbeing [2]. In the international context, it has been estimated that the prevalence of physical violence among adolescents ages 13 to 18 is 20% and that the prevalence of sexual violence is 9% [3]. According to data from the last Macro survey on Gender Violence in Spain [4], 46.6% of women aged 16–24 that have had a partner declared having experienced some type of violence on behalf of that person. The prevalence of women over age 25 was 32.4%. DV victimization is also common among male adolescents, although its consequences seem to be worse for girls [2].

There is also evidence that shows that there are social and economic factors associated with higher risk for DV, such as being of older age, lower socioeconomic conditions and belonging to a minority ethnic group [5, 6]. An increased risk of DV victimization has been also reported by female and male adolescents who have been exposed to other forms of violence (childhood exposure or witnessing different forms of violence, bullying), poor quality friendships and family relationships and the presence of harmful attitudes such as sexism, machismo, or violence acceptability [7–10]. Conversely, a higher sense of attachment to school and teachers seems to be associated to a lower likelihood of both DV victimization and perpetration [11].

The influence of sexual orientation and identity on DV is an emerging field. Research has shown that LGB youth (lesbian, gays, bisexuals) may have a higher risk of physical and/or sexual DV victimization than heterosexual adolescents [12]. According to the U.S. National School Climate Survey, nearly 85% of LGB/Transgender students have experienced verbal harassment and 27% have been physically harassed at school [13]. The most common form of violence includes the use of homophobic language and/or spreading sexual orientation rumours or making derogatory derisions against students who are perceived as they're non-normative from a monogamic heterosexual norm [14, 15]. Research has shown that the likelihood of DV may be higher among male and female adolescents who are not sure of their sexual identity [16].

Although there is some prior research, the evidence is still weak concerning DV among both male and female adolescents in Europe [17–19]. There is a need for studies that integrate the wide variety of protective factors and potential precursors to DV, which may contribute to public health strategies that prevent DV and promote healthy and equitable relationships.

During the 2019–2020 period, we conducted an educational interventional project titled "Promotion of Gender Violence Protective Assets Among Adolescents and Pre-adolescents" in secondary education (?). The project was funded by the Spanish Ministry of Economy, Industry and Competitiveness and the Carlos III Institute (Ref. PI18/00590 and PI18/00544) in 2019 and 2021. This project was based on a prior European project: Lights, Camera and Action against Dating Violence -Lights4Violence, an educational

intervention carried out in six European countries to promote positive relationships among adolescents [20]. In the latter project, the educational intervention program performed aimed to promote personal and external dating relationship assets among a sample of adolescents ages 13–18 from two Spanish cities, Alicante and Terrassa (Barcelona), both of which are located on the Mediterranean coast of Spain.

In this paper, we used the baseline data to analyse the prevalence and different factors associated with DV victimization among female and male adolescents schooled in two cities of Spain, considering their socioeconomic circumstances, sexual orientation and the presence of different violence-related attitudes and experiences in 2019–2020.

Methods

This study had a cross-sectional design. A total of eight high schools participated (6 public, 2 subsidized), with 35 classes from the 2nd course and 34 classes from the 3rd course (years 9 and 10 in UK secondary school, respectively). The selection of the schools was carried out by contacting different secondary schools that met the characteristics of the study (non-random sample). We estimated that this number of schools would allow us to reach the estimated sample size for our intervention. In order to calculate the sample size, we used the GRANMO software. Calculating a rate of losses to follow-up of 20 % and with an alpha risk of 0.05 and a beta risk < 0.02 in a bilateral contrast, we estimated that 279 subjects (CG) would be needed for the intervention group and 279 subjects in the control group to detect a statistically significant difference between two proportions (expected to be 0.1 for the intervention group and 0.2 for the control group). Lost to follow-up ratio was estimated at 30 %, as is usually expected in studies with these characteristics. ARCSINUS information was used.

From the total of the students ($n = 1,846$) at the selected high schools, 1,561 (84.6%) were offered the opportunity to participate in the survey because they were present at school. Of those invited, 1,538 students and their teachers accepted (98.5% of those contacted). The final study population of the baseline survey was 1,422 students (91% of those invited). In this study we selected 640 high school students ages 13 to 17 (51.3% girls), who reported having had a partner. The sample was selected from the four schools in Alicante ($n = 359$, 50.1% girls) and the four in Terrassa, Barcelona ($n = 281$, 51.9% girls).

Data was collected through an online questionnaire distributed to the different schools in Alicante and Terrassa between October 2019 and February 2020. Members of our research team were present in the classroom throughout the survey (which lasted approximately one hour). This facilitated access to the survey and helped resolve possible language barriers.

The students from the eight centres included in the project agreed to participate, through prior informed consent for them and their legal guardians. The project was approved by two ethical committees, CEIm-Parc de Salut Mar (2019-8914-I) and CEIC Alicante University (UA-2018-02-28).

Measures

Victimization of DV was used as a main outcome of the study [21, 22]. Students were asked about their possible exposure to situations of physical and sexual abuse and control and fear. The questions about physical and sexual violence were: “Has anyone that you have ever been on a date with physically hurt you in any way? (For example, slapped you, kicked you, pushed, grabbed, or shoved you)”; “Has a person that you have been on a date with ever attempted to force you to take part in any form of sexual activity when you did not want to?”; The questions about fear and control were: “Have you ever perceived your partner’s control of your diary activities?” and “Have you ever been threatened or felt fear because of your partner’s behaviour?” Using the gathered responses, a dichotomous variable was created with the categories of “physical and sexual violence” and “control and fear”.

Different sociodemographic variables were also collected related to students’ sex, age, country of birth and nationality and their parent’s nationality, employment, and education level. Parents’ employment was classified as “paid work” and “unpaid work”. The “unpaid work” option integrated the following responses: homemaker (exclusively), unemployed, retired, and unable to work because of a disability, student, died, don’t know. The educational level was classified as “primary studies or lower” and “secondary studies or higher”. This last option was made up of secondary school, vocational training, or university.

Sexual orientation was reported according to Kinsey scale [23], as “with which of the following phrases do you feel most identified?” The answers possible were “I feel only attracted to people with my same sex”, “normally I feel attracted to people with my same sex, but sometimes I feel attracted to people of a different sex”, “I feel attracted to people of my same sex and of a different sex”,

“indifferent”, “normally I feel attracted to people of a different sex, but sometimes I feel attracted to people of my same sex”, “I feel only attracted to people of a different sex”, “I’m not sure/I don’t feel attracted to anyone”. We collapsed all answers into two categories: heterosexual (“I feel only attracted to people of a different sex”) and “others” (including those LGB, those that they don’t know and those that are not attracted to anyone).

We also asked about prior experiences of abuse and/or violence in childhood before age 15 using the following three questions [24]: “Before you were 15 years old, did any adult -that is, someone 18 years or older- physically hurt you in any way? (For example, slapped you, kicked you, pushed, grabbed, or shoved you)”; “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?”; “Before you were 15 years old, did you witness in your family environment someone (your father or your mother’s partner) physically beat or mistreat your mother?”

Social support was assessed through three questions related to support from parents, classmates and at high school, with four Likert response options for parents and classmates (1 “very good” to 5 “very bad”) and five Likert response options for high school (1 “I like so much” to 4 “I don’t like”). Questions asked were “What are your relationships with your family like? Referring to the people you live with”, “How are the relationships with your classmates usually?” and “Do you like your institute?” [25].

Machismo and violence acceptability were measured using the Maudsley Violence Questionnaire [26]. This scale is made up of 56 items with a dichotomous scale (true or false). This scale evaluates violent thinking through two subscales: machismo (42 items; range 0–42), which includes aspects related to the importance of being violent and strong for manliness, and the association of weakness or embarrassment with non-violence or backing down. Acceptance of violence (14 items; range 0–14) is the second subscale and evaluates aspects about the enjoyment of violence and injunctions against or rejection of violence as an acceptable behaviour [26].

Sexism was measured using the Ambivalent Sexism Inventory (ASI) [27], a scale made up of 22 items that measures the level of agreement in six categories using a Likert-type scale ranging from 0 (total disagreement) to 5 (total agreement). The ASI consists of two subscales with 11 items each: Benevolent Sexism and Hostile Sexism. Higher scores indicate more sexist behaviour (Glick & Fiske 1996).

Bullying/cyberbullying was measured through the adapted version of the Lodz Electronic Aggression Questionnaire (LEAQ) [28]. This tool measures bullying and cyberbullying, understood as serious forms violence among adolescents that is regular, intentional and involves an imbalance of power and includes involvement of a perpetrator and a victim, also in the context of current or former romantic partners. The four questions referred to the last three months, and the scale included Likert answers (never – 3 times or more).

Data analysis

First, we carried out a descriptive analysis of the sample for each of the variables used in the study to observe the prevalence of global dating violence and for each of the types of violence (physical and sexual, control and fear). Second, a chi-square test was used (categorical variables) and Student t test (quantitative variables) to assess whether there were differences in the prevalence of dating violence for each of the study variables. Lastly, prevalence ratios were calculated (PR) using Poisson regressions with robust variance using the dating variable as the outcome variable. The selection of variables was carried out through a forward stepwise procedure. The significance level considered in all the analyses was $> .05$. All the analyses were stratified by sex and used the Stata 14.0 software for the data analysis.

Results

The prevalence of DV was 23.5% in girls and 23.4% in boys. Around 5.5% of girls and 8.7% of boys reported having experienced physical and/or sexual violence at some time in their lives. About 22% of girls and 20.5% of boys reported having experienced violence related to control/fear (Fig. 1).

Heterosexual girls presented lower prevalence of DV (19.3%) than girls with other types of sexual orientations (36.7%) $p = 0.004$. In boys, the prevalence of DV for those born in a foreign country was 43.8 %, 28.1 % in boys born in Spain with foreign-born parents and 19.0 % for those born in Spain ($p = 0.005$) (Table 1).

Table 1
Prevalence of Teen Dating Violence Victimization by Sex According to Sociodemographic Characteristics and Variables Related to Exposure to Violence

Variable	Girls		Boys		
	Prevalence dating violence	p-value*	Total	Prevalence dating violence	p-value*
n (%)	n (%)		n (%)	n (%)	
Total	328 (100.0)	77 (23.5)	312 (100.0)	73 (23.4)	
Age		0.120			0.113
15–18 years	58 (17.7)	18 (31.0)	49 (15.7)	14 (28.6)	
14 years	155 (47.3)	29 (18.7)	150 (48.1)	40 (26.7)	
13 years	115 (35.1)	30 (26.1)	113 (36.2)	19 (16.8)	
Place of birth		0.110			0.005
Foreign	32 (9.8)	12 (37.5)	32 (10.3)	14 (43.8)	
Spain	217 (66.2)	50 (23.0)	216 (69.2)	41 (19.0)	
Spain, foreign parents	79 (24.1)	15 (19.0)	64 (20.5)	18 (28.1)	
Mother's work status		0.885			0.358
Not working	83 (25.3)	19 (22.9)	65 (20.8)	18 (27.7)	
Working	245 (74.7)	58 (23.7)	247 (79.2)	55 (22.3)	
Father's work status		0.746			0.390
Not working	33 (10.1)	7 (21.2)	39 (12.5)	7 (17.9)	
Working	295 (89.9)	70 (23.7)	273 (87.5)	66 (24.2)	
Mother's education		0.254			0.685
Primary or lower	98 (29.9)	19 (19.4)	84 (26.9)	21 (25.0)	
Secondary or higher	230 (70.1)	58 (25.2)	228 (73.1)	52 (22.8)	
Father's education		0.312			0.163
Primary or lower	108 (32.9)	29 (26.9)	103 (33.0)	29 (28.2)	
Secondary or higher	220 (67.1)	48 (21.8)	209 (67.0)	44 (21.1)	
Desire orientation		0.004			0.765
Heterosexual	249 (75.9)	48 (19.3)	247 (79.2)	53 (21.5)	
*Chi-square test.					

Variable	Girls		Boys		
Non-heterosexual and non-attraction	79 (24.1)	29 (36.7)	65 (20.8)	20 (30.8)	
Violence in childhood					0.001
No	235 (71.6)	44 (18.7)	232 (74.4)	43 (18.5)	
Yes	93 (28.4)	33 (35.5)	80 (25.6)	30 (37.5)	
Witness abuse in childhood					0.003
No	303 (92.4)	65 (21.5)	281 (90.1)	59 (21.0)	
Yes	25 (7.6)	12 (48.0)	31 (9.9)	14 (45.2)	
Cyberbullying victimization					0.021
No	292 (89.0)	63 (21.6)	261 (83.7)	54 (20.7)	
Yes	36 (11.0)	14 (38.9)	51 (16.3)	19 (37.3)	
Cyberbullying perpetration					0.027
No	316 (96.3)	71 (22.5)	292 (93.6)	65 (22.3)	
Yes	12 (3.7)	6 (50.0)	20 (6.4)	8 (40.0)	
Bullying victimization					0.003
No	278 (84.8)	57 (20.5)	263 (84.3)	55 (20.9)	
Yes	50 (15.2)	20 (40.0)	49 (15.7)	18 (36.7)	
Bullying perpetration					0.001
No	307 (93.6)	66 (21.5)	292 (93.6)	66 (22.6)	
Yes	21 (6.4)	11 (52.4)	20 (6.4)	7 (35.0)	
*Chi-square test.					

We also observed that earlier experiences of abuse and/or violence in childhood prior to age 15 and having been a victim of bullying and cyberbullying were statistically significantly related to greater DV prevalence in both, girls and boys. In the case of girls, the prevalence of DV increased when they were aggressors in bullying or cyberbullying situations. Also, both in girls and in boys, there was greater average machismo and acceptance of violence when they had experienced DV. Furthermore, there were significant differences among girls in terms of family relationships ($p = 0.021$) and in terms of school satisfaction ($p = 0.041$) (Table 2).

Table 2
 Teen Dating Violence Victimization by Sex According to Sexism, Machismo, Empathy, Assertiveness and Capacity for Conflict Resolution

Variable	Girls			p-value*	Total	Boys			p-value*
	Yes dating violence	No dating violence				Yes dating violence	No dating violence		
Total	Mean (SD)	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)	Mean (SD)		
Good relationship with family	1.8 (0.9)	1.9 (1.0)	1.7 (0.8)	0.021	1.7 (0.8)	1.8 (0.8)	1.7 (0.8)	0.122	
Satisfaction with the school	1.8 (0.8)	2.0 (1.0)	1.8 (0.8)	0.041	2.0 (0.8)	2.1 (0.8)	1.9 (0.8)	0.206	
Good relationship with teachers	2.1 (0.8)	2.2 (0.9)	2.1 (0.7)	0.181	2.2 (0.8)	2.4 (1.0)	2.2 (0.8)	0.089	
Good relationship with classmates	1.6 (0.7)	1.7 (0.7)	1.6 (0.7)	0.592	1.7 (0.7)	1.8 (0.8)	1.6 (0.7)	0.105	
Violent Thinking total	14.4 (9.3)	16.5 (9.2)	13.8 (9.2)	0.026	15.0 (9.2)	17.2 (10.6)	14.3 (8.6)	0.019	
Machismo	8.9 (6.8)	10.7 (7.0)	8.4 (6.6)	0.009	9.3 (7.0)	11.5 (8.1)	8.7 (6.5)	0.003	
Violence acceptability	5.5 (3.4)	5.8 (3.1)	5.4 (3.5)	0.387	5.7 (3.2)	5.8 (3.4)	5.7 (3.2)	0.817	
Global sexism	47.9 (10.8)	48.2 (10.9)	47.7 (10.8)	0.714	48.5 (11.9)	50.1 (12.6)	48.0 (11.7)	0.181	
Hostile sexism	22.9 (6.4)	23.4 (6.4)	22.8 (6.4)	0.411	23.4 (6.6)	24.4 (7.2)	23.1 (6.5)	0.135	
Benevolent sexism	24.9 (6.6)	24.8 (6.7)	25.0 (6.6)	0.847	25.1 (7.0)	25.7 (7.0)	24.9 (7.0)	0.393	
*Student t-test; SD: Standard deviation									

Girls who were born in a foreign country had 2.1 times greater probability of experiencing DV than those who were born in Spain and had foreign-born parents (confidence interval (CI) 95%: 1.1–3.9). Having an LGB sexual orientation was also associated with a greater risk of DV in girls (aPR: 1.9; CI95%: 1.3–2.9). Girls with prior experiences of abuse and/or violence in childhood presented a 60 % greater chance of experiencing DV (aRP: 1.7; CI95%: 1.1–2.8). Greater machismo was also associated with greater probability of DV (aPR: 1.0; CI95%: 1.0-1.1), while greater acceptance of violence was associated with a lower probability of DV (aPR: 0.9; IC95%: 0.9-1.0). Those girls with a poor relationship with teachers also showed greater probability of experiencing DV (aPR: 1.6; CI95%: 1.1–2.3) (Table 3).

Regarding the boys, those born in a foreign country presented a 90% greater likelihood of experiencing DV than those born in Spain with foreign-born parents (RP: 1.9; CI95%: 1.0-3.6). Those who experienced physical and/or sexual abuse showed a 70% greater likelihood of having experienced DV (aRP: 1.7; CI95%: 1.1–2.6). Greater machismo was associated with a greater likelihood of experiencing DV in boys (aPR: 1.0; CI95%: 1.0-1.1) (Table 3).

Table 3
Main Associated Factors of Teen Dating Violence Victimization Among Girls and Boys. Poisson Model with Robust Variance

	Girls			Boys		
	aPR*	CI 95%	p-value	aPR*	CI 95%	p-value
Alicante (ref)						
Barcelona	1.3	0.8 2.1	0.278	1.2	0.7 1.9	0.539
Age groups (< 13 years)						
15–17 years	1.1	0.7 1.9	0.629	1.5	0.8 2.9	0.204
14 years	0.8	0.5 1.2	0.272	1.5	0.9 2.6	0.096
Birthplace (born in Spain, foreign parents)						
Foreign-born	2.1	1.1 3.9	0.018	1.9	1.0 3.6	0.038
Born in Spain	1.6	0.9 2.4	0.074	0.9	0.6 1.5	0.712
Mother's education (no higher education)						
	1.5	1.0 2.4	0.076	1.1	0.7 1.7	0.771
Heterosexual (ref)						
Others	1.9	1.3 2.9	0.001	1.3	0.8 2.1	0.319
Physical and sexual abuse in childhood (No)						
Yes	1.2	0.8 1.9	0.297	1.7	1.1 2.6	0.012
Witnessed abuse (No)						
Yes	1.7	1.1 2.8	0.025	1.5	0.9 2.4	0.117
Machismo	1.0	1.0 1.1	0.002	1.0	1.0 1.1	0.017
Violence acceptability	0.9	0.9 1.0	0.025	1.0	0.9 1.1	0.401
Satisfaction with teachers (good relationship)						
Bad relationship	1.6	1.1 2.3	0.018	1.2	0.8 1.8	0.388
Family relationship (Good relationship)						
Bad relationship	1.4	0.9 2.2	0.159	0.8	0.5 1.5	0.547
* Adjusted prevalence ratio						

Discussion

Nearly one fourth of students aged 13–18 reported having been exposed to physical-sexual violence and/or control and fear. Among them, the registered prevalence among lesbian/bisexual girls and those who have not defined their sexual orientation yet are noteworthy; as is that of boys who were born outside Spain and those born in Spain with foreign-born parents; and female and male adolescents with poor relationships with friends, family and/or teachers. Being foreign-born, LGB or not sure about one's sexual orientation and scoring a higher level of machismo were common factors associated with an increased likelihood of DV among girls and boys. Boys who suffered physical and / or sexual abuse in childhood were 70% more likely to have suffered DV, and girls were 60% more likely.

In accordance with previous research [29, 30], DV victimization is present in both girls and boys. In the case of girls, data published by the European Union Agency for Fundamental Rights Violence Against Women Survey of 2012, shows similar prevalences to what we obtained in our study, despite the different methodologies used in both surveys [19]. A meta-analysis carried out by Wincentak [3] shows that, in the case of sexual DV victimization, the prevalence is significantly greater in girls (14%) than in boys (8%). This variation in results could be explained by differences in the age ranges of the participants.

Also, in agreement with prior research [2, 4], the prevalence of DV in both girls and boys was higher among LGB adolescents and those who are not sure of their sexual orientation. The literature relates these differences to the psychosocial stress that LGB groups may experience coping with repeated situations of discrimination and marginalization [31]. Interventions that address violence during dating relationships should include information on heterosexual and non-heterosexual relationships and promote school support groups and LGB-heterosexual partnerships [32].

In this study, we confirmed the important influence of previous experiences of violence on the likelihood of current DV victimization among both girls and boys [18, 30]. Research suggests that a violent family culture may provide youth a biased model of interpersonal interaction, which normalizes aggressive behaviours and may make boys and girls learn that physical and verbal coercion are adequate and acceptable strategies for changing someone else's behaviour and solving conflicts in their dating relationships [33]. This shows how important it is to detect childhood abuse situations and implement interventions to early prevent, as far as possible, the development of violent attitudes during adolescence and adulthood [34].

Another point of interest is the similarity of prevalence of DV in men and women. We need to look at this from a feminist perspective. In heterosexual relationships, the mechanisms and severity by which violence operates differ between the sexes. Thus, men's violence against women escalates faster and is more socially legitimized than the reverse. In this sense, violence is directional. On the other hand, we must discuss how men and women perceive violence. Based on the literature, heterosexual women have normalized a lot of everyday violence that they do not perceive as such. Men, on the other hand, clearly identify when women use control or aggression, and this often occurs in response or reaction to previous violence by men [35].

Worth noting is the greater probability of foreign-born girls and boys to experience dating violence, compared to the young population born in Spain. In interpreting this result, it is important to consider that the immigrant population from low-income countries that migrates for economic reasons may be exposed to greater social and economic inequality than the native-born population [36, 37]. These inequalities are expressed in the context of systematic discrimination, violence and poverty that condition social opportunities and intergenerational life circumstances of the immigrant population. The social and health situation of the immigrant population requires an inter-sectoral approach, given that inequalities operate simultaneously and are complex in their economic, social and gender dimensions, among others [38].

Those adolescents that reported higher prevalence in DV victimization were those who reported poor relationships with their close circles – family and school environment for girls and school environment for boys. In addition, the likelihood of DV victimization in girls was higher for those who had a poor relationship with the school's teaching staff. This finding is consistent with previous studies that have shown that the likelihood of suffering physical and/or sexual DV decreased when school social support increased [10]. Other studies have shown a moderating effect of social support in terms of physical and psychological DV victimization and relationship satisfaction in girls [39]. These results evidence the importance of social support resources to which teens can turn to seek help [40].

The results of this study also found that DV victimization among girls and boys was associated with higher levels of machismo. Machismo has been associated with an increase in the level of conflicts in a relationship, making adolescents more vulnerable to becoming victims of violence and aggression and more emotionally dependent to the relationship [9]. The results of our study also showed that the likelihood of DV victimization in girls decreases with higher levels of violence acceptance. Adolescents with a higher tolerance of violence may display lower awareness of their rights, which may in turn lead them to justify their actions [41]. This finding highlights the importance of interventions focused on training social and emotional skills in young people at high risk of machismo and acceptance of use of violence given these variables may operate as precursor of violence and victimization.

There are some limitations that should be taken into account when interpreting these results. First, the sample used was not representative of both cities or of the country of Spain, and our sampling was non-probabilistic, as it was designed for a pilot school program (quasi-experimental study). Second, some information related to sociodemographic characteristics was lost, because

adolescents didn't know it, such as parent's educational level. Third, the cross-sectional design of our study did not allow us to identify a cause-and-effect relationship between the observed associated variables. Despite, these limitations, this study provides evidence of the risk factors associated with dating violence among girls and boys in Spain. We used a large sample with statistical power to detect significant differences, which may solid our results. Also, the current study has important implications that may contribute to public health strategies to prevent DV and promote healthy relationships. Thus, implementing prosocial interventions focused on developing emotional and interpersonal skills among adolescent students may be important strategies influencing relationship to prevent risky behaviours including violence and victimization. Likewise, It's necessary to draw up strategies with a gender perspective, to address the different mechanisms through which boys and girls exercise in heterosexual relationships with DV. These strategies should be a priority among vulnerable adolescents, including LGB and foreign-born adolescents since these subgroups with high levels of DV may require additional support from community services.

Conclusion

The magnitude of different forms of DV among girls and boys registered in this study shows the need for improvement in violence prevention programs and the promotion of healthy and equitable ones. The frequency of adolescents who reported prior experiences of violence in childhood was also noteworthy. Some of the associated factors identified in this study may contribute to future intervention programs, such as the importance of reinforcing adolescents' abilities to recognize different social support sources in their own close circles and skills to cope with machismo and violence acceptability. According to our results, the DV is also social patterned, and it is worse among foreign-born and LGB groups who must cope with experiences of social discrimination and harassment.

Abbreviations

DV: Dating Violence

LGB: Lesbian, gay and bisexual

ASI: Ambivalent Sexism Inventory

aPR: Adjusted prevalence ratio

Declarations

Ethics approval and consent to participate

The students from the eight centres included in the project agreed to participate, through prior informed consent for them and their legal guardians. The project was approved by two ethical committees, CEIm-Parc de Salut Mar (2019-8914-I) and CEIC Alicante University (UA-2018-02-28).

All methods were performed in accordance with the relevant guidelines and regulations.

Consent of publication

Not applicable

Availability of data and materials

The datasets and material produced during the current study are available from the corresponding author on reasonable request that guarantee their use according to the ethical procedures adopted in this project and participants' informed consent documents content.

Competing interests

The authors declare that they have no competing interests.

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Author's contributions

CVC, VP and BSB made substantial contributions to the conception and the design of this work; CVC, VP and BSB made the analysis of the data and all authors participated in the interpretation of results; CVC and VP prepared the different drafts of the manuscript incorporating all authors suggestions; CVC, VP, BSB, MCDB, MSS, DGG, DGA, FSM, LFD, GP made important intellectual contributions to the different drafts; CVC, VP, BSB, MCDB, MSS, DGG, DGA, FSM, LFD, GP approved the final version of the manuscript to be published; and CVC, VP, BSB, MCDB, MSS, DGG, DGA, FSM, LFD, GP agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Figures

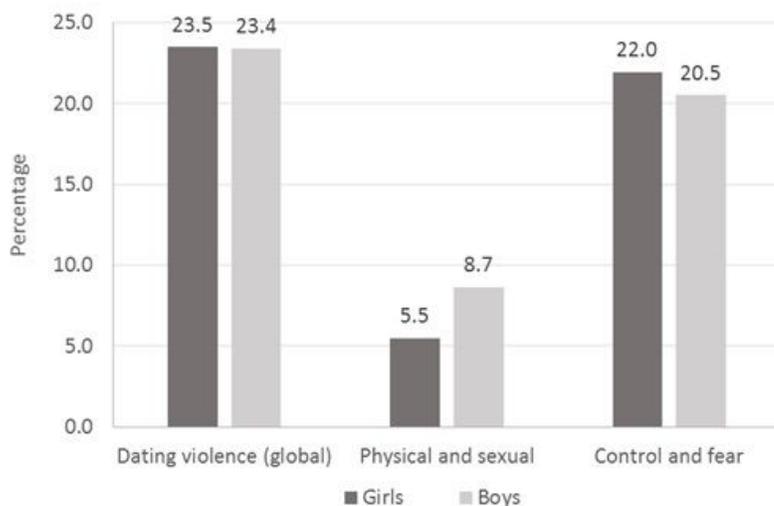


Figure 1

Prevalence of violence by sex.