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Original article

Weight Misperception and Unhealthy Weight Control Behaviors Among Sexual Minorities in the General Adolescent Population

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A B S T R A C T

Purpose: Gay, lesbian, and bisexual youth may experience significant body dissatisfaction. We examined sexual orientation differences in self-perceived weight status and the prevalence of potentially dangerous weight control behaviors in a representative sample of adolescents.
Methods: Data were obtained from 12,984 youth between 2003 and 2009 over four cycles of the Massachusetts Youth Risk Behavior Survey, a statewide survey of ninth- through 12th-grade students. Self-perceived weight status and past-month unhealthy weight control behaviors (fasting >24 hours, using diet pills, and vomiting or using laxatives) were compared among gay/lesbian, bisexual, or self-identified heterosexual youth with same-sex partners, unsure youth, and exclusively heterosexual youth using logistic regression, adjusting for age and race/ethnicity.
Results: Compared with exclusively heterosexual males, heterosexual males with prior same-sex partners and bisexual males were more likely to self-perceive as overweight despite being of healthy weight or underweight (respectively, adjusted odds ratio [AOR], 2.61; 95% confidence interval [CI], 1.68–4.05; and AOR, 2.56; 95% CI, 1.64–4.00). Compared with exclusively heterosexual females, lesbians and bisexual females were more likely to self-perceive as being of healthy weight or underweight despite being overweight or obese (respectively, AOR, 3.17; 95% CI, 1.15–8.71; and AOR, 2.00; 95% CI, 1.20–3.33). Unhealthy weight control behaviors were significantly more prevalent among sexual minority males (32.5%; AOR, 4.38; 95% CI, 3.38–5.67) and females (34.7%; AOR, 2.27; 95% CI, 1.85–2.78) when considered together relative to exclusively heterosexual males (9.7%) and females (18.8%).
Conclusions: One third of sexual minority youth engage in hazardous weight control behaviors. Future research should investigate underlying mechanisms and determine whether clinicians should routinely screen for these behaviors.

IMPLICATIONS AND CONTRIBUTION

Sexual minority youth have self-perceptions of weight that contrast dramatically with their reported body mass index. Unhealthy weight loss behaviors are highly prevalent among sexual minority youth and vastly exceed the prevalence of these behaviors among heterosexual youth.

Unhealthy weight control behaviors (e.g., excessive calorie restriction and purging, including self-induced vomiting and laxative misuse) are associated with a wide range of adverse medical and psychological consequences, some potentially life-threatening [1,2]. In 2009, one in 10 United States high

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school students reported recent fasting, one in 20 reported recent use of diet pills or other weight loss products, and one in 25 reported recent self-induced vomiting or laxative use [3]. The prevalence and antecedents of these behaviors among sexual minority youth (i.e., gay, lesbian, bisexual, and youth who self-identify as heterosexual but who have had same-sex sexual contact) remain understudied. However, emerging data suggest a higher prevalence of purging behaviors among sexual minorities than among exclusively heterosexual youth. For example, a recent large study showed that compared with exclusively heterosexual females, bisexuals and those who self-classified as "mostly heterosexual," but not lesbians, were more likely to report purging behaviors [4]. Among males in this same study, gay, bisexual, and "mostly heterosexual" males were significantly more likely than exclusively heterosexual males to report purging.

Studies of sexual minority adolescents [5,6] and adults [7,8] have highlighted a link between poor body image and unhealthy weight control behaviors. Disparities in poor body image among heterosexuals and sexual minorities may stem from different notions of ideal physical appearance [9]. Evidence suggests that gay and bisexual boys experience greater pressure to look like men in the media than do their heterosexual peers, particularly with regard to thinness and muscle tone and definition, whereas lesbian and bisexual girls are less likely to experience or internalize this pressure relative to their heterosexual peers [9,10]. Such appearance norms may influence weight perceptions, which may precede unhealthy weight control behaviors [6]. Indeed, data from the general adolescent population (without regard to sexual orientation) suggest that youth who inaccurately self-perceive as overweight are more likely to diet [11]. Although data to date suggest a higher prevalence of unhealthy weight control behaviors among sexual minority youth, large-scale studies have yet to examine the role of weight self-perceptions among youth in the general adolescent population. Data are particularly scarce on these outcomes among youth who self-identify as heterosexual but who have had prior same-sex partners, a group with poorer health outcomes compared with exclusively heterosexual youth [12,13].

As the obesity epidemic in the United States evolves [14] and as body image issues remain central for youth [15], data are needed on the unique weight-related concerns of sexual minority youth, who begin to establish sexual identity in early adolescence when eating behaviors may also be developing [4,16]. Drawing on a representative sample of adolescents, we hypothesized that sexual minority youth would be more likely to demonstrate weight misperception and report greater prevalence of unhealthy weight control behaviors than exclusively heterosexual youth. Consistent with prior findings in nonrepresentative samples [10], we anticipated that gay and bisexual males would be likely to misperceive themselves as overweight and demonstrate an elevated prevalence of unhealthy weight control behaviors; we also anticipated that lesbian and bisexual females would misperceive themselves as healthy weight or even underweight despite elevated body mass index (BMI). We hypothesized that heterosexual youth with prior same-sex contact would demonstrate weight misperceptions similar to their same-gender sexual minority peers [5], and that all nonexclusively heterosexual youth would demonstrate elevated prevalence of fasting and purging behaviors [17]. Building on this, we hypothesized that greater weight misperception would be associated with elevated odds of unhealthy weight loss behaviors. Furthermore, we hypothesized that this relationship between weight misperception and healthy weight loss behaviors would be modified by sexual orientation.

Methods

Sample

The Massachusetts Youth Risk Behavior Survey (MYRBS) is a population-based survey of Massachusetts public high school students in grades nine through 12 developed by the Centers for Disease Control and Prevention (CDC) as part of the nationwide Youth Risk Behavior Surveillance System [18]. The MYRBS is administered during odd-numbered years and is a series of cross-sectional surveys administered by the Massachusetts Department of Elementary and Secondary Education in collaboration with the CDC. Schools were randomly selected with a probability proportionate to the number of students enrolled. Classes within the school were selected with equal probability to complete the MYRBS. All students in grades 9 through 12 were equally likely to be in sampled classes. Surveys were paper-and-pencil, self-administered, and anonymous. The present analysis was approved by the Institutional Review Board at Boston Children's Hospital.

Data from four recent consecutive cycles of the MYRBS (2003, 2005, 2007, and 2009) were combined in the present analyses to ensure an adequate sample size of sexual minority adolescents for statistical analyses. The overall data set included 12,984 adolescents, median age 15 years. Students and schools surveyed per wave included 3,624 students and 50 schools in 2003 (overall response rate, 72.2%), 3,522 students and 51 schools in 2005 (overall response rate, 67.1%), 3,131 students and 59 schools in 2007 (overall response rate, 74.0%), and 2,707 students and 52 schools in 2009 (overall response rate, 64.6%). The major cause of student nonresponse was being absent on the day of the survey.

Of 6,387 male participants, 5,855 were exclusively heterosexual (weighted frequency, 92.8%), 136 self-identified as heterosexual but reported prior same-sex partners (2.2%), 105 were gay (1.7%), 98 were bisexual (1.6%), and 120 answered "not sure" (1.8%). Of 6,567 female participants, 5,730 were exclusively heterosexual (88.6%), 206 self-identified as heterosexual but reported prior same-sex partners (3.3%), 61 were lesbian (.9%), 335 were bisexual (5.2%), and 144 answered "not sure" (2.1%).

Data source and measures

The CDC developed a set of core questions for the MYRBS as part of the nationwide Youth Risk Behavior Surveillance System; these were combined with additional questions unique to the MYRBS pertaining to sexual orientation and other risk behaviors. Data were collected on age, race/ethnicity, and self-reported weight (in pounds) and height (in feet/inches). Body mass index was converted to age/gender percentiles published by the CDC [19] and classified according to American Academy of Pediatrics guidelines into underweight (<5th percentile for age/gender), healthy weight (5th $\leq$ BMI $<$ 85th percentile), overweight (85th $\leq$ BMI $<$ 95th percentile), and obese ($\geq$95th percentile) [20]. Body mass index *Z*-scores were also calculated for participants according to age/gender norms published by the CDC [19].