Sexual Orientation-Based Depression and Suicidality Health Disparities: The Protective Role of School-Based Health Centers

Lei Zhang,

Pacific Institute for Research and Evaluation

Laura J. Finan,

Pacific Institute for Research and Evaluation

Melina Bersamin, and

Pacific Institute for Research and Evaluation

Deborah A. Fisher

Pacific Institute for Research and Evaluation

Abstract

This study's purpose was to examine whether school-based health centers (SBHCs) support mental health indicators among sexual minority youth (SMY). Data came from the 2015 Oregon Healthy Teens Survey with 13,608 11th graders in 137 public high schools in Oregon. Regression results revealed significant SBHC by SMY status interactions indicating relative reductions in likelihood of depressive episodes (30%), suicidal ideation (34%), and suicide attempts (43%) among SMY in schools with SBHCs. SMY students in SBHC schools reported lower likelihood of a past-year depressive episode, suicidal ideation, and suicide attempt versus those attending non-SBHC schools. Conversely, no differences in these outcomes were observed for non-SMY by SBHC status. SBHCs may help reduce mental health disparities among SMY, a marginalized, underserved population.

Keywords

mental health disparity; sexual minority youth; school-based health center; adolescents; depressive episodes; suicide

School-based health centers (SBHCs) are health care service access points located in schools or on school grounds and are designed to ensure that students have access to high-quality health care (Oregon Health Authority, n.d. a; School-Based Health Alliance, n.d.). According to a 2013–2014 census of the U.S. (Love et al., n.d.), there are currently 2,315 SBHCs in 49 of 50 states and Washington D.C, up from 1,930 in 2010–2011. These centers serve students from pre-kindergarten through high school, across a range of school types (e.g., public, vocational, charter schools). Although the specific services provided by SBHCs may vary

Corresponding author: Lei Zhang, Pacific Institute for Research and Evaluation, 101 Conner Drive, Suite 200, Chapel Hill, NC 27514-7038. lzhang@pire.org.

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from school to school (Billy et al., 2000; Slade, 2003), in general they provide a range of acute, primary, and preventive health services. Services can include well-child exams, immunizations, mental health counselling and referral, health education classes, family planning services, and others.

Although SBHCs have existed in Oregon since 1986, in 2000, the state established standards for certification to (a) provide a clearly defined model for SBHCs, (b) reduce variability across sites, (c) improve SBHC sustainability, and (d) increase quality health care availability for young people (Oregon Health Authority, n.d. a). In addition to compliance checks and training, comprehensive certification requirements include facility (e.g., private exam rooms, bathrooms, etc.), hours of operation (e.g., three days a week during the school year), and staffing requirements (e.g., licensed primary care provider 10 hours per week). Further, certification requires that SBHCs provide a range of on-site services (e.g., comprehensive physical exams, evaluation and treatment of non-urgent, acute and chronic conditions) or provide referrals, status or ability to pay. The most comprehensive centers may provide services that extend beyond certification criteria to meet the needs of their individual student populations.

From a policy perspective, the SBHCs may be effective health promotion investments as they have the ability to reach a large number of youth and families through both direct and indirect exposure to health care services. Specifically, SBHCs may promote healthy outcomes as they are embedded within schools which are one of the few public institutions with the capacity to reach a majority of youth. Further, SBHCs are designed to reduce barriers associated with accessing services (e.g., finances, confidentiality concerns, inconvenient hours, distance) (Allison et al., 2007; Oregon Health Authority, n.d. a). Results of both small- and large-scale evaluations indicate that SBHCs have significant impacts on a range of health indicators, including increased use of primary care, prevention services, and health maintenance visits (Allison et al., 2007; Community Preventive Services Task Force, 2015). Further, among adolescents with access to SBHCs, center users report better health indicators across a range of domains compared to who did not use these centers (McNall, Lichty, & Mavis, 2010).

Past studies also indicate that SBHCs are important sources of support for adolescent mental health and well-being (Bains & Diallo, 2016; Soleimanpour, Geierstanger, Kaller, McCarter, & Brindis, 2010). Studies suggest that an increase in the availability of SBHC mental health services is associated with fewer adolescent reports of depressive episodes and suicidal ideation (Paschall & Bersamin, 2018a, 2018b). However, research on SBHCs has yet to examine whether and to what extent the benefits of SBHC use and access extend to sexual minority youth (SMY), a particularly marginalized adolescent population. This is despite research suggesting that SMY report higher rates of victimization, depression and anxiety, suicidality, and other high-risk behaviors compared to their heterosexual peers (Coker, Austin, & Schuster, 2010; King et al., 2008; Lucassen, Stasiak, Samra, Frampton, & Merry, 2017). For example, findings from a nationally representative sample of adolescents suggest that SMY have significantly higher prevalence of suicide attempts and suicidal ideation compared to heterosexual youth, controlling for age, race and ethnicity (Silenzio, Pena, Duberstein, Cerel, & Knox, 2007).

In line with ecological as well as social cognitive theories of health, SBHCs may be important service access points to reduce health disparities for SMY through the reduction of barriers to care, supporting young people's self-efficacy, and changing norms and knowledge about health. Ecological perspectives posit that in addition to individual factors, health behavior is influenced by interpersonal, community, and larger policy level factors (Sallis & Owen, 2015). These multiple levels of influence play important roles in determining barriers, drivers, and supports of individuals' health behaviors. The accessibility of services in school settings may help reduce SMYs reported privacy (Snyder, Burack, & Petrova, 2017) and financial (Williams & Chapman, 2011) barriers to care. Similarly, drawing from social cognitive theory perspectives, SBHCs also may support adolescents' self-efficacy to health care and behavior (Bandura, 1998). The unique nature and position of these health care centers afford opportunities to define and perpetuate normative health-seeking behavior and influence young people's attitudes towards and knowledge about services. In turn, these factors may contribute to their self-efficacy, which studies suggest is important for positive health behavior (Longmore et al., 2003). SMY are more likely to forego care and report greater unmet mental health care needs (Ramos, Sebastian, & Rosero, 2017; Williams & Chapman, 2011), despite some research indicating this population uses more health services than their heterosexual counterparts (Filice & Meyer, 2018; McGuire & Russell, 2007; Williams & Chapman, 2015). By reducing SMYs barriers to care and facilitating adaptive health norms for young people, SBHCs may be particularly important for supporting and reducing health disparities among SMY. Further, given some research suggests that SMY prefer to receive health services in school settings (Wells et al., 2013) and studies suggest a substantial proportion of SBHC users identify as a member of a SMY group (Ramos et al., 2017), these centers may be attractive health care options for these youth. However, to our knowledge, no research has explicitly examined the association between the presence of SBHCs and SMYs mental health indicators, despite the known health disparities for this population and the robust literature supporting the efficacy of these centers. Therefore, guided by ecological and social cognitive perspectives, the current study aimed to extend extant literature by examining whether sexual orientation-based differences in mental health indicators (i.e., a past year depressive episode, suicide ideation, and suicide attempt) were smaller in schools with SBHCs than those without SBHCs. Given the known mental health disparities among SMY and that studies suggest SMY are more likely to use health services relative to their heterosexual counterparts, we expect lower rates of poor mental health indicators for SMY in schools with SBHCs compared to SMY in schools without SBHCs.

Methods

Oregon Healthy Teens (OHT) Survey and School Sample

The OHT Survey is designed to monitor and assess the state of young peoples' health and well-being in Oregon and includes questions on alcohol, tobacco, and other drug use; perceptions of personal safety; diet and exercise; sexual behavior; and mental health. This voluntary survey is anonymous, administered during the spring semester, and is designed to be completed during a class period. Students in 8th and 11th grade participate in this statewide, biennial, cross-sectional survey. Parents give passive consent or active objection

to their child's participation in the OHT. School districts decide whether surveys are administered in either paper-and-pencil or online format.

The OHT sampling frame is based on the Youth Risk Behavior Survey, which is designed to be representative of 8th and 11th grade students in public schools across all counties in the state. Post-hoc sample weights were developed for each county and the state based on the actual number of students in grades 8 and 11 in each school, county, and the entire state (Oregon Health Authority, n.d. b).

The current study is based on 13,608 students in 137 public high schools in Oregon that participated in the OHT Survey in 2015. A total of 26 schools of these schools had SBHCs at this time. The population of Oregon is predominately White (87%) and non-Hispanic (75%), with only 13% of the population living in poverty (U.S. Census, n.d.). This study was approved by the Institutional Review Board of the authors' institute.

Measures

Mental health.—Students were asked three questions about their feelings, thoughts, and behaviors related to depressed mood and suicide. Specifically, “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?”, “During the past 12 months, did you ever seriously consider attempting suicide?” and “During the past 12 months, how many times did you actually attempt suicide?” All items were coded or recoded into dichotomous items to represent presence (1) or absence (0) of past year behavior. These questions correspond to those used in the Centers for Disease Control and Preventions' Youth Risk Behavior Surveillance System questionnaire (Centers for Disease Control and Prevention, 2017).

Sexual orientation.—Sexual orientation can be measured many ways (i.e., behavior, identity, and attraction), and health indicators may differ depending on how it has been operationalized (Matthews, Blosnich, Farmer, & Adams, 2014). It has been noted that defining sexual minority status is challenging and the definition may vary depending on the research focus (Mustanski, Van Wagenen, Birkett, Eyster, & Corliss, 2014). The current study follows other large national epidemiological studies (e.g., Mustanski et al., 2014) and creates a binary variable for sexual minority youth based on those who endorsed minority sexual orientation response options. Youth were asked, “Do you think of yourself as...(a) lesbian or gay, (b) straight (that is, not lesbian or gay), (c) bisexual, (d) something else, or (e) don't know/not sure”. Given that the number of students represented within the specific sexual minority response option categories of “lesbian/gay”, “bisexual”, “something else”, and “don't know/not sure” was small (i.e., respectively 1.5%, 5.1%, 2.0% and 2.5%, unweighted), we created a dichotomous status indicator with 1 = SMY (categories a, c, d and e) and 0 = heterosexual youth (category b). We included students who marked the response options of “something else” and “don't know/not sure” within the group of SMY to form a more inclusive representation of SMY.

Demographic characteristics.—Students reported their grade, age, gender, and whether they were receiving free or reduced-price lunch at school. Also, students were asked if they were Hispanic or Latino and what their race was with options including (a) American Indian

or Alaska Native, (b) Asian, (c) Black or African American, (d) Native Hawaiian or Other Pacific Islander and (e) White. Hispanic ethnicity (0 = non-Hispanic; 1 = Hispanic) was treated as dichotomous variable. Considering that multiple selections in the race question were allowed and selections could overlap, all non-White race groups appeared small, that is, American Indian or Alaska Native 7.2% (n = 853), Asian 7.0% (n = 829), Black or African American 4.1% (n=492), and Hawaiian or Other Pacific Islander 3.0% (n=361) (percentages and ns unweighted). The self-identified race option White was used as race indicator (0 = non-White; 1 = White).

School characteristics.—School characteristics include school type (0 = serve both middle and high school students or 1 = serve only high school students), total student enrollment, percentage of students eligible for free or reduced-price meals, and SBHC presence. These characteristics were provided in the OHT 2015 survey data.

Analysis Strategy

First, descriptive analyses were conducted to examine sample characteristics and compare schools with and without SBHCs. Next, multi-level random effects logistic regression models were performed predicting each of the mental health indicators (i.e., depressive episode, suicide ideation, and suicide attempt). Unconditional models were run first, then level 1 student characteristics were included; finally, level 2 school characteristics were entered. Main effects were tested, then cross-level interactions between SMY status and SBHC status were examined. Where significant cross-level interactions were observed, additional predicted probability analyses were performed to examine the nature of the interactions. Missing data on SMY was less than 2%, and missing data on mental health indicators ranged from 6.7% to 7.5%. All missing cases were listwise deleted by the statistical program. Analyses were performed with SAS version 9.4 software and the PROC GLIMMIX procedure was used to adjust for variance attributable to observations nested within schools (Raudenbush & Bryk, 2002). Sample weights provided with the OHT survey data were applied in descriptive and regression analyses.

Results

Sample Characteristics

School and student characteristics for the sample are provided in Table 1, along with comparisons between schools with and without an SBHC. At the school level, SBHC schools had significantly higher enrollments than non-SBHC schools. No differences, however, emerged with respect to school socioeconomic status, as measured by overall percentage of students eligible for free or reduced-price meals. At the student level, non-SBHC schools had significantly higher percentages of Hispanic students and students receiving free or reduced-price meals. However, effect sizes indicated that the majority of these significant differences between SBHC and non-SBHC schools were actually very small (Cohen, 1988). Both SBHC and non-SBHC schools had similar percentages of female and SMY students. Students' ages in both SBHC and non-SBHC schools appeared to be the same due to rounding.

Sexual orientation details are provided in Table 2. Both SBHC and non-SBHC schools had similar percentages of SMY subgroup students except in the bisexual category. Female students were more likely to endorse the “bisexual”, “something else” or “don’t know/not sure” sexual orientation responses; whereas male students were more likely to endorse a “straight” or “gay” sexual orientation options. Again, effect sizes showed that the size of the significant differences between males and females were very small (Cohen, 1988).

The total sample prevalence rates for past year depressive episode, suicidal ideation and suicide attempts were 29.0%, 16.3% and 6.2%, respectively. SMY were significantly more likely to report past year depressive episodes (56.8% vs. 25.4%), suicide ideation (40.8% vs. 13.0%), and suicide attempts (18.2% vs. 4.7%) than non-SMY.

Regression Analyses

Results of multi-level logistic regression analyses with student- and school-level covariates and cross-level interaction terms are provided in Table 3. At the school level, students at high schools were more likely to report having a depressive episode or suicidal thoughts. Further, schools that had higher proportion of students eligible for free/reduced lunch were more likely to report experiencing depressive episodes and suicide attempts. At the student level, females, students who were eligible for free/reduced lunch, and SMY students were more likely to report a depressive episode, suicide ideation, and suicide attempt. Older students also were more likely to report a depressive episode and suicide ideation, whereas Hispanic students were more likely to report a depressive episode and suicide attempt.

Significant cross-level interactions between SBHC and SMY status were observed for a past year depressive episode, suicidal ideation, and suicide attempt (Table 3). Odds ratios for the interaction terms showed a 30% relative reduction in the likelihood of depressive episode, a 34% relative reduction in the likelihood of suicidal ideation, and a 43% relative reduction in the likelihood of suicide attempts among SMY students attending a school with an SBHC compared to SMY in schools without a SBHC. Plots of predicted probabilities for the SBHC status by SMY status interaction are displayed in Figure 1. Compared to their counterparts in non-SBHC schools, SMY students in SBHC schools reported lower **likelihood of a past year depressive episode** (50% vs. 57%), suicidal ideation (31% vs. 41%) and suicide attempt (10% vs. 17%). Conversely, no differences in depressive episodes (25% vs. 24%), suicidal ideation (12% vs. 12%), or suicide attempts (4% vs. 4%) were observed for non-SMY by SBHC status.

Next, we ran supplemental, exploratory analyses to explore whether or not cross-level interactions between SBHC and SMY status would differ between males and females. The same set of models was run separately for males and females. For males, the cross-level interaction between SBHC and SMY status on suicide attempts was significant (OR = 0.41, $p = .001$); whereas, for females, the cross-level interactions were significant for all mental health indicators (past year depressive episode OR = 0.61, $p = .001$; suicidal ideation OR = 0.57, $p = .001$; suicide attempts OR = 0.66, $p = .01$).

We also investigated whether significant cross-level interactions between SBHC and SMY status were observed among subgroups within SMY (e.g., “lesbian/gay”, “bisexual”, and

“something else/not sure” response options). We created indicators of “lesbian/gay”, “bisexual”, and “something else/not sure” sexual orientation response option sub-groups and ran the same set of models twice among SMY students. We used “lesbian/gay” and “bisexual” responses as reference groups respectively to obtain comparisons among “lesbian/gay”, “bisexual” and “something else/not sure” response options (i.e., “lesbian/gay” vs. “bisexual”, “lesbian/gay” vs. “something else/not sure”, and “bisexual” vs. “something else/not sure”). None of the interactions were significant with respect to each mental health indicator.

Discussion

A wealth of research has demonstrated mental health disparities among SMY relative to their heterosexual counterparts (Lucassen et al., 2017) and that SMY report greater unmet health care needs (Ramos et al., 2017). The current study aimed to examine whether sexual orientation-based differences in mental health indicators were smaller in schools with SBHCs than those without SBHCs among a representative sample of Oregon adolescents. Supporting study hypotheses, findings suggested that a significantly lower percentage of SMY students reported having a depressive episode, suicide ideation, and suicide attempt in the past year when an SBHC was present on school campus compared to when it was not. These findings suggest that access to SBHCs may be important health service access points to reduce the mental health disparities among marginalized populations such as SMY. Results from this study are in line with other research suggesting that SBHCs are particularly effective in supporting positive health outcomes in population subgroups such as ethnic minorities and low-income youth. For example, a recent study found that SBHC exposure was negatively associated with past 30-day alcohol use, binge drinking, cigarette use, and e-cigarette use among African American youth compared to White youth (Bersamin, Paschall, & Fisher, 2017). Another study found that while no significant relationship emerged between SBHC presence and school connectedness, SBHCs were positively associated with school connectedness among lower SES students compared to students with higher SES (Bersamin et al., *under review*).

It may be that SBHCs are successful in reducing health disparities among marginalized youth. Given SBHCs are often located in low-income schools, staff may be well trained in conducting outreach, communicating, and reaching marginalized populations. Teachers also may be working in concert with SBHC staff to ensure that marginalized youth are referred to the SBHCs, as these services are readily and conveniently available. SBHCs may be particularly adept in reaching SMY as they are suited for their unique needs and experiences. For example, in 2013, Oregon awarded SBHCs 4.6 million dollars to further integrate mental health services into their routine care of child and adolescents (Oregon Health Authority, 2015). In addition to using this funding to offer new or enhanced mental health services in SBHCs, funds were allotted to provide cultural competence and equity training for staff. Research suggests that discrimination and stigma play a significant role in contributing to the mental health disparities faced by SMY (Coker et al., 2010). The increase in access to mental health services in SBHCs and the enhanced competencies of SBHC staff may lead to higher levels of SMY’s SBHC use and exposure, which ultimately may support SMY health.

Further, in line with social cognitive theory perspectives to health (Bandura, 1998), these activities may impact SMY self-efficacy to health care and behavior, a factor which has been demonstrated to be an important predictor of health practices (e.g., Longmore et al., 2003). Research examining sexual and reproductive health have shown that SBHCs activities support adolescents' self-efficacy towards health practices (Mesheriakova & Tebb, 2017; Weeks, 1995). Alternatively, it may be that SBHC presence may be especially impactful for SMY given increased need based on disproportionate rates of mental health problems (Lucassen et al., 2017). Indeed, the current study did not find that SBHC presence was associated with non-SMY mental health indicators. The unobserved relationships for non-SMY may be explained by the fact that SMY report greater service utilization (Filice & Meyer, 2017) and studies suggest that adolescents who use SBHCs when available report more positive health indicators compared to those who do not use available SBHC services (McNall et al., 2010).

Finally, ecological perspectives suggest health and health behavior are influenced by factors at individual, community, and policy levels (Sallis & Owen, 2015). Further, past research has shown that SMY report both financial and privacy barriers to receipt of health care (Snyder et al., 2017; Williams & Chapman, 2011). Perhaps the accessible nature of SBHCs helps fill gaps in health care access or reduces access barriers reported by this population. Future research is necessary to examine the potential pathways by which SBHCs support the mental health and well-being of students to assist SBHCs with identifying effective and efficient strategies to increase positive health outcomes.

Limitations and Future Research

There are several limitations to this research. The cross-sectional design limits our ability to reach conclusions about the causal nature of relationships investigated. Relatedly, the self-report nature of this survey-based study limits our ability to validate students' responses. Research that employs longitudinal or experimental designs is needed to determine the direction of effects and establish causality. Further, future research should include multiple reports and internal survey checks to identify potentially unreliable or untruthful respondents. We also were not able to examine whether individual adolescents accessed and used specific SBHC services, including mental health services. Future work that examines the specific services adolescents used is needed.

This study also is limited as we were unable to explore issues relating to intersectionality and whether experiences may differ depending on both ethnic minority status and race due to homogeneity in the current study sample. This study draws on a representative sample from Oregon, a homogenous state of predominately non-Hispanic White individuals that live above the poverty line (U.S. Census, n.d.). As such, findings may not be generalizable to other U.S. adolescents. The current study should be replicated with diverse adolescent samples to address issues of intersectionality and among samples that better capture the adolescent population.

Although we conducted exploratory supplemental analyses across SMY subgroups, these analyses may be underpowered to find effects. Research replicating this study among

samples with larger percentages of diverse SMY are needed to understand how SBHCs support these subpopulations. Finally, we were not able to account for or explore other health services or supports provided to students (e.g., access to additional resources or community services) or school climate factors. Work that specifically addresses the range of services SMY access and school climate factors will be important to understand the unique role of SBHCs in adolescents' contexts.

Nonetheless, this study contributes to a growing body of literature which demonstrates that SBHCs are effective health service providers to support the health and well-being of adolescents. Importantly, this study also highlights the role that SBHCs may play in addressing mental health disparities among SMY.

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Figure 1.

Proportion of SMY (solid line) and non-SMY (dashed line) students endorsing they experienced a past year having depressive episode (A), suicide ideation (B), and suicide attempt (C) at schools with and without SBHCs in 2015. Proportions are adjusted for student and school demographic characteristics. SBHC = school-based health center; SMY = Sexual minority youth

Table 1.

Differences in School and Student Characteristics base on SBHC presence.

Variable	Total sample	SBHC schools	Non-SBHC schools	Effect size (Cohen's d)
<i>School level</i>	<i>N</i> = 137	<i>n</i> = 26	<i>n</i> = 111	
Middle/high school, <i>n</i> (%)	35 (25.6)	5 (19.2)	30 (27.0)	0.08
High school, <i>n</i> (%)	102 (74.4)	21 (80.8)	81 (73.0)	−0.08
Student enrollment, <i>M</i> (<i>SD</i>)	697 (634)	1030 (767)	619 (575) **	0.67
Mean proportion of Free/reduced price meals, <i>M</i> (<i>SD</i>)	52.0 (18.1)	51.5 (15.4)	52.2 (18.8)	0.05
<i>Student level</i>	<i>N</i> = 13,608	<i>n</i> = 4,067	<i>n</i> = 9,541	
Age, <i>M</i> (<i>SD</i>)	16.6 (0.9)	16.6 (0.9)	16.6 (0.9) *	0.02
Female, <i>n</i> (%)	6804 (50.2)	2042 (50.1)	4762 (50.2)	0.0003
Hispanic, <i>n</i> (%)	3135 (23.6)	876 (19.4)	2259 (25.4) **	0.08
White, <i>n</i> (%)	10509 (89.3)	3058 (86.9)	7451 (90.4) **	0.06
Received free/reduced price meals, <i>n</i> (%)	4729 (39.7)	1411 (35.8)	3318 (41.3) ***	0.06
SMY, <i>n</i> (%)	1501 (11.3)	466 (11.2)	1035 (11.3)	0.002

Note. School-based health center (SBHC) and sexual minority youth (SMY) are abbreviated in this table. High schools served as the reference groups for Middle/high schools and vice versa. Male students, non-Hispanic students, non-white students, students who did not receive free/reduced price meals, and non-SMY served as the reference groups for the Female, Hispanic, White, Received free/reduced price meals, and SMY variables, respectively. School level sample sizes were unweighted, while percentages of student level study variables were obtained with sample weights.

*
 $p < .05$

**
 $p < .01$

 $p < .001$

Table 2.

Differences in Sexual Orientation Response Option Endorsements based on SBHC status and sex.

Sexual orientation response	Total sample <i>N</i> = 13,448	SBHC schools <i>n</i> = 4,022	Non-SBHC schools <i>n</i> = 9,426	Effect size (Cohen's <i>d</i>)
"Straight", <i>n</i> (%)	11947 (88.7)	3556 (88.8)	8391 (88.7)	-0.004
"Lesbian or gay", <i>n</i> (%)	199 (1.4)	58 (1.4)	141 (1.4)	-0.0001
"Bisexual", <i>n</i> (%)	700 (5.3)	219 (4.9)	481 (5.4) *	0.01
"Something else", <i>n</i> (%)	267 (1.8)	81 (2.0)	186 (1.7)	-0.01
"Don't know/not sure", <i>n</i> (%)	335 (2.9)	108 (3.0)	227 (2.8)	-0.01
Sexual orientation response	Total sample <i>N</i> = 13,448	Male <i>n</i> = 6,723	Female <i>n</i> = 6,725	Effect size (Cohen's <i>d</i>)
"Straight", <i>n</i> (%)	11947 (88.7)	6213 (92.0)	5734 (85.5) ***	0.11
"Lesbian or gay", <i>n</i> (%)	199 (1.4)	101 (1.5)	98 (1.2) **	0.02
"Bisexual", <i>n</i> (%)	700 (5.3)	175 (2.7)	525 (7.7) ***	-0.13
"Something else", <i>n</i> (%)	267 (1.8)	97 (1.5)	170 (2.2) ***	-0.03
"Don't know/not sure", <i>n</i> (%)	335 (2.9)	137 (2.3)	198 (3.4) ***	-0.04

Note. School-based health center (SBHC) is abbreviated in this table. Sample sizes were unweighted, while percentages were obtained with sample weights.

*
 $p < .05$

**
 $p < .01$

 $p < .001$

Table 3.

Effects of SBHC services on the likelihood of past year depressive episode, suicide ideation and suicide attempt.

Variable	Depressive episode	Suicide ideation	Suicide attempt
<i>OR (95% confidence interval)</i>			
<i>School level</i>			
High school	1.28 (1.04, 1.58) *	1.10 (0.87, 1.38) **	1.41 (0.96, 2.07)
Student enrollment	0.99 (0.98, 1.00)	1.00 (0.99, 1.01)	0.98 (0.96, 1.00)
Percent eligible for free/reduced price meals	1.58 (1.02, 2.43) *	1.55 (0.98, 2.46)	2.61 (1.20, 5.67) *
SBHC	1.08 (0.91, 1.28)	0.98 (0.82, 1.18)	0.99 (0.73, 1.36)
<i>Student level</i>			
Age	1.14 (1.08, 1.20) ***	1.08 (1.01, 1.15) *	1.08 (0.98, 1.19)
Female	2.32 (2.20, 2.46) ***	1.97 (1.84, 2.11) ***	1.72 (1.55, 1.92) ***
Hispanic	1.16 (1.07, 1.26) ***	1.07 (0.97, 1.18)	1.52 (1.33, 1.75) ***
White	1.05 (0.96, 1.15)	0.90 (0.81, 1.00)	0.87 (0.74, 1.03)
Receive free/reduced price meals	1.39 (1.31, 1.48) ***	1.30 (1.21, 1.39) ***	1.30 (1.17, 1.45) ***
SMY	4.17 (3.81, 4.58) ***	4.85 (4.41, 5.34) **	5.02 (4.41, 5.70) **
<i>Cross-level</i>			
SBHC × SMY	0.70 (0.60, 0.82) ***	0.66 (0.56, 0.79) ***	0.57 (0.44, 0.74) ***

Note. School-based health center (SBHC) and sexual minority youth (SMY) are abbreviated in this table. Middle/high schools, male students, non-Hispanic students, non-white students, students who did not receive free/reduced price meals, and non-SMY served as the reference groups for the High school, Female, Hispanic, White, Received free/reduced price meals, and SMY variables, respectively. Sampling weights were applied to these analyses.

*
 $p < .05$

**
 $p < .01$

 $p < .001$