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## Harassment and Mental Distress Among Adolescent Female Students by Sexual Identity and BMI or Perceived Weight Status

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### Abstract

**Objective**—Sexual minority girls (lesbian/bisexual) and girls with overweight/obesity experience high rates of discrimination and mental distress. This study explored whether BMI or perceived weight status might compound sexual minority girls' risk for harassment and mental distress.

**Methods**—Data on female students from the national 2015 Youth Risk Behavior Survey ( $n = 7,006$ ) were analyzed. Logistic regression was used to examine differences in bullying, harassment, and mental distress across sexual identity/BMI groups: heterosexual/normal-weight, heterosexual/overweight, sexual minority/normal-weight, and sexual minority/overweight. Procedures were repeated with four analogous groups created from sexual identity and perceived weight.

**Results**—Across sexual identity/BMI groups, being overweight increased heterosexual females' odds of being bullied or experiencing suicidal thoughts and behaviors. Regardless of weight status, sexual minority females had greater odds for each outcome than heterosexual females. Sexual minority females who perceived themselves as overweight had greater odds of suicidality than all other sexual minority/perceived weight groups.

**Conclusions**—Double jeopardy may exist for sexual minority female students who perceive themselves as overweight. Professional development with school staff on how to create a positive climate for sexual minorities and those with overweight/obesity and addressing positive identity and body image within school-based suicide prevention efforts may be important to the well-being of adolescent girls.

### Introduction

Bullying and harassment are far-reaching problems of adolescence (1,2). Estimates of the extent of bullying and harassment during the teen years range from 20% to 50% of adolescents having recently experienced verbal or physical harassment and 13% to 16% electronic or cyber harassment (1,2). Bullying comes with dire consequences, increasing the risk of depression and suicidality in youth (3). Yet not all adolescents are affected equally by

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bullying and its consequences—teens who are members of marginalized groups, such as sexual minorities (2) or those with overweight/obesity (4), experience a disproportionate amount of bullying and associated mental distress. Although research consistently indicates that sexual minority girls and women also have an overall higher BMI and a greater likelihood of having overweight/obesity than heterosexual girls and women (5–9), few studies have sought to understand whether overweight/obesity may compound adolescent sexual minority girls' risk for bullying and associated mental distress.

Adolescent girls who identify as lesbian or bisexual are at greater risk of bullying and associated mental distress than their heterosexual peers (2,10). A recent analysis of data from the 2015 Youth Risk Behavior Survey (YRBS) found that 37% of female high school students who identify as lesbian or bisexual reported being bullied at school, compared to 23% of heterosexual students (2). Additionally, both community (10) and national (2) estimates point to sexual minority girls experiencing a greater degree of mental distress during adolescence than heterosexual peers, including a higher prevalence of conditions such as depression and suicidality.

Adolescents with overweight/obesity are also at heightened risk of bullying and associated mental distress. Research by Puhl et al. (11) indicated that adolescents perceived body size as the primary reason youth get bullied. This form of harassment may be particularly acute for adolescent girls, as gender appears to exacerbate size discrimination. Women with overweight/obesity encounter size discrimination at rates higher than men with overweight/obesity (12,13), and girls with obesity appear to endure more victimization than boys with obesity during adolescence (14). Such ubiquitous discrimination has implications for the mental health of adolescent girls. Asthana (15) found that adolescent girls with obesity had higher rates of depression, low self-esteem, social avoidance, and fear of negative evaluation than their normal-weight peers.

An individual's perception of his or her weight may also have implications for health and health risk. Regardless of BMI, perceiving oneself to be overweight is linked to negative health outcomes. In research, adolescents with normal weight who perceived themselves to have overweight demonstrated elevated unhealthy weight management behaviors (16), and adolescents with obesity who perceived themselves as overweight reported heightened levels of bullying and suicidality (17). One study found overweight/obesity to predict suicidal ideation among high school students; however, this relationship was fully mediated by weight perception (18). These findings suggest weight perception may be integral to experiences of stigma and marginalization. However, few have sought to examine the relationship between weight perception and experiences of discrimination and mental distress among sexual minority girls.

Whether sexual minority girls with overweight/obesity (or who perceive themselves to have overweight) may experience a sort of double jeopardy, or a compounding risk, for harassment and mental distress is currently unknown. To address this gap, we used nationally representative data from a US sample of adolescent females in high school to address the following research questions: (a) How do harassment and mental distress indicators vary across body size and sexual identity? and (b) How do harassment and mental

distress indicators vary across weight perception and sexual identity? The results of this study will enable us to better understand the potential relationship of sexual identity and weight status with discrimination and mental health among adolescent girls.

## Methods

### Study participants and sampling

Data from the 2015 national YRBS were analyzed (19). The 2015 national YRBS used a three-stage cluster sample design to obtain a nationally representative sample of students in grades 9 through 12 from regular public and private schools in the 50 states and District of Columbia. Student participation was anonymous and voluntary, and local parental permission procedures were used. The self-administered YRBS questionnaire included 99 questions, and students recorded their responses directly on a computer-scannable questionnaire or answer sheet. Sampling weights were applied to each record to adjust for nonresponse and the oversampling of black and Hispanic students. Additional details regarding YRBS sampling and psychometric properties are available elsewhere (20,21). An institutional review board at the Centers for Disease Control and Prevention approved the national YRBS.

### Measures

**Sexual identity**—Students were asked, “Which of the following best describes you?” Response options were “heterosexual (straight),” “gay or lesbian,” “bisexual,” or “not sure.” For this analysis, heterosexual females were compared to sexual minority females (females who responded “gay or lesbian” or “bisexual”). We were unable to determine whether those who answered “not sure” were questioning their identity (and thus should be classified as sexual minorities) or did not understand the question; thus, we excluded this group from the analysis.

**Weight status**—BMI weight status was calculated from students’ self-reported height and weight. Students were asked, “How tall are you without your shoes on?” and “How much do you weigh without your shoes on?” Students were classified with overweight/obesity (hereafter referred to as overweight) if their BMI ≥ 85th percentile based on age- and sex-specific growth charts from the Centers for Disease Control and Prevention (22). Normal weight was defined as 5th ≤ BMI < 85th percentile, and underweight was defined as BMI < 5th percentile. Perceived weight status was assessed with the question, “How do you describe your weight?” For this analysis, perceived weight status was categorized as underweight, about the right weight, and overweight.

**Harassment and violent victimization**—YRBS measures two forms of bullying with the questions, “During the past 12 months, have you ever been bullied on school property?” and “During the past 12 months, have you ever been electronically bullied? (Count being bullied through e-mail, chat rooms, instant messaging, websites, or texting.)” Students also were asked, “During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?” These were dichotomized as yes (1 or more times) and no (0 times).

**Mental distress**—The YRBS questionnaire includes several items related to mental distress, here defined as feelings of sadness and suicidal behavior. Students were asked, “During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?” Items related to suicide also were included on the questionnaire: (1) “During the past 12 months, did you ever seriously consider attempting suicide?” (2) “During the past 12 months, did you make a plan about how you would attempt suicide?” and (3) “During the past 12 months, how many times did you actually attempt suicide?” These questions were dichotomized as yes (1 or more times) and no (0 times).

**Covariates**—Two demographic characteristics were included as covariates in this analysis: age and race/ethnicity. Students were classified into four racial/ethnic groups: white, non-Hispanic; black, non-Hispanic; Hispanic or Latino (of any race); and other or multiple race/ethnicity. The numbers of students in the other or multiple race/ethnicity group were too small for meaningful analysis.

### Statistical analysis

Analyses were conducted on weighted data using Stata 14 to account for the survey’s complex sampling design. In addition to calculating overall prevalence estimates and 95% confidence intervals (CIs) for demographic characteristics and other study variables, bivariate analyses were conducted by sexual minority status (Table 1). Two independent, four-level combination variables were created for multivariable logistic regression: (1) sexual identity/BMI group: heterosexual/normal-weight, heterosexual/overweight, sexual minority/normal-weight, and sexual minority/overweight; and (2) sexual identity/perceived weight status group: heterosexual/perceived right weight, heterosexual/perceived overweight, sexual minority/perceived right weight, and sexual minority/perceived overweight. Logistic regression models were first used to estimate adjusted (for race/ethnicity and age) odds ratios (AORs) and 95% CIs for associations between sexual identity/BMI groups and harassment/victimization and mental health measures, using heterosexual/normal-weight as the referent. Next, logistic regression models were used to estimate AORs for associations between sexual identity/perceived weight status and harassment/victimization and mental health measures, using heterosexual/perceived right weight as the referent. Additional post hoc logistic regression analyses changed the referent groups to other categories. AORs and 95% CIs and the associated *P* values for these post hoc analyses are not presented in the result tables, but significant differences are reported in text. Associations were considered significant if  $P < 0.05$ .

The 2015 national YRBS had a school response rate of 69% and a student response rate of 86%, resulting in an overall response rate of 60% and a sample size of 15,624 students (female,  $n = 7,757$ ; male,  $n = 7,749$ ). The final analytic sample included 7,006 female students; students without data on sexual identity ( $n = 455$ ) and those who answered “not sure” to the sexual identity question ( $n = 296$ ) were excluded from all analyses. In addition, students without data on BMI ( $n = 612$ ) and those who were underweight (BMI < 5th percentile;  $n = 143$ ) were excluded from analyses involving BMI; students without data on

weight perception ( $n = 132$ ) and those who perceived themselves to be underweight ( $n = 835$ ) were excluded from analyses involving weight perception.

## Results

### Sexual identity and weight status

**Harassment/victimization**—Compared to the heterosexual/normal-weight group, the heterosexual/overweight (AOR = 1.34), sexual minority/normal-weight (AOR = 2.12), and sexual minority/overweight (AOR = 2.73) groups had higher odds of being bullied on school property (Table 2). Post hoc analyses indicated that compared to the heterosexual/overweight group, the sexual minority/normal-weight (AOR = 1.58; 95% CI = 1.20, 2.09;  $P = 0.002$ ) and sexual minority/overweight (AOR = 2.04; 95% CI = 1.29, 3.22;  $P = 0.003$ ) groups were more likely to be bullied on school property.

Compared to the heterosexual/normal-weight group, the sexual minority/normal-weight (AOR = 1.54) and sexual minority/overweight (AOR = 2.01) groups had increased odds of being bullied electronically. No significant difference was observed between heterosexual/normal-weight and heterosexual/overweight groups. Post hoc analyses indicated that, compared to the heterosexual/overweight group, those in the sexual minority/normal-weight (AOR = 1.75; 95% CI = 1.34, 2.29;  $P < 0.001$ ) and sexual minority/overweight (AOR = 2.29; 95% CI = 1.61, 3.24;  $P < 0.001$ ) groups had increased odds of being bullied electronically.

Compared to the heterosexual/normal-weight group, the heterosexual/overweight (AOR = 1.86), sexual minority/normal-weight (AOR = 3.46), and sexual minority/overweight (AOR = 2.63) groups were more likely to report being threatened or injured with a weapon on school property. Results from post hoc analyses revealed no further statistically significant differences.

**Mental distress**—Compared to the heterosexual/normal-weight group, the heterosexual/overweight (AOR = 1.28), sexual minority/normal-weight (AOR = 3.82), and sexual minority/overweight (AOR = 4.69) groups had increased odds of having felt sad or hopeless (Table 2). Post hoc analyses indicated that compared to the heterosexual/overweight group, the sexual minority/normal-weight (AOR = 2.99; 95% CI = 2.14, 4.18;  $P < 0.001$ ) and sexual minority/overweight (AOR = 3.67; 95% CI = 2.54, 5.31;  $P < 0.001$ ) groups had increased odds of having felt sad or hopeless.

Compared to the heterosexual/normal-weight group, the heterosexual/overweight (AOR = 1.49), sexual minority/normal-weight (AOR = 3.30), and sexual minority/overweight (AOR = 5.34) groups had increased odds of having seriously considered attempting suicide. Post hoc analyses indicated that compared to the heterosexual/overweight group, the sexual minority/normal-weight (AOR = 2.21; 95% CI = 1.68, 2.91;  $P < 0.001$ ) and sexual minority/overweight (AOR = 3.57; 95% CI = 2.42, 5.26;  $P < 0.001$ ) groups had increased odds of having seriously considered attempting suicide. Compared to the sexual minority/normal-weight group, the sexual minority/overweight (AOR = 1.62; 95% CI = 1.09, 2.39;  $P = 0.017$ ) group had increased odds of having seriously considered attempting suicide.

Compared to the heterosexual/normal-weight group, the heterosexual/overweight (AOR = 1.34), sexual minority/normal-weight (AOR = 4.22), and sexual minority/overweight (AOR = 4.54) groups had increased odds of having made a suicide plan. Post hoc analyses indicated that compared to the heterosexual/overweight group, the sexual minority/normal-weight (AOR = 3.15; 95% CI = 2.31, 4.28;  $P < 0.001$ ) and sexual minority/overweight (AOR = 3.39; 95% CI = 2.38, 4.82;  $P < 0.001$ ) groups had increased odds of having made a suicide plan.

Compared to the heterosexual/normal-weight group, the heterosexual/overweight (AOR = 1.41), sexual minority/normal-weight (AOR = 5.67), and sexual minority/overweight (AOR = 5.68) groups had increased odds of having made a suicide attempt. Post hoc analyses indicated that compared to the heterosexual/overweight group, the sexual minority/normal-weight (AOR = 4.03; 95% CI = 2.67, 6.10;  $P < 0.001$ ) and sexual minority/overweight (AOR = 4.04; 95% CI = 2.37, 6.89;  $P < 0.001$ ) groups had increased odds of having made a suicide attempt.

### Sexual identity and weight perception

**Harassment/victimization**—Compared to the heterosexual/perceived right weight group, the heterosexual/perceived overweight (AOR = 1.25), sexual minority/perceived right weight (AOR = 1.80), and sexual minority/perceived overweight (AOR = 2.99) groups experienced greater odds of being bullied on school property (Table 2). Post hoc analyses revealed that compared to the heterosexual/perceived overweight group, the sexual minority/perceived overweight (AOR = 2.38; 95% CI = 1.73, 3.27;  $P < 0.001$ ) group had greater odds of being bullied on school property. Compared to the sexual minority/perceived right weight group, the sexual minority/perceived overweight (AOR = 1.66; 95% CI = 1.02, 2.68;  $P = 0.040$ ) group had higher odds of having been bullied on school property.

Compared to the heterosexual/perceived right weight group, the heterosexual/perceived overweight (AOR = 1.20), sexual minority/perceived right weight (AOR = 1.61), and sexual minority/perceived overweight (AOR = 2.35) groups experienced greater odds of being bullied electronically. Post hoc analyses indicated that compared to the heterosexual/perceived overweight group, the sexual minority/perceived overweight group had higher odds of having been bullied electronically (AOR = 1.96; 95% CI = 1.47, 2.61;  $P < 0.001$ ).

Compared to the heterosexual/perceived right weight group, the sexual minority/perceived overweight (AOR = 3.31) group had greater odds of having been threatened or injured with a weapon on school property; no such differences were observed for the heterosexual/perceived overweight or sexual minority/perceived right weight groups. Post hoc analyses revealed that the sexual minority/perceived overweight group also had increased odds of having been threatened or injured with a weapon compared to those in the heterosexual/perceived overweight category (AOR = 2.76; 95% CI = 1.49, 5.08;  $P = 0.002$ ).

**Mental distress**—Compared to the heterosexual/perceived right weight group, the heterosexual/perceived overweight (AOR = 1.49), sexual minority/perceived right weight (AOR = 3.43), and sexual minority/perceived overweight (AOR = 5.80) groups had increased odds of having felt sad or hopeless (Table 2). Post hoc analyses indicated that

compared to the heterosexual/perceived overweight group, the sexual minority/perceived right weight (AOR = 2.30; 95% CI = 1.60, 3.32;  $P < 0.001$ ) and sexual minority/perceived overweight (AOR = 3.89; 95% CI = 2.59, 5.83;  $P < 0.001$ ) groups had increased odds of having felt sad or hopeless. Compared to the sexual minority/perceived right weight group, the sexual minority/perceived overweight (AOR = 1.69; 95% CI = 1.03, 2.78;  $P = 0.039$ ) group had increased odds of having felt sad or hopeless.

Compared to the heterosexual/perceived right weight group, the heterosexual/perceived overweight (AOR = 1.73), sexual minority/perceived right weight (AOR = 3.04), and sexual minority/perceived overweight (AOR = 6.67) groups had increased odds of having seriously considered suicide. Post hoc analyses indicated that compared to those in the heterosexual/perceived overweight group, the sexual minority/perceived right weight (AOR = 1.76; 95% CI = 1.26, 2.45;  $P = 0.001$ ) and sexual minority/perceived overweight groups (AOR = 3.85; 95% CI = 2.68, 5.53;  $P < 0.001$ ) had increased odds of having seriously considered attempting suicide. Compared to the sexual minority/perceived right weight group, those in the sexual minority/perceived overweight (AOR = 2.19; 95% CI = 1.35, 3.57;  $P = 0.002$ ) group had increased odds of having seriously considered attempting suicide.

Compared to the heterosexual/perceived right weight group, the heterosexual/perceived overweight (AOR = 1.49), sexual minority/perceived right weight (AOR = 3.56), and sexual minority/perceived overweight (AOR = 6.13) groups had increased odds of having made a suicide plan. Post hoc analyses indicated that compared to the heterosexual/perceived overweight group, the sexual minority/perceived right weight (AOR = 2.39; 95% CI = 1.60, 3.58;  $P < 0.001$ ) and sexual minority/perceived overweight (AOR = 4.11; 95% CI = 3.00, 5.64;  $P < 0.001$ ) groups had increased odds of having made a suicide plan. Compared to the sexual minority/perceived right weight group, those in the sexual minority/perceived overweight (AOR = 1.72; 95% CI = 1.06, 2.79;  $P = 0.029$ ) group had increased odds of having made a suicide plan.

Compared to the heterosexual/perceived right weight group, the heterosexual/perceived overweight (AOR = 1.84), sexual minority/perceived right weight (AOR = 4.94), and sexual minority/perceived overweight (AOR = 10.05) groups had increased odds of having made a suicide attempt. Post hoc analyses indicated that compared to the heterosexual/perceived overweight group, the sexual minority/perceived right weight (AOR = 2.69; 95% CI = 1.80, 4.00;  $P < 0.001$ ) and sexual minority/perceived overweight (AOR = 5.46; 95% CI = 3.40, 8.77;  $P < 0.001$ ) groups had increased odds of having made a suicide attempt. Compared to the sexual minority/perceived right weight group, those in the sexual minority/perceived overweight (AOR = 2.03; 95% CI = 1.18, 3.49;  $P = 0.011$ ) group had increased odds of having made a suicide attempt.

## Discussion

Sexual minority females on average have higher BMIs than heterosexual females (5,9), and both sexual minorities and people with overweight/obesity are targets of cultural stigma, resulting in elevated harassment and associated mental distress (23,24). Given this context, we investigated whether reports of harassment and mental distress varied by sexual identity

and BMI or perceived weight status among female high school students nationwide. Through this analysis, we aimed to understand whether sexual identity and body size function as a type of double jeopardy for harassment and mental distress for girls, whereby those who identify as lesbian/bisexual and with overweight/obesity are most at risk. We found support for double jeopardy with sexual identity and perceived weight, but not with sexual identity and BMI weight status. We expand on these findings below.

In the examination of experiences of harassment and mental distress across sexual identity and BMI categories, a pattern of double jeopardy did not emerge. Generally, heterosexual females with overweight had a greater likelihood of harassment and mental distress than heterosexual females with normal weight. This finding underscores that adolescent females with higher BMIs are often stigmatized and may correspondingly experience more mental distress (15). Sexual minority females across both BMI categories reported more harassment and mental distress than heterosexual females of either BMI category but generally did not differ from each other. These uniformly high rates of harassment and mental distress among sexual minority females may indicate that sexual minorities remain particularly vulnerable to bullying and mental distress above and beyond other targeted groups (25–27). This pattern may also support the broader literature on the ubiquity of minority stress in the form of harassment and mental distress for sexual minority youth (28,29).

A clear pattern of double jeopardy did emerge when examining mental distress across sexual identity and weight perception categories. Across all the mental distress outcomes, sexual minority females who perceived themselves to be overweight reported the most sadness and suicidality, while heterosexual females who perceived themselves to be the “right weight” reported the least. This pattern was not as consistent across bullying and violent victimization outcomes; however, sexual minority females who perceived themselves as overweight did carry the burden of bullying and victimization as well. The clear pattern across mental distress indicators may underscore the internalization of stigma by adolescent females; that is, in order for stigmatized identities and characteristics to take a toll on mental health, females must identify with the stigmatized group. With regard to weight status and the myriad negative cultural beliefs about females with overweight/obesity (4,12,13), mental health may be compromised not by BMI weight status but by the individual’s perception that he or she belongs to a marginalized group.

Our findings reinforce that sexual minorities are a targeted group, and also highlight weight status as a characteristic linked to bullying among adolescent females. These findings have important practical implications. First, an ongoing conversation exists around best practices for school-based bullying prevention; teachers, administrators, and staff have been identified as playing an important role in ending bullying and improving school climate (30). Potentially, these groups would benefit from professional development on how to appropriately support and foster a welcoming climate for sexual minority girls and girls with overweight/obesity (23,31). Second, our findings underscore the toll taken on the mental health of female students who are members of marginalized groups and suggest the internalized stigma may play a role in mental distress. Suicide prevention programming and mental health services in schools might do well to incorporate components that can counteract internalized stigma, such as emphasizing positive identity (32) and body image



(33) among females. These additions may be important to combat mental distress experienced by these populations.

Our analysis had some limitations. First, YRBS data are cross-sectional and only provide evidence of association, not causality, of key predictors and outcomes. Second, a notable minority of students responded “not sure” to the sexual identity question. These students may not have known their sexual identity, been unwilling to disclose it, or not understood the question. We excluded these students from analyses because of this ambiguity and are subsequently unable to evaluate their experiences of harassment or mental distress. Third, because of limits in cell size, we did not examine differences in harassment and mental distress across race/ethnicity or age. Fourth, our multigroup comparison did not test whether the compounding risk of sexual minority and overweight status was additive or multiplicative; however, it did offer evidence that sexual minority/perceived overweight female students were disproportionately affected by harassment and mental distress. Finally, these data apply only to youth who attend school. Sexual minority youth may be disproportionately represented among high school dropouts or youth who are absent from school (34); thus, our estimates of discrimination and mental distress may be conservative, as those most affected by these experiences may have left school.

Our study is among the first to examine experiences of harassment and mental distress across sexual identity and weight status in a nationally representative sample of female students. The results of this study lend support to the idea that sexual minority female students who perceive themselves as overweight may experience dual stigma related to their sexual identity and weight status. Within the context of sexual minority female students routinely reporting higher BMIs and being more likely to perceive themselves as overweight compared to heterosexual female students (5) (Table 1), schools may need to develop programming that recognizes and works against the dual stigma experienced by this group. Such efforts may improve the experience of female high school students and subsequently improve their overall health.

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**TABLE 1**

Bivariate distribution of demographic, weight-related, harassment, and mental health indicators among female high school students by sexual identity—National Youth Risk Behavior Survey, 2015

	Analytic sample, <i>n</i> = 7,006		Heterosexual students, <i>n</i> = 6,105		Sexual minority students, <i>n</i> = 901	
	%/ <i>x</i>	95% CI	%/ <i>x</i>	95% CI	%/ <i>x</i>	95% CI
<i>Demographics</i>						
<b>Race/ethnicity</b>						
White, non-Hispanic	55.6	[48.9, 62.2]	56.6	[49.3, 63.5]	48.8	[43.0, 54.7]
Black, non-Hispanic	13.2	[11.1, 15.6]	12.6	[10.5, 15.1]	17.4	[13.7, 21.8]
Hispanic	22.6	[17.8, 28.2]	22.4	[17.5, 28.3]	23.6	[18.8, 29.3]
Age (y)	16.0	[16.0, 16.1]	16.0	[16.0, 16.1]	15.9	[15.8, 16.0]
<i>Weight-related variables</i>						
<b>BMI percentile</b>						
Underweight (< 5%)	2.0	[1.6, 2.5]	1.8	[1.4, 2.4]	3.2	[1.9, 5.2]
Normal-weight ( 5%, < 85%)	70.7	[68.1, 73.2]	72.2	[69.2, 74.6]	60.2	[54.8, 65.4]
Overweight/obesity ( 85%)	27.3	[24.8, 29.9]	26.0	[23.5, 28.7]	36.6	[31.7, 41.9]
<b>Weight perception</b>						
Underweight	9.6	[8.2, 11.2]	9.3	[7.8, 11.1]	11.4	[8.7, 14.8]
About the right weight	52.7	[49.4, 55.9]	53.9	[50.4, 57.4]	43.9	[39.6, 48.2]
Overweight	37.7	[35.6, 39.9]	36.8	[34.4, 39.1]	44.7	[40.5, 49.1]
<i>Harassment/victimization</i>						
<b>Bullied on school property</b>						
Bullied electronically	21.8	[20.0, 23.7]	20.6	[18.9, 22.4]	30.5	[26.0, 35.4]
Threatened/injured with a weapon on school property	4.5	[3.6, 5.5]	3.8	[3.1, 4.7]	9.1	[6.6, 12.4]
<i>Mental health</i>						
<b>Felt sad or hopeless</b>						
Seriously considered attempting suicide	39.3	[35.6, 43.1]	35.5	[31.8, 39.3]	66.5	[61.4, 71.2]
Made a suicide plan	18.9	[16.8, 21.2]	15.7	[13.8, 17.7]	42.1	[37.1, 47.2]
Made a suicide attempt	11.3	[9.4, 13.6]	8.4	[6.8, 10.4]	32.8	[28.1, 37.9]

Note: The analytic sample excludes female students who listed their sexual identity as “not sure.” Subgroup *n*'s are unweighted; bivariate prevalence estimates, 95% CIs are weighted. CI: confidence interval; *x*: sample mean.

Adjusted odds ratios (AORs) and 95% CIs for harassment/victimization and mental health outcomes among female high school students, by sexual identity/weight category—National Youth Risk Behavior Survey, 2015

**TABLE 2**

	BMI percentile, n = 6,359			Weight perception, n = 6,184		
	AOR	95% CI	P value	AOR	95% CI	P value
<i>Harassment/victimization</i>						
Bullied on school property						
Heterosexual/normal-weight	ref			ref		
Heterosexual/overweight	1.34 <sup>SN, SO</sup>	[1.10, 1.63]	<b>0.004</b>	1.25 <sup>SO</sup>	[1.05, 1.50]	<b>0.015</b>
Sexual minority/normal-weight	2.12 <sup>HO</sup>	[1.64, 2.74]	<b>0.000</b>	1.80 <sup>SO</sup>	[1.28, 2.54]	<b>0.001</b>
Sexual minority/overweight	2.73 <sup>HO</sup>	[1.86, 4.02]	<b>0.000</b>	2.99 <sup>SN, HO</sup>	[2.13, 4.19]	<b>0.000</b>
<i>Bullied electronically</i>						
Heterosexual/normal-weight	ref			ref		
Heterosexual/overweight	0.88 <sup>SN, SO</sup>	[0.70, 1.10]	0.257	1.20 <sup>SO</sup>	[1.02, 1.42]	<b>0.033</b>
Sexual minority/normal-weight	1.54 <sup>HO</sup>	[1.26, 1.88]	<b>0.000</b>	1.61	[1.17, 2.21]	<b>0.004</b>
Sexual minority/overweight	2.01 <sup>HO</sup>	[1.36, 2.95]	<b>0.001</b>	2.35 <sup>HO</sup>	[1.76, 3.13]	<b>0.000</b>
<i>Threatened/injured with a weapon on school property</i>						
Heterosexual/normal-weight	ref			ref		
Heterosexual/overweight	1.86	[1.12, 3.07]	<b>0.017</b>	1.20 <sup>SO</sup>	[0.72, 2.01]	0.479
Sexual minority/normal-weight	3.46	[2.24, 5.34]	<b>0.000</b>	1.66	[0.94, 2.93]	0.077
Sexual minority/overweight	2.63	[1.06, 6.53]	<b>0.038</b>	3.31 <sup>HO</sup>	[1.90, 5.76]	<b>0.000</b>
<i>Mental health</i>						
<i>Felt sad or hopeless</i>						
Heterosexual/normal-weight	ref			ref		
Heterosexual/overweight	1.28 <sup>SN, SO</sup>	[1.06, 1.54]	<b>0.012</b>	1.49 <sup>SN, SO</sup>	[1.27, 1.75]	<b>0.000</b>
Sexual minority/normal-weight	3.82 <sup>HO</sup>	[2.64, 5.51]	<b>0.000</b>	3.43 <sup>HO, SO</sup>	[2.39, 4.93]	<b>0.000</b>
Sexual minority/overweight	4.69 <sup>HO</sup>	[3.26, 6.75]	<b>0.000</b>	5.80 <sup>SN, HO</sup>	[3.94, 8.50]	<b>0.000</b>
<i>Seriously considered attempting suicide</i>						
Heterosexual/normal-weight	ref			ref		

	BMI percentile, <i>n</i> = 6,359			Weight perception, <i>n</i> = 6,184		
	AOR	95% CI	<i>P</i> value	AOR	95% CI	<i>P</i> value
<b>Heterosexual/overweight</b>	1.49 <sup>SN, SO</sup>	[1.13, 1.97]	<b>0.005</b>	1.73 <sup>SN, SO</sup>	[1.47, 2.03]	<b>0.000</b>
<b>Sexual minority/normal-weight</b>	3.30 <sup>HO, SO</sup>	[2.38, 4.56]	<b>0.000</b>	3.04 <sup>HO, SO</sup>	[2.14, 4.34]	<b>0.000</b>
<b>Sexual minority/overweight</b>	5.34 <sup>SN, HO</sup>	[3.73, 7.63]	<b>0.000</b>	6.67 <sup>SN, HO</sup>	[4.68, 9.50]	<b>0.000</b>
<b>Made a suicide plan</b>						
<b>Heterosexual/normal-weight</b>	ref			ref		
<b>Heterosexual/overweight</b>	1.34 <sup>SN, SO</sup>	[1.05, 1.72]	<b>0.022</b>	1.49 <sup>SN, SO</sup>	[1.16, 1.92]	<b>0.003</b>
<b>Sexual minority/normal-weight</b>	4.22 <sup>HO</sup>	[2.97, 6.00]	<b>0.000</b>	3.56 <sup>HO, SO</sup>	[2.38, 5.33]	<b>0.000</b>
<b>Sexual minority/overweight</b>	4.54 <sup>HO</sup>	[3.13, 6.59]	<b>0.000</b>	6.13 <sup>SN, HO</sup>	[4.29, 8.75]	<b>0.000</b>
<b>Made a suicide attempt</b>						
<b>Heterosexual/normal-weight</b>	ref			ref		
<b>Heterosexual/overweight</b>	1.41 <sup>SN, SO</sup>	[1.11, 1.79]	<b>0.006</b>	1.84 <sup>SN, SO</sup>	[1.45, 2.33]	<b>0.000</b>
<b>Sexual minority/normal-weight</b>	5.67 <sup>HO</sup>	[3.78, 8.51]	<b>0.000</b>	4.94 <sup>HO, SO</sup>	[3.27, 7.46]	<b>0.000</b>
<b>Sexual minority/overweight</b>	5.68 <sup>HO</sup>	[3.49, 9.26]	<b>0.000</b>	10.05 <sup>SN, HO</sup>	[6.32, 15.96]	<b>0.000</b>

Note: Models adjusted for race/ethnicity and age. BMI percentile logistic regression excluded female students who perceived themselves as underweight (*n* = 647). Weight perception logistic regression excluded female students who perceived themselves as underweight (*n* = 483). *P* values of less than 0.05 are bolded.

<sup>SN</sup> Significantly (*P* < 0.05) different from sexual minority/normal-weight group when set as referent category in post hoc logistic regression.

<sup>HO</sup> Significantly (*P* < 0.05) different from heterosexual/overweight group when set as referent category in post hoc logistic regression.

<sup>SO</sup> Significantly (*P* < 0.05) different from sexual minority/overweight group when set as referent category in post hoc logistic regression.

CI, confidence interval.