

Vulnerable Bullies: Perpetration of Peer Harassment Among Youths Across Sexual Orientation, Weight, and Disability Status

Marla E. Eisenberg, ScD, MPH, Amy L. Gower, PhD, Barbara J. McMorris, PhD, and Michaela M. Bucchianeri, PhD

Bullying or peer harassment is defined as any behavior that is aggressive, repetitive, and involves an imbalance of power, and it can include acts that are physical, verbal, or relational.¹ Nationally, 1 in 5 high school students have been bullied on school property.² More than half of sixth-grade students in a large statewide sample reported that another student or group of students made fun of them or excluded them socially, including approximately 18% who reported that such experiences occurred about once per week or more frequently.³ Young people who are victimized are also commonly perpetrators of peer harassment.^{4,5} A robust literature demonstrates that involvement with bullying, as the victim, perpetrator, or both, has lasting negative educational, physical, social, and emotional consequences.⁶⁻¹⁶

Young people from particular groups, such as those who are gay, lesbian, or bisexual (GLB); those who are overweight; and those who have a physical disability or emotional or behavioral problem, report grossly higher levels of victimization than other young people.¹⁷⁻²¹ Weight, perceived sexual orientation, and ability in school are the most commonly observed “reasons” for harassment among students.^{22,23} Research has shown that these populations are especially vulnerable to poor psychosocial outcomes resulting from harassment.²⁴⁻³⁰

Very little research, however, has examined perpetration of peer harassment among young people from these vulnerable groups, and findings from the existing studies conflict. One study showed that rates of bullying perpetration were significantly lower among GLB American youths than among their heterosexual peers, whereas another study showed that rates were higher among GLB Australian college students than their heterosexual counterparts.^{17,31} Janssen et al. found that overweight and obese Canadian youths 15 to 16 years old,

Objectives. We examined perpetration of bullying among youths in vulnerable groups relative to youths in peer groups not categorized as vulnerable.

Methods. Data were collected in 2013 from a large school-based survey of adolescents conducted in Minnesota (n=122 180). We used the χ^2 test and logistic regression to compare measures of perpetration of physical and relational bullying, as well as experiences of victimization and perpetration (or both), across categories of sexual orientation, weight status, and disability status.

Results. Rates of physical and relational bullying perpetration were significantly higher among youths in vulnerable groups than among those not in vulnerable groups. With respect to context of victimization experiences, young men and women from vulnerable groups were overrepresented in the group comprising both perpetrators and victims. For example, odds of being both a perpetrator and a victim were 1.41 to 3.22 times higher among gay, lesbian, and bisexual youths than among heterosexual youths.

Conclusions. Vulnerable youths, who are prone to peer harassment, may also act as perpetrators of bullying. Prevention strategies should address the particular needs of these populations; targeted programming may be appropriate. (*Am J Public Health.* 2015;105:1784–1791. doi:10.2105/AJPH.2015.302704)

but not those in the 11- to 14-year age group, were more likely to report bullying perpetration than their normal-weight classmates.³²

Young people with disabilities or chronic health conditions have received the most attention in the bullying perpetration literature, and the focus has been on conditions with a behavioral component such as attention-deficit/hyperactivity disorder.³³ For example, Swearer et al. found that students with behavioral disorders and those with observable disabilities reported bullying others more than students in general education classes.³⁴

Youths who may be particularly vulnerable to harassment owing to their real or perceived sexual orientation, weight status, or disability status may be predominantly thought of as victims, and therefore their roles, experiences, and needs as perpetrators may be overlooked. Understanding bullying perpetration among these young people, including in the context of

victimization, is essential to the development of effective prevention and intervention programs. In this study, we used a large statewide survey of adolescents to examine rates of perpetration of peer harassment among youths in vulnerable groups and those in peer groups not categorized as vulnerable.

METHODS

We derived our data from the 2013 Minnesota Student Survey (MSS), a statewide survey of 5th-, 8th-, 9th-, and 11th-grade students. All public school districts were invited to take part, and 280 of 334 districts in the state (84%) participated in 2013. Across all grades, 162 034 students took part in the survey (approximately 67% of enrolled students). Parents were notified of the administration of the survey and could choose not to provide consent. Data collection was anonymous. The

survey was administered via paper or pencil (65%) or via computer (35%) according to schools' preferences; items were identical in the 2 formats.

As with previous waves of the MSS, information on gender was missing, responses were highly inconsistent, or there was a pattern of likely exaggeration in approximately 2% of surveys, and these surveys were eliminated from our analyses. The fifth-grade version did not include all items relevant to our analyses, and thus the data from this survey were excluded. The remaining sample included 61 341 male (50.2%) and 60 839 female (49.8%) students in grades 8, 9, and 11. In addition, the eighth-grade survey did not include sexual orientation items, so data from that survey were excluded from analyses specifically focusing on sexual orientation.

Survey and Measures

The MSS includes a wide variety of health behavior measures as well as related measures focusing on risk and protective factors. The survey was revised in 2013 with input from experts in multiple fields to incorporate items addressing issues not previously assessed but that have come to be of interest in recent years. When possible, items were drawn from other large youth health surveys or validated scales.³⁵

Vulnerable groups. Two items were used to group students according to sexual orientation: one focusing on sexual identity (i.e., students described themselves as heterosexual, gay or lesbian, bisexual, or not sure) and one focusing on behavior (i.e., students reported the gender of their sexual partners in the preceding year). Because many in this age group were not yet sexually active, preference was given to sexual identity in defining groups. However, participants who identified themselves as heterosexual but also reported same-sex experiences were categorized as “discordant heterosexuals” on the basis of previous research demonstrating that the health profile of this group is more similar to nonheterosexuals than to heterosexuals.^{36–39} Participants who were not consistently heterosexual are referred to here as LGBQ (lesbian, gay, bisexual, or questioning).

Students' self-reported height in inches and weight in pounds were used to determine weight status, and these measurements were converted to body mass indexes (BMIs) via the

standard formula. Students with BMIs in the 85th to less than the 95th percentile and those with BMIs at or above the 95th percentile (according to the Centers for Disease Control and Prevention's recommended cutpoints for gender and age) were classified as overweight and obese, respectively.^{40,41}

Two survey items were used to determine disability status.^{42,43} First, students were asked whether they had any physical disability or long-term (≥ 6 months) health problem (e.g., asthma, cancer, diabetes, epilepsy). Second, they were asked whether they had any long-term mental health, behavioral, or emotional problems. Those with a physical disability, a mental health or behavioral–emotional problem, or both were compared with students who reported neither type of problem.

Perpetration of peer harassment. Harassment experiences were categorized in several ways. Four items asked students to report how many times in the past 30 days they had engaged in physical bullying of another student (i.e., “pushed, shoved, slapped, hit, or kicked someone when you weren't kidding around” or “threatened to beat someone up”) or had been involved in relational bullying of another student (i.e., “spread mean rumors or lies about someone else” or “excluded someone from friends, other students, or activities”). Response options ranged from never to every day. Those reporting any perpetration of bullying were compared with those who reported never having engaged in bullying given our previous work indicating that even infrequent bullying involvement (1–2 times per month) is associated with increased levels of a variety of adjustment problems in adolescence.³ A third peer harassment variable (any bullying) was created to compare those who perpetrated physical or relational bullying and those who did not report either type of bullying.

Because of existing literature indicating that youths involved in bullying as both victims and perpetrators are at elevated risk of poor psychosocial outcomes, we also examined perpetration of peer harassment in conjunction with victimization experiences.^{44–47} Parallel questions regarding victimization as a result of physical and relational harassment were used, and measures of any type of victimization and any type of perpetration were combined to group participants into one of 4 mutually

exclusive categories: no involvement, victim, perpetrator, or both perpetrator and victim (hereafter perpetrator/victim).

Demographic covariates. Self-reported data were used to assess grade in school, racial/ethnic group, and poverty status. Participants reported all that applied of 5 race groups; race categories were combined with a separate item assessing Hispanic ethnicity to create a single 7-category variable (Hispanic and non-Hispanic American Indian, Asian, Black, Pacific Islander, White, and multiple race). We used 3 items to determine poverty status: whether participants received free or reduced-price lunches; whether, in the preceding year, they had stayed in a shelter, somewhere not intended as a place to live, or someone else's home because they had no other place to stay; and whether they had been forced to skip meals in the preceding 30 days because their family did not have enough money to buy food. Students who responded affirmatively to one or more of these items were included in the poverty group. We also used school location in the Minneapolis/St. Paul metropolitan area versus school location elsewhere in the state as a control variable.

Data Analysis

The percentage of missing data on items addressing sexual orientation, disability status, and physical and relational bullying victimization and perpetration ranged from 1.7% to 2.1% and was considered negligible. However, 12% of students had missing data on BMI and could not be categorized according to weight status. To determine the representativeness of our analytic sample, we used the χ^2 test to compare those who were and were not included in analyses of weight status. The members of the analytic sample did not differ from those with missing data on overweight status with respect to bullying or victimization experiences ($\chi^2 = 3.8$; $P = .281$). However, significant differences were found for all demographic variables. For example, the percentage of missing data on weight ranged from 9.0% among White students to 24.3% among African American students ($\chi^2 = 2762.0$; $P < .001$). Other significant differences were more modest; for example, 11.3% of male participants and 12.6% of female participants were missing data on weight ($\chi^2 = 45.5$; $P < .001$).

TABLE 1—Vulnerable Groups and Bullying Perpetration: Minnesota Student Survey Participants, 2013

	Male, No. (%)	Female, No. (%)
Vulnerable group		
Sexual orientation^a		
Heterosexual	36 166 (92.6)	35 549 (91.4)
Discordant heterosexual	956 (2.5)	271 (0.7)
Bisexual	528 (1.4)	1 722 (4.4)
Gay/lesbian	395 (1.0)	269 (0.7)
Unsure	1 016 (2.6)	1 066 (2.7)
Overweight		
Not overweight	40 262 (74.0)	43 758 (82.3)
85th–< 95th percentile	7 734 (14.2)	6 229 (11.7)
≥ 95th percentile	6 400 (11.8)	3 202 (6.0)
Disability		
None	47 649 (79.8)	43 988 (73.5)
Physical	6 380 (10.7)	7 014 (11.7)
Mental health/emotional	3 978 (6.7)	6 088 (10.2)
Both	1 673 (2.8)	2 781 (4.6)
Bullying perpetration/involvement		
Bullying perpetration		
Physical	9 932 (16.6)	5 539 (9.2)
Relational	7 895 (13.2)	11 226 (18.7)
Any	14 229 (23.8)	14 431 (24.1)
Bullying involvement		
None	34 474 (58.2)	28 486 (47.8)
Victim only	10 695 (18.1)	16 736 (28.1)
Perpetrator only	4 614 (7.8)	2 718 (4.6)
Perpetrator/victim	9 481 (16.0)	11 635 (19.5)
Any victimization	20 176 (34.1)	28 371 (47.6)

^aQuestions on sexual orientation were not asked of eighth-grade students.

We used the χ^2 test of association to detect differences in the prevalence of physical, relational, or any bullying perpetration across categories of vulnerable youths. To examine perpetration in the context of victimization experiences, we conducted similar bivariate analyses focusing on the combination of perpetration and victimization across vulnerable groups.

Finally, we used logistic regression to generate odds ratios of membership in each bullying involvement group for each category of vulnerable youths (relative to students in peer groups not categorized as vulnerable) after adjustment for our demographic covariates. Interaction tests indicated that gender significantly modified the association between vulnerability and bullying involvement in

a majority of the models (i.e., more than expected owing to chance); thus, we stratified all of our analyses by gender. To ascertain whether certain analytic choices affected the results, we conducted supplemental analyses in which we repeated all of our tests with different categorizations of independent and dependent variables (e.g., weekly bullying involvement vs any involvement, all LGBQ participants combined). Because of the very large sample size, we used an alpha level of .001 to infer significant associations.

RESULTS

The sample was approximately evenly distributed across the 8th, 9th, and 11th grades,

and a majority of the participants (73.7%) were non-Hispanic White. The sample included similar percentages of non-Hispanic Asian (5.4%), non-Hispanic Black (5.3%), multiple-race (6.9%), and Hispanic (7.3%) youths. Almost one third (30.6%) of the participants reported 1 or more poverty indicators, and slightly more than half (53.1%) resided in the Minneapolis/St. Paul metropolitan area.

The majority of both male and female participants were heterosexual, were not overweight, and did not have a disability (Table 1). Almost one quarter of the participants reported any bullying perpetration in the preceding 30 days; boys were more likely to engage in physical bullying and girls in relational bullying. Fewer than half of the sample members were involved in bullying in some capacity, most commonly as a victim only or as a perpetrator/victim. Approximately one third of male participants and half of female participants reported victimization.

In almost all cases, rates of bullying perpetration were significantly higher among young people in vulnerable groups than among those not in vulnerable groups (Table 2). For example, 14.3% of heterosexual male participants reported perpetrating physical bullying, whereas rates in LGBQ groups ranged from 18.9% to 27.8% ($\chi^2 = 211.5$; $P < .001$). About 1 in 5 female students without a disability (21.5%) reported engaging in any bullying perpetration, as compared with more than a third of female students with a mental health or behavioral–emotional problem (36.4%) or both a physical disability and a mental health or behavioral problem (38.1%; $\chi^2 = 962.0$; $P < .001$). The only exception was that overweight and obese youths were not disproportionately involved in perpetration of relational bullying.

Table 3 shows the distribution of perpetration and victimization experiences across vulnerable groups, and the results reveal significant differences among both male and female participants. With few exceptions, perpetration-only rates differed minimally across groups; however, vulnerable youths were consistently overrepresented in the perpetrator/victim group. For example, 4% to 5% of female youths

TABLE 2—Perpetration of Bullying by Vulnerability Group: Minnesota Student Survey Participants, 2013

Vulnerability Group	Male Students			Female Students		
	Physical, % or χ^2 (P)	Relational, % or χ^2 (P)	Any, % or χ^2 (P)	Physical, % or χ^2 (P)	Relational, % or χ^2 (P)	Any, % or χ^2 (P)
Sexual orientation	211.5 (<.001)	237.8 (<.001)	191.9 (<.001)	749.7 (<.001)	69.4 (<.001)	277.4 (<.001)
Heterosexual	14.3	11.7	21.2	6.9	16.5	20.6
Discordant heterosexual	27.8	20.4	34.4	16.5	26.2	31.7
Bisexual	23.6	20.6	32.9	23.2	22.1	35.5
Gay/lesbian	18.9	27.4	31.4	23.9	22.4	35.4
Unsure	22.8	20.4	30.4	13.5	20.6	26.9
Weight status	109.3 (<.001)	0.8 (.677)	39.4 (<.001)	312.1 (<.001)	3.5 (.170)	84.8 (<.001)
Not overweight	15.2	13.3	23.0	7.9	19.0	23.5
85th-<95th percentile	18.1	13.0	25.0	12.0	20.0	27.2
≥ 95th percentile	19.9	13.1	26.2	15.6	19.5	29.1
Disability	681.8 (<.001)	273.1 (<.001)	576.7 (<.001)	1257.2 (<.001)	388.0 (<.001)	962.0 (<.001)
None	15.0	12.4	22.2	7.2	17.2	21.5
Physical	17.4	14.0	25.0	8.8	19.3	24.2
Mental health/emotional	25.7	18.4	34.3	18.3	26.0	36.4
Both	34.0	23.4	41.0	20.7	26.7	38.1

reported perpetration only, regardless of disability status, but rates of perpetration/victimization were significantly higher among female youths with a mental health or emotional problem (31.7%) or both types of disability (34.0%) than among those with no disability (16.9%; $\chi^2 = 2242.9$; $P < .001$).

Logistic regression models showed that, after adjustment for sociodemographic covariates, youths in vulnerable groups had greater odds of bullying involvement, as perpetrators, victims, and particularly perpetrator/victims, than those not in vulnerable groups (Table 4). For example, odds of being a perpetrator/victim were 1.41 to 3.22 times higher among LGBQ

youths than among heterosexual youths. The exception to the overall pattern was that odds of bullying involvement were not significantly higher among overweight and obese boys after adjustment for covariates. Supplemental analyses involving different categorizations of bullying and vulnerability showed a pattern of results very similar to that described here

TABLE 3—Involvement in Peer Harassment by Vulnerability Group: Minnesota Student Survey Participants, 2013

Vulnerability Group	Male Participants					Female Participants				
	None, %	Victim, %	Perpetrator, %	Perpetrator/Victim, %	χ^2 (P)	None, %	Victim, %	Perpetrator, %	Perpetrator/Victim, %	χ^2 (P)
Sexual orientation					380.7 (<.001)					450.8 (<.001)
Heterosexual	62.9	15.9	7.7	13.5		52.4	27.0	4.4	16.2	
Discordant heterosexual	49.0	16.5	11.2	23.3		35.0	33.5	3.4	28.1	
Bisexual	40.7	26.9	8.3	24.1		31.9	32.6	5.8	29.7	
Gay/lesbian	43.8	24.9	7.4	23.9		29.9	34.9	3.5	31.8	
Unsure	48.9	20.8	6.8	23.5		45.0	28.1	6.2	20.6	
Weight status					40.2 (<.001)					110.7 (<.001)
Not overweight	58.9	18.1	7.5	15.5		48.3	28.3	4.3	19.2	
85th-<95th percentile	57.0	18.0	8.5	16.5		43.9	29.0	5.2	22.0	
≥ 95th percentile	56.6	17.2	8.7	17.5		42.0	28.7	6.0	23.3	
Disability					1384.7 (<.001)					2242.9 (<.001)
None	61.0	16.9	7.8	14.3		52.5	26.1	4.6	16.9	
Physical	55.4	19.6	7.4	17.5		45.5	30.4	4.1	20.1	
Mental health/emotional	39.4	26.3	7.8	26.5		27.1	36.5	4.7	31.7	
Both	33.1	26.0	7.8	33.1		25.2	36.7	4.2	34.0	

TABLE 4—Odds of Bullying Involvement Adjusted for Grade, Race/Ethnicity, Poverty Status, and Metropolitan School Location: Minnesota Student Survey, 2013

Vulnerability Group	Victim Only, ^a OR (99.9% CI)	Perpetrator Only, ^a OR (99.9% CI)	Perpetrator/Victim, ^a OR (99.9% CI)
Male participants			
Sexual orientation			
Heterosexual (Ref)	1.00	1.00	1.00
Discordant heterosexual	1.31 (0.96, 1.81)	1.74* (1.20, 2.53)	2.06* (1.55, 2.74)
Bisexual	2.60* (1.78, 3.78)	1.68 (0.95, 2.98)	2.56* (1.72, 3.82)
Gay/lesbian	2.24* (1.44, 3.47)	1.33 (0.67, 2.66)	2.52* (1.61, 3.95)
Unsure	1.65* (1.23, 2.21)	1.16 (0.74, 1.81)	2.13* (1.61, 2.84)
Weight status			
Not overweight (Ref)	1.00	1.00	1.00
85th-< 95th percentile	1.01 (0.90, 1.13)	1.12 (0.96, 1.31)	1.06 (0.94, 1.19)
≥ 95th percentile	0.97 (0.85, 1.09)	1.13 (0.96, 1.34)	1.11 (0.98, 1.27)
Disability			
None (Ref)	1.00	1.00	1.00
Physical	1.25* (1.11, 1.40)	1.03 (0.86, 1.22)	1.30* (1.15, 1.47)
Mental health/emotional	2.38* (2.20, 3.44)	1.47* (1.18, 1.83)	2.77* (2.39, 3.20)
Both	2.38* (2.06, 2.74)	1.68* (1.20, 2.36)	3.93* (3.17, 4.86)
Female participants			
Sexual orientation			
Heterosexual (Ref)	1.00	1.00	1.00
Discordant heterosexual	1.80* (1.09, 2.97)	1.03 (0.30, 3.50)	2.61* (1.54, 4.44)
Bisexual	1.90* (1.54, 2.34)	1.94* (1.33, 2.85)	2.68* (2.15, 3.34)
Gay/lesbian	2.22* (1.31, 3.76)	1.35 (0.42, 4.35)	3.22* (1.87, 5.56)
Unsure	1.20 (0.93, 1.55)	1.63* (1.03, 2.57)	1.41* (1.06, 1.88)
Weight status			
Not overweight (Ref)	1.00	1.00	1.00
85th-< 95th percentile	1.07 (0.96, 1.19)	1.21* (0.98, 1.50)	1.14* (1.01, 1.29)
≥ 95th percentile	1.08 (0.93, 1.26)	1.33* (1.01, 1.76)	1.18* (1.00, 1.39)
Disability			
None (Ref)	1.00	1.00	1.00
Physical	1.32* (1.19, 1.46)	1.02 (0.81, 1.27)	1.33* (1.19, 1.50)
Mental health/emotional	2.69* (2.39, 3.02)	1.98* (1.57, 2.50)	3.59* (3.17, 4.06)
Both	2.83* (2.39, 3.36)	1.76* (1.24, 2.50)	3.93* (3.29, 4.69)

Note. CI = confidence interval; OR = odds ratio.

^a Versus the no bullying involvement group.

**P* < .001.

(the findings of these analyses are available on request).

DISCUSSION

The primary aim of this study was to examine rates of bullying perpetration among young people who are often considered vulnerable to harassment victimization as a result of their sexual orientation, weight, or ability status. Our analyses indicated that youths in

these groups are more likely than their peers without these characteristics to be involved in bullying, particularly as perpetrator/victims. With limited exceptions, overall patterns of results were similar among male and female participants and for each type of vulnerable group.

Our findings are not entirely consistent with the existing literature on perpetration of harassment among youths. First, overall rates of bullying involvement differed from estimates

reported in other research.^{2,3,17,45} These differences are likely attributable to the way in which bullying perpetration and victimization were measured. In our study, we combined 2 separate items regarding physical bullying and 2 items regarding relational bullying to categorize harassment experiences. Other researchers have used single-item measures,^{2,3,17} limited their assessments to bullying experiences on school property,^{2,45} or used broad or narrow definitions of bullying (e.g., saying or doing nasty or unpleasant things⁴⁵ vs teasing, threatening, spreading rumors about, hitting, shoving, or hurting another student repeatedly²). These nuances can result in substantial differences in prevalence estimates. Furthermore, we used a cutpoint of once or twice a month to indicate bullying involvement; in other studies, different response categories have been used to characterize involvement in bullying.

Second, several associations between perpetration and vulnerability status found in the present study differed from previous work. For example, in a large study of US adolescents, Berlan et al. found lower rates of perpetration among GLB youths than among their heterosexual counterparts.¹⁷ These differences could be attributable to measurement (as just described), sample characteristics, or the time at which data were collected. In particular, during the 12-year span (2001–2013) between the data collection periods of the Berlan et al. study and our investigation, news coverage and public discourse on the subject of bullying and its consequences increased dramatically, and there was a substantive shift in the social narrative around bullying, from portraying it as mischief to characterizing it as a criminally liable act.⁴⁸ Similarly, there have been radical changes in social acceptance of the GLB community over the past decade, as well as related changes in policy.⁴⁹ Differences in these sociocultural factors may contribute to the social standing of LGBQ youths and, therefore, to a different role for this group in terms of peer harassment.

Interestingly, our bivariate analyses showed that overweight and obese youths were more likely than nonoverweight youths to be involved in physical bullying but not relational bullying. The physical size of these youths may be intimidating to their peers, resulting in

a physical advantage that could be used to bully others. By contrast, relational bullying relies on an individual's position within his or her social group. Because overweight and obese youths, on average, have fewer friends than their nonoverweight peers and are rarely nominated as popular,^{50–52} they may have little opportunity to spread rumors or exclude others from desirable social groups or activities.

Students with emotional and behavioral disorders tend to engage in bullying at higher levels than other subgroups of students with disabilities.^{53,54} Their bullying involvement may be exacerbated by poor social skills, including difficulty interpreting social cues and attributing hostile characteristics to peers' behaviors,^{55,56} resulting in more reactive aggression.⁵⁷ A recent study showed that levels of anger and fighting were positively associated with bullying involvement among students with emotional or behavioral disabilities. In fact, bullying behaviors may be a manifestation of certain emotional and behavioral disabilities, given that anger and externalizing behaviors are included in the diagnostic criteria for behavioral disorders such as attention-deficit/hyperactivity disorder and conduct disorder.⁵⁸

Our finding that some LGBTQ groups and youths with disabilities have higher odds of bullying perpetration than their peers who are heterosexual and do not have disabilities raises questions about the visibility of particular vulnerabilities. Unlike body size, sexual orientation and behavioral or emotional disability are not necessarily known to others. Youths with "hidden" vulnerability characteristics may bully in part to ensure that their vulnerable status remains hidden or to jockey for social position within their peer group to stave off harassment. Although we were unable to examine these distinctions, they do fit conceptually with some of our results. For example, we found that male and female participants with a discordant heterosexual orientation (i.e., those who self-identified as heterosexual but reported same-gender sexual partners) had the highest prevalence of physical and relational bullying perpetration, respectively, of any sexual orientation group. Young people in this category may harass others as a means of asserting power or social dominance and further masking their sexual orientation.

Elevated odds of perpetration among youths with disabilities may be the result of a similar mechanism: asserting one's social position to hide a perceived weakness. Some research suggests that students with disabilities engage in bullying as a learned behavior, possibly as a reaction to prolonged victimization.^{54,59,60} Because of poor interpersonal relationship skills, such students engage in aggression to avoid long-term victimization. This may explain the higher rates of both perpetration and victimization among students with multiple types of disabilities.^{54,61}

Strengths and Limitations

Our study offers several contributions to the small body of research on bullying perpetration among vulnerable youths. The very large sample size allowed for identification and statistically valid analyses of youths in small or hard-to-reach groups (e.g., LGBTQ youths). Our inclusion of 3 types of vulnerable groups in the same study permitted a broader view of vulnerability in relation to peer harassment than that of previous studies and made it possible to detect patterns of associations that were common across groups. Similarly, our use of multiple items to assess sexual orientation and disability status resulted in a more accurate classification of participants into vulnerability groups than has been the case in previous research.^{17,20}

However, our study is also subject to certain limitations. First, the cross-sectional nature of the surveillance data set precluded conclusions about causation. Although our findings might indicate that young people in vulnerable groups are striking out against others, we also speculate that, on the basis of their experiences as victims, youths with these vulnerable characteristics are more attuned to harassment overall. Greater awareness of bullying may then contribute to overreporting among these youths in comparison with young people without vulnerable characteristics, who are less commonly victimized.

The use of self-report measures of height and weight to generate weight categories was a second limitation. Although this was the only feasible approach with a sample the size of ours, studies have demonstrated that self-reported height and weight may lead to misclassification of weight status,^{62,63} which could

bias associations toward the null. There was also an unusually high level of missing data on weight status relative to the other variables we assessed. Thus, our findings regarding overweight may be most relevant to particular students (those who were White, older, not experiencing poverty, and living in the Minneapolis/St. Paul metropolitan area) who were more likely than others to provide BMI data. In addition, our self-reported measures of disability status were not validated with secondary sources such as parents' reports or formal diagnoses.⁶⁴ Students' self-reported disability status may not be recognized by schools with an official label, and such students may not qualify for special education services.

Third, although our use of a large surveillance instrument allowed for identification of young people with various types of vulnerability, the instrument did not include in-depth questions about these characteristics. In particular, information on the extent to which vulnerability characteristics were known to others (e.g., through disclosure of sexual orientation or a visible disability) could allow for deeper inquiry into the social dynamics surrounding peer harassment among these youths. Finally, the use of school-based data collection procedures may underrepresent youths who drop out of school, attend alternative schools, or have frequent absences owing to a chronic health condition or experiences with peer harassment.

Conclusions

Existing research has established that the well-being of perpetrators of peer harassment can be severely compromised, and those who are both perpetrators and victims are particularly at risk. However, research involving vulnerable adolescent populations has focused almost exclusively on their experiences as victims. The findings of this study deepen our understanding of bullying involvement among vulnerable youths and indicate that they may be acting as perpetrators in this social dynamic as well or that perpetration is more salient to them than to young people without a particular vulnerability. Health care providers and other youth service professionals, particularly those working with vulnerable populations, should inquire about young people's involvement with bullying as perpetrators as well as victims.

Bullying prevention programs implemented in schools or other community settings should address the particular needs of vulnerable populations. Regardless of the direction of the associations observed here, targeted programming for specific groups may be appropriate.

Further research is also needed to replicate and extend our findings regarding peer harassment experiences among youths in vulnerable groups. Understanding who is being targeted by perpetrators from vulnerable groups (e.g., someone else from the same group or a younger person with no particular vulnerability characteristics) will further inform intervention activities. In addition, there is a need for further research on the physical and mental health implications of perpetration among youths in vulnerable groups. Longitudinal studies building on our cross-sectional findings are needed to shed light on the temporal ordering of bullying involvement and ways in which visibility of particular vulnerabilities may influence victimization or perpetration among these youths. Understanding similarities or differences in the effects of bullying perpetration on youths in vulnerable groups and youths in other groups will guide recommendations for care of young people and prevention of bullying. ■

About the Authors

Marla E. Eisenberg and Amy L. Gower are with the Division of General Pediatrics and Adolescent Health, Department of Pediatrics, University of Minnesota, Minneapolis. Barbara J. McMorris is with the School of Nursing, University of Minnesota. Michaela M. Bucchianeri is with the Department of Psychological Science, Gustavus Adolphus College, Saint Peter, MN.

Correspondence should be sent to Marla E. Eisenberg, ScD, MPH, 717 Delaware St SE, Minneapolis, MN 55414 (e-mail: eisen012@umn.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints" link.

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Contributors

M. E. Eisenberg conceptualized the study, conducted the analysis, and drafted the article. A. L. Gower and B. J. McMorris managed the data, created the study variables, and conducted additional statistical analyses. A. L. Gower, B. J. McMorris, and M. M. Bucchianeri assisted with interpretation of findings and made critical revisions to the article.

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Human Participant Protection

No protocol approval was needed for this study because existing anonymous data were used.

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