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Electronic and School Bullying Victimization by Race/Ethnicity and Sexual Minority Status in a Nationally Representative Adolescent Sample

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Abstract

Purpose: The purpose of the study was to examine the prevalence of electronic and school bullying victimization in sexual and racial/ethnic minorities in a nationally representative U.S. sample of high school students.

Methods: Cross-sectional data from the 2015 and 2017 National Youth Risk Behavior Survey (2015, n = 15,624; 2017, n = 14,765) were analyzed using logistic regression.

Results: Approximately 15% of the sample reported electronic bullying victimization and 20% reported school bullying victimization. Sexual minority youth were significantly more likely to report both types of bullying than their heterosexual peers, whereas black and Latinx students were significantly less likely to report both types. White students who identified as gay/lesbian or bisexual were more likely to report both types of bullying than white, heterosexual youth. Very few changes were observed in electronic or school bullying victimization from 2015 to 2017, although there was a statistically significant decrease in school bullying among white, heterosexual youth.

Conclusions: A sizeable number of adolescents experience electronic and school bullying. Sexual minority and white adolescents report a higher prevalence of these phenomena. This may have implications for designing bullying prevention strategies that target sexual minority adolescents to reduce their risk for victimization both online and in school.

Keywords

School bullying; Electronic bullying; Race/ethnicity; Sexual orientation

While school bullying is a familiar phenomenon, attention on the prevalence of electronic bullying in the United States has grown over the past decade as adolescents have increased their use of technology [1,2]. Adolescent Internet use has become ubiquitous in the United States; for instance, one study of adolescents reported that 97% used the Internet more than once a week [3]. Beyond increased exposure to the Internet, social media has become a main

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channel of communication between adolescents and their peers [4]. With this, there has been a rise in electronic bullying victimization experiences and research focusing on the topic.

Recent national trends show that adolescents' bullying experiences are on the decline [5]; however, these numbers do not include analysis of important subgroups of adolescents (e.g., sexual and ethnic minority groups) shown in nonpopulation-based studies to be at risk for increased victimization. In part, this is due to a lack of available data, particularly on youths' sexual orientation. In 2015, the Centers for Disease Control and Prevention (CDC) began collecting biennial data on adolescents' sexual minority status using the data collection instrument for the National Youth Risk Behavior Surveillance System (YRBS). These data provide a valuable opportunity for examining the national prevalence of electronic and school bullying victimization for adolescents who identify as sexual and/or racial minorities [6].

Prior research indicates that identifying as a sexual minority may put youth at increased risk for both electronic and school victimization, compared to heterosexual peers; however, the same differences have not been observed for racial/ethnic minorities [7–15]. Sexual minority youth, particularly those who identify as bisexual or are more open about their sexual orientation, are more likely to be targeted by their peers both at school and online [7–10]. Studies examining the prevalence of electronic and school bullying have not found consistent differences by race or ethnicity. However, racial/ethnic minority youth who are exposed to electronic bullying have the same negative outcomes, such as suicidal ideation and attempts [12–14]. The experiences of youth with a double minority status have rarely been addressed in large, representative samples. One recent study revealed that boys in urban school districts who were racial/ethnic and sexual minorities had higher risk for bullying than their heterosexual peers of the same race/ethnicity [16]. Findings indicate that there may be disparities in victimization risk at the intersection of race/ethnicity and/or sexual minority status.

To address this gap, the current study examined electronic and school bullying between 2015 and 2017 among U.S. high school students by race/ethnicity and sexual minority status. We compared the prevalence of bullying among sexual minority youth relative to heterosexual youth; youth who were sexual and racial/ethnic minorities relative to white, heterosexual youth; and racial/ethnic minorities relative to white youth. We hypothesized that the prevalence would be higher among sexual minorities (vs. heterosexuals) and those who were sexual and racial/ethnic minorities (vs. white, heterosexual youth). Given inconsistent findings from prior research, we did not have a hypothesis regarding the prevalence of electronic and school bullying victimization by race/ethnicity. We also explored how electronic and school bullying victimization may have changed in these subgroups from 2015 to 2017.

Methods

Data and participants

We analyzed data from the 2015 and 2017 National YRBS to examine the associations of race/ethnicity and sexual orientation with electronic and school bullying in adolescents.

The National YRBS is a survey of U.S. high school students (9th–12th grades) that has been conducted by the CDC since 1991. The goal is to monitor health risk behavior among adolescents, as those who engage in risky behavior, such as substance use and unprotected sex, have a higher likelihood of negative health consequences in adulthood [17]. Self-report surveys are administered every two years to a nationally representative sample of high school students from both public and private schools [17]. Methodologists used a three-stage cluster sampling method to obtain a nationally representative sample of U.S. students in grades 9–12 [17]. Although all states participate in the data collection for the National YRBS, only states with at least a 60% response rate are included in the final data set [18]. A weight based on student sex, race/ethnicity, and school grade is applied to each record to adjust for student nonresponse and oversampling of black and Hispanic students. The Johns Hopkins University Bloomberg School of Public Health Institutional Review Board concluded that the current study would not be considered human subjects research and did not require review.

Measures

Race/ethnicity and sexual minority status.—For this study, we used data on sexual orientation ("Which of the following best describes you?" 1 = heterosexual [straight], 2 = gay or lesbian, 3 = bisexual, 4 = not sure), and race/ethnicity ("Are you Hispanic or Latino?" 1 = Yes, 2 = No; "What is your race? [select one or more responses]" 1 = American Indian or Alaskan Native, 2 = Asian, 3 = black or African American, 4 = Native Hawaiian or Other Pacific Islander, 5 = white). Sexual orientation status was classified into four categories: gay/lesbian, bisexual, heterosexual, or not sure. For our analyses, we choose the CDC's recoded race/ethnicity variable, which combines data on race and Hispanic ethnicity into a single variable with four categories: non-Hispanic white, non-Hispanic black/African American, Hispanic/Latinx, and all other; hereafter referred to as white, black, Latinx, and Other. The Latinx group included all students who identified ethnically as Hispanic/Latinx, regardless of which race they reported. The Other race category included non-Hispanic students who were either American Indian/Alaskan Native, Asian, Native Hawaiian/Other Pacific Islander, or multiple races. To classify students by both race/ethnicity and sexual minority status, we created a 16-category variable based on all combinations of race/ethnicity and sexual minority status.

Bullying victimization.—The YRBS assessed both electronic and school-based bullying. Students were asked to respond "yes" or "no" to the following question assessing electronic bullying victimization: "During the past 12 months, have you ever been electronically bullied? (Count being bullied through e-mail, chat rooms, instant messaging, websites, or texting)." Additional instructions state that bullying is defined for participating students as "when one or more students, tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when two students of about the same strength or power argue or fight or tease each other in a friendly way." Additionally, school-based bullying was assessed by having students respond "yes" or "no" to the following question: "During the past 12 months, have you ever been bullied on school property?"

Covariates.—To assess screen time (i.e., exposure to computers, smartphones, and the Internet), students were asked "On an average school day, how many hours do you play video or computer games, or use a computer for something that is not school work? (Count time spent on things such as Xbox, Play-Station, an iPod, an iPad or other tablet, a smartphone, YouTube, Facebook or other social networking tools, and the Internet)." Students answered this question on a 7-point Likert scale ranging from 1 (no use) to 7 (5 or more hours per day of use). Data on sex (male/female) and grade (9th–12th) were included as covariates in study models, as previous studies highlight gender and developmental differences in the prevalence of electronic bullying [2,19].

Data analysis

Weighted descriptive statistics were generated for the overall sample by survey year. Missing data for each variable ranged from .005% to .05%, with .01% of data missing from the study data set as a whole. Researchers have posited that low amounts of missing data do not significantly limit valid inferences [20]; thus, data were not imputed. Crosstabs were computed for subgroups to explore the co-occurrence of reported electronic and school bullying. Weighted prevalence proportions of electronic and school bullying were examined by survey year using generalized linear models that accounted for the complex sampling design for the overall sample and by sex, race/ethnicity, sexual orientation, and combined racial minority and sexual orientation. Three generalized linear models using the appropriate weights were used to analyze the associations of sexual orientation (model 1), race/ethnicity (model 2), and the interaction between sexual orientation and race/ethnicity (model 3) with electronic bullying, adjusting for sex, grade, and technology use. The same three models (models 4–6) were then conducted with school bullying victimization adjusting for sex and grade. Interaction terms with year were used to assess changes in the adjusted weighted prevalence of electronic and school bullying between 2015 and 2017. Stata version 14 was used for all statistical analyses.

Results

Weighted demographic characteristics for the YRBS samples are displayed in Table 1. The samples consisted of 15,624 youth in 2015 and 14,765 youth in 2017. More than 10% of the sample identified as a sexual minority. The samples had a large number of white and Latinx adolescents, while there were fewer adolescents who identified as black or another race group. Approximately 80% of the sample reported daily use of technology for activities not related to schoolwork.

As shown in Table 2, approximately 15% of the students reported past 12-month electronic bullying victimization. Approximately one-fifth reported past 12-month school bullying victimization in each year. Data from the combined sample (i.e., 2015 and 2017) show that 50.7% of students who reported school bullying victimization also reported electronic bullying victimization and that 65.3% of students who reported electronic bullying victimization also reported school bullying victimization.

Association of sex with electronic and school bullying

Generalized linear models show that, similar to prior research studies, females reported higher levels than males of both electronic and school bullying victimization in both years. No significant changes were seen in male or female students' bullying victimization from 2015 to 2017.

Electronic and school bullying by sexual orientation

As seen in Table 3, sexual minority orientation was associated with increased risk for electronic and school bullying. Relative to students who identified as heterosexual, students who identified as bisexual were significantly more likely to experience both electronic and school bullying in both years. Students who identified as gay/lesbian were more likely than their heterosexual peers to experience electronic bullying in 2015, but not in 2017, and they were more likely than their heterosexual peers to experience school bullying in 2017, but not in 2015. In 2017, students who identified as questioning were more likely to experience electronic and school bullying than their heterosexual peers. There were no statistically significant changes in electronic or school bullying victimization for any of the four groups between 2015 and 2017.

Electronic and school bullying by race/ethnicity

Black and Latinx students were significantly less likely than white students to report both electronic and school bullying in both years. Students in the Other race/ethnicity group were less likely than white students to report electronic bullying in 2017, but not in 2015. Black students were more likely to report electronic bullying victimization in 2017 than 2015.

Association of sexual orientation and race/ethnicity with electronic and school bullying

Figure 1 displays the weighted prevalence of electronic and school bullying across groups based on sexual orientation and race/ethnicity; standard error estimates are available in Table 2. In both years, students who identified as white and gay/lesbian or bisexual were more likely than the reference group (white heterosexual students) to experience both electronic and school bullying. Additionally, black and Latinx students who identified as heterosexual were less likely to experience both electronic and school bullying than the reference group in both years. In 2017 only, students who identified as Other race and heterosexual were less likely to experience electronic bullying than the reference group.

Compared to the reference group, students who identified as Latinx and bisexual were more likely to experience school bullying in 2015. In 2017, students who identified as black and gay/lesbian were less likely to experience school bullying compared to the reference group, whereas those who identified as Other race and gay/lesbian or bisexual were more likely to experience school bullying. Students who identified as white and heterosexual had lower rates of school bullying in 2017 than 2015. No other differences across time were observed in any other group.

Discussion

The aim of this study was to explore the prevalence of electronic and school bullying victimization between 2015 and 2017 across racial/ethnic groups and sexual orientations in a nationally representative sample of high school students in the United States. Overall, there was a large overlap in the students who reported both electronic and school bullying victimization. In both years, significant gender differences were seen in electronic and school bullying victimization. As hypothesized, sexual minority adolescents, particularly adolescents who identified as bisexual, were significantly more likely to report electronic and school bullying victimization than their heterosexual peers. Black and Latinx students, however, were less likely to report electronic and school bullying victimization than their white peers at both timepoints. Groups reporting both sexual and racial/ethnic minority status differed in various ways from white, heterosexual students, without one consistent pattern emerging.

Consistent with prior national surveys, the current study found that females were more likely to report being bullied, both in school and online, than their male peers [5]. Studies of sex differences in bullying victimization have often stated that boys are more likely to experience some types of aggression, such as physical aggression; however, meta-analyses of relational aggression studies have shown no sex differences [21,22]. A prior longitudinal study of YRBS data from 2009 to 2015 found that school bullying victimization decreased for males, but increased for females [23]. While electronic bullying victimization did not change over time, it was found to be consistently higher in females than in males [23]. Findings like this suggest that perhaps bullying interventions may be better targeting female students and their behaviors [23]. However, further research is needed to understand whether these findings indicate a difference in the likelihood of reporting victimization, as well as why girls might be facing greater electronic bullying.

Consistent with previous research [2,11,19,24,25], adolescents who identified as a sexual minority were more likely to report experiencing electronic and school bullying than their heterosexual peers in both 2015 and 2017. Consistent with the minority stress model [26], electronic and school bullying from peers can contribute to a culture of harassment that may lead to negative outcomes among sexual minority adolescents. Prior studies have shown that individuals who identify as bisexual can experience discrimination, both from heterosexual and from lesbian or gay people, due to misperceptions about their sexual behavior or that they are unsure of their sexual orientation [27]. Our findings that bisexual youth report high levels of bullying are consistent with the literature and may reflect that acceptance has been slower for bisexual youth than for lesbian/gay youth [5].

While lower levels of electronic bullying in racial minority as compared with white adolescents have been hypothesized to result from less access to technology [13], the current study shows that when screen time is taken into account, rates of electronic bullying victimization are still lower in black or Latinx adolescents than in white adolescents. Our findings may reflect different patterns of technology use in adolescents of color as compared with white adolescents [13], an area that requires further study. One possible explanation is that black and Latinx youth are less likely to report bullying, even when they experience the

same behaviors that white youth experience. Specifically, a prior study showed that black youth who reported being bullied using a behavior-based measure were less likely to report being bullied using a definition-based measure [28]. Consistent with recent literature, we found that school bullying victimization occurred at a higher rate than electronic bullying in black, Latinx, and Other racial groups [13]. Research on traditional bullying victimization and race have produced mixed results; however, studies have begun to highlight the effect of the racial/ethnic makeup of schools on traditional bullying, indicating that contextual factors may be important for understanding bullying victimization risk [29]. Further research is needed to delineate the potential association of school diversity and other contextual factors with school bullying victimization in relation to adolescent racial/ethnic status.

In exploring the intersectionality of race/ethnicity and sexual orientation, the current study found differences in school bullying victimization in youth who identified as a sexual and racial minority compared to their white heterosexual peers. The most consistent findings across the two years in both school and electronic bullying were that adolescents who identified as white and gay/lesbian or bisexual reported higher levels of bullying victimization than their white heterosexual peers. This is consistent with a prior study of YRBS data that focused on youth in urban school districts [16]. Moreover, adolescents who identified as black or Latinx and heterosexual reported lower levels of bullying victimization than white heterosexual youth. In 2017, youth who identified as black and gay/lesbian reported lower levels of school bullying than their white heterosexual peers. This finding suggests that perhaps sexual orientation may not play as large of a role in bullying victimization for black youth compared to youth of other races or ethnicities. This is consistent with a prior study of LGBT youth in the United States, which found that black LGBT youth were less likely to be targeted by peers in-person due to their sexual orientation than white LGBT youth [30]. Moreover, the fact that the reference group was white, heterosexual youth may have masked differences in the relative prevalence of bullying by sexual minority status within race/ethnicity group. When race/ethnicity is held constant, disparities in bullying among sexual minorities emerge. For example, among black youth: gay/lesbian students were more likely than heterosexual students to report electronic bullying (17.7% vs. 9.5%, 2017); bisexual students were more likely than heterosexual students report electronic bullying (21.5% vs. 7.7%, 2015); and bisexual students were more likely than heterosexual students to report school bullying (24.5% vs. 12.5%, in 2015; 20.2% vs. 12.0% in 2017). There was a similar increase in prevalence among Latinx students, with the prevalence of electronic bullying and school bullying higher among sexual minorities than heterosexual youth. These findings suggest that survey data on bullying among black and Hispanic sexual minorities may be insufficient to capture the magnitude of the problem. Further research is needed to clarify how these different contexts (i.e., online vs. in-person) and interacting identities affect bullying victimization.

Media coverage has generated public concern about a possible overall increase in bullying. This study shows that, in fact, bullying is decreasing, but only for some adolescents, specifically, for white, heterosexual students. For ethnic minority and/or sexual minority youth, however, we saw either a significant increase in bullying victimization (e.g., for electronic victimization for black students) or no decrease (e.g., school and electronic bullying for white sexual minority youth). More research is needed to understand why

subgroup increases might be occurring, such as more visibility around sexual minority identities, changes in racial and ethnic composition of the United States, and increased expression of racism and hostility toward sexual minority groups. In addition, increased technology access, changes in online interactions, shifts in the perspective of sexual minority and/or ethnic minority youth on what constitutes bullying may also play a role. While victimization rates have leveled over the past few years, they are still high overall, with 15% of the sample reporting electronic bullying and 19% reporting school bullying in 2017.

This study has several limitations. As YRBS measurement of electronic and school bullying victimization was limited to a single binary variable, we were unable to assess differences in frequency (e.g., a few times vs. consistently) and types of bullying (i.e., verbal, physical, relational), which are potentially important. While we explored sex differences in the prevalence of electronic and school bullying victimization, we were unable to adequately model the interaction of sex with race/ethnicity and sexual orientation to further explore intersecting identities because relatively few individuals identified as both a racial and sexual minority. The YRBS also did not collect data on transgender identity and other gender identities. Prior studies have shown that, much like sexual minority youth, transgender youth are more likely to experience violence and bullying victimization [5]. It was not possible to identify the type of technology used most frequently (e.g., smartphones vs. gaming systems), and the measure of technology use focused on use during school days and did not include weekend use. Finally, consideration should be given to the composition of the sample in terms of state participation. While only a few states are excluded from weighted data each year, it is possible that some information is missing from analyses. Thus, additional analyses with state-level data are warranted.

This study extends the evidence on national rates of adolescent electronic and school bullying victimization and explores bullying victimization among multiple sexual and racial/ethnic minority groups. Our results suggest it is important that prevention strategies target adolescents who identify as gay, lesbian, or bisexual, as they are at a higher risk of both in-person and online harassment. Including additional questions on sexual orientation and gender identity in national surveys would allow researchers and policy makers to monitor issues in these groups over time. Black adolescents also showed increased risk for electronic bullying victimization over the two-year study period, an area that merits further attention. Identifying key characteristics of high school students who are targets of online and school bullying can aid in the development of effective prevention and intervention strategies.

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Conflicts of interest:

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IMPLICATIONS AND CONTRIBUTION

The aim of the present study was to understand the prevalence of bullying victimization in youth by minority status. This study contributes to the literature by using a nationally representative adolescent sample and may help in identifying youth who are at risk of experiencing bullying and its negative sequelae.

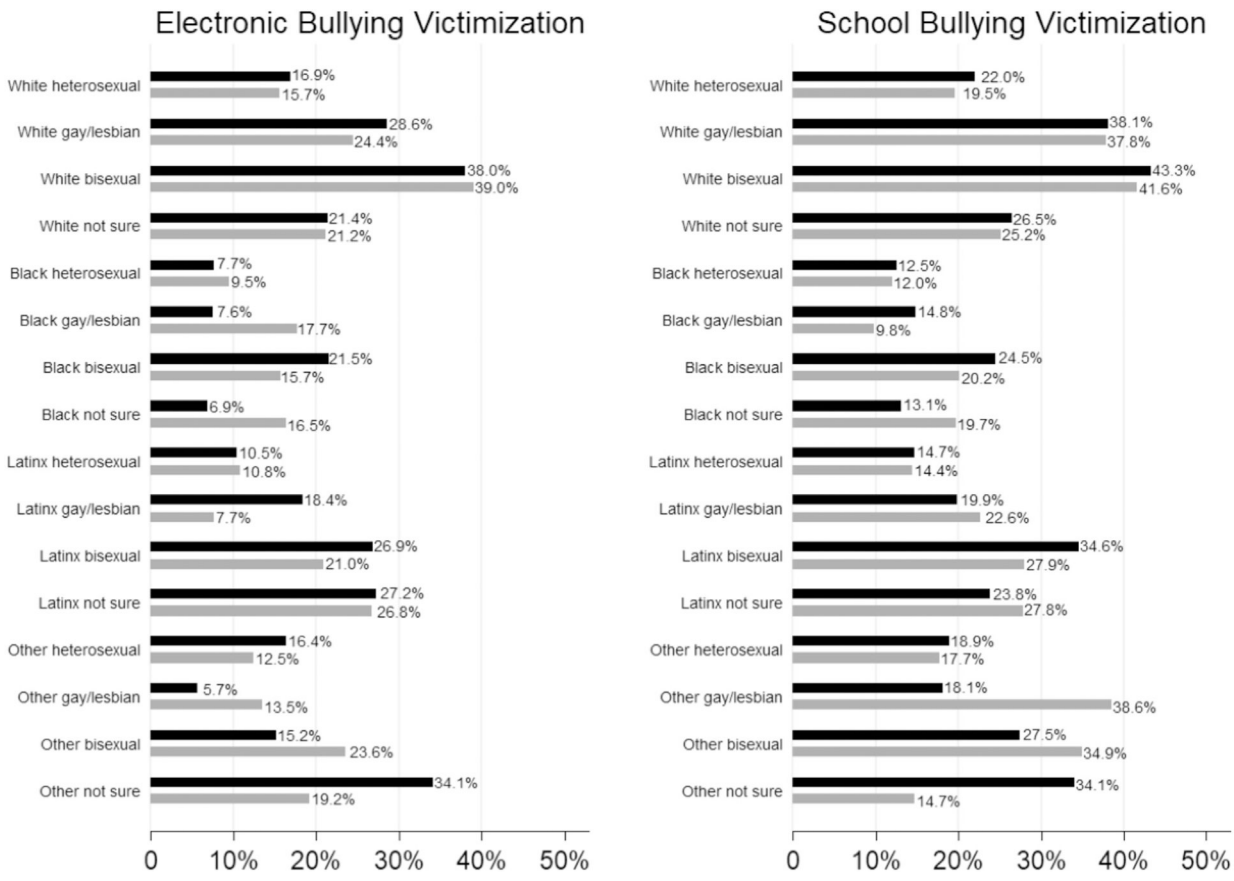

Figure 1.

Weighted prevalence of electronic and school bullying victimization across race/ethnicity and sexual orientation. Black bars indicate 2015 values; gray bars indicate 2017 values; Black = Black/African American; Latinx = Hispanic/Latinx.

Table 1

Demographic characteristics of the Youth Risk Behavior Surveillance System (YRBS) 2015 and 2017 national samples

	2015 (n = 15,624)	2017 (n = 14,765)
	n (%)	n (%)
Age		
14 years or younger	1,744 (11.2)	2,003 (13.6)
15–17 years	11,683 (75.1)	10,885 (74.1)
18 years or older	2,131 (13.7)	1,796 (12.2)
Sex		
Male	7,749 (50.0)	7,112 (48.6)
Female	7,757 (50.0)	7,526 (51.4)
Grade		
9th	4,003 (25.9)	3,921 (26.8)
10th	3,938 (25.5)	3,715 (25.4)
11th	3,930 (25.4)	3,602 (24.6)
12th	3,601 (23.4)	3,383 (23.1)
Sexual orientation		
Heterosexual	12,954 (88.1)	12,012 (85.1)
Gay/lesbian	324 (2.2)	357 (2.5)
Bisexual	922 (6.3)	1,137 (8.1)
Not sure	503 (3.4)	602 (4.2)
Race/ethnicity		
White	6,849 (44.9)	6,261 (43.4)
Black	1,667 (10.9)	2,796 (19.4)
Latinx	5,121 (33.6)	3,647 (25.3)
Other	1,629 (10.7)	1,724 (12.0)
Technology use		
No use outside of school work	2,723 (18.0)	2,878 (20.8)
Up to 2 hours per school day	6,122 (40.3)	4,977 (36.0)
3 or more hours per school day	6,331 (41.7)	5,984 (43.2)

Black = Black/African American; Latinx = Hispanic/Latinx.

Table 2

Weighted prevalence of electronic and school bullying in 2015 and 2017

	Electronic bullying		School bullying	
	2015	2017	2015	2017
	Prevalence, % (se)	Prevalence, % (se)	Prevalence, % (se)	Prevalence, % (se)
Overall	15.6 (.005)	14.9 (.006)	20.2 (.008)	19.0 (.007)
Sex				
Males	9.7 (.007)	9.9 (.004)	15.8 (.007)	15.6 (.006)
Females	21.7 (.009)	19.7 (.012)	24.8 (.011)	22.3 (.012)
Sexual orientation				
Heterosexual	14.2 (.006)	13.3 (.005)	18.8 (.008)	17.1 (.005)
Gay/lesbian	20.0 (.029)	18.4 (.023)	25.5 (.038)	28.0 (.035)
Bisexual	30.7 (.024)	29.6 (.024)	37.1 (.025)	34.4 (.029)
Not sure	22.5 (.024)	22.0 (.027)	24.9 (.020)	24.3 (.026)
Race/ethnicity				
White	18.4 (.008)	17.4 (.008)	23.5 (.009)	21.5 (.010)
Black	8.6 (.009)	10.9 (.010)	13.2 (.013)	13.2 (.011)
Latinx	12.4 (.010)	12.3 (.004)	16.5 (.012)	16.3 (.006)
Other	17.2 (.019)	13.8 (.015)	20.7 (.019)	20.0 (.014)
Race/ethnicity and sexual orientation				
White hetero	16.9 (.008)	15.7 (.008)	22.0 (.009)	19.5 (.007)
White G/L	28.6 (.055)	24.4 (.042)	38.1 (.067)	37.8 (.062)
White bisexual	38.0 (.038)	39.0 (.029)	43.3 (.042)	41.6 (.037)
White not sure	21.4 (.033)	21.2 (.036)	26.5 (.032)	25.2 (.034)
Black hetero	7.7 (.010)	9.5 (.010)	12.5 (.015)	12.0 (.010)
Black G/L	7.6 (.057)	17.7 (.074)	14.8 (.084)	9.8 (.029)
Black bisexual	21.5 (.045)	15.7 (.034)	24.5 (.056)	20.2 (.048)
Black not sure	6.9 (.040)	16.5 (.046)	13.1 (.066)	19.7 (.057)
Latinx hetero	10.5 (.009)	10.8 (.005)	14.7 (.012)	14.4 (.008)
Latinx G/L	18.4 (.061)	7.7 (.033)	19.9 (.045)	22.6 (.049)
Latinx bisexual	26.9 (.045)	21.0 (.038)	34.6 (.033)	27.9 (.043)
Latinx not sure	27.2 (.043)	26.8 (.055)	23.8 (.047)	27.8 (.054)
Other hetero	16.4 (.021)	12.5 (.014)	18.9 (.018)	17.7 (.012)
Other G/L	5.7 (.034)	13.5 (.057)	18.1 (.085)	38.6 (.109)
Other bisexual	15.2 (.037)	23.6 (.059)	27.5 (.055)	34.9 (.073)
Other not sure	34.1 (.097)	19.2 (.060)	34.1 (.096)	14.7 (.044)

Black = Black/African American; Latinx = Hispanic/Latinx; Hetero = heterosexual; G/L = gay/lesbian; se = standard error.

Table 3

Associations of sexual orientation and race/ethnicity with the prevalence of electronic and school bullying victimization from 2015 to 2017

Characteristics	Electronic bullying			School bullying		
	2015 Adjusted PR (95% CI)	2017 Adjusted PR (95% CI)	*p*	2015 Adjusted PR (95% CI)	2017 Adjusted PR (95% CI)	*p*
Sexual orientation						
Heterosexual	REF[a,b,c]	REF[a,b,c]	.18	REF[a,b]	REF[a,b]	.09
Gay/lesbian	**1.3 (1.0, 1.7)**	1.3 (1.0, 1.8)	.99	1.3 (1.0, 1.7)	**1.6 (1.3, 2.1)**	.23
Bisexual	**1.6 (1.3, 1.9)**	**1.7 (1.4, 2.0)**	.87	**1.7 (1.5, 2.0)**	**1.8 (1.5, 2.1)**	.91
Not sure	1.2 (1.0, 1.6)	**1.5 (1.1, 1.9)**	.40	1.2 (1.0, 1.4)	**1.3 (1.0, 1.6)**	.67
Race/ethnicity						
White	REF[a,b,c]	REF[a,b,c]	.19	REF[a,b]	REF[a,b]	.10
Black	**.4 (.4, .6)**	**.6 (.5, .7)**	**.04**	**.6 (.5, .7)**	**.6 (.5, .7)**	.52
Latinx	**.6 (.5, .8)**	**.7 (.5, .8)**	.32	**.7 (.6, .8)**	**.8 (.7, .9)**	.38
Other	.9 (.7, 1.1)	**.7 (.6, .9)**	.20	.9 (.7, 1.0)	.9 (.8, 1.1)	.53
Race/ethnicity and sexual orientation						
White heterosexual	REF[a,b,c]	REF[a,b,c]	.09	REF[a,b]	REF[a,b]	**.03**
White gay/lesbian	**1.6 (1.1, 2.3)**	**1.5 (1.0, 2.2)**	.78	**1.7 (1.3, 2.4)**	**2.0 (1.5, 2.6)**	.58
White bisexual	**1.6 (1.2, 2.0)**	**1.9 (1.5, 2.3)**	.35	**1.7 (1.4, 2.1)**	**1.9 (1.7, 2.2)**	.47
White not sure	1.1 (.8, 1.4)	1.2 (.8, 1.7)	.77	1.1 (.9, 1.4)	1.2 (.9, 1.5)	.88
Black heterosexual	**.4 (.3, .6)**	**.6 (.5, .8)**	.07	**.6 (.5, .7)**	**.6 (.5, .7)**	.67
Black gay/lesbian	.4 (.1, 1.9)	1.0 (.4, 2.4)	.27	.4 (.1, 1.7)	**.5 (.3, .9)**	.80
Black bisexual	.9 (.6, 1.4)	.8 (.5, 1.2)	.47	.9 (.6, 1.4)	.9 (.6, 1.4)	.86
Black not sure	.3 (.1, 1.1)	1.0 (.6, 1.8)	.10	.5 (.2, 1.5)	1.0 (.6, 1.8)	.30
Latinx heterosexual	**.6 (.5, .7)**	**.7 (.6, .8)**	.14	**.7 (.6, .8)**	**.7 (.6, .9)**	.35
Latinx gay/lesbian	.9 (.5, 1.7)	.5 (.2, 1.2)	.29	.8 (.5, 1.3)	1.1 (.7, 1.8)	.31
Latinx bisexual	1.1 (.8, 1.6)	1.0 (.6, 1.5)	.44	**1.4 (1.1, 1.7)**	1.2 (.9, 1.7)	.55
Latinx not sure	1.1 (.8, 1.6)	1.5 (1.0, 2.3)	.35	1.0 (.7, 1.5)	1.2 (.8, 1.9)	.47
Other heterosexual	.9 (.7, 1.2)	**.7 (.6, .9)**	.15	.9 (.7, 1.0)	.9 (.8, 1.0)	.58
Other gay/lesbian	.3 (.1, 1.1)	.6 (.3, 1.5)	.40	.9 (.4, 2.2)	**2.0 (1.2, 3.3)**	.13
Other bisexual	.6 (.4, 1.1)	1.1 (.6, 1.8)	.18	1.1 (.8, 1.7)	**1.6 (1.0, 2.4)**	.28

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Characteristics	Electronic bullying			School bullying		
	2015 Adjusted PR (95% CI)	2017 Adjusted PR (95% CI)	*p*	2015 Adjusted PR (95% CI)	2017 Adjusted PR (95% CI)	*p*
Other not sure	1.4 (.8, 2.6)	1.2 (.6, 2.1)	.59	1.3 (.7, 2.4)	.8 (.4, 1.4)	.24

Prevalence ratios that are significantly different than 1.0 are bolded.

Black = black/African American; CI = confidence interval; Latinx = Hispanic/Latinx. *p* = *p*-value for interaction terms with year showing significance of change in bullying victimization within subgroups between 2015 and 2017; PR = prevalence ratio.

[a]Gender was significantly associated with electronic bullying.

[b]Grade was significantly associated with electronic bullying.

[c]Technology use was significantly associated with electronic bullying.