



Original article

## School Environment Is Related to Lower Health and Safety Risks Among Sexual Minority Middle and High School Students



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 A B S T R A C T

**Purpose:** The objective of this study was to examine the relationship between school involvement and connectedness with measures of sexual risk, substance use, and experience of violence among students who had sexual contact with the same sex or with both sexes.

**Methods:** A sample of middle school and high school students who participated in a study conducted in a large urban school district were selected based on their reported experience of having initiated sexual activity with same-sex partners. In classroom-based surveys, we assessed self-reported involvement in school-based activities and feelings of school connectedness, as well as self-reported sexual risk, substance use, and experience of violence.

**Results:** Significant protective associations were found between school involvement and lifetime alcohol and marijuana use, and between school connectedness and ever having been in a fight, feeling safe at school, and drug use other than marijuana (all  $p < .05$ ).

**Conclusions:** Findings suggest that efforts to increase school involvement and connectedness provide a starting point for addressing significant health and safety concerns among students with same-sex sexual activity.

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**IMPLICATIONS AND CONTRIBUTION**

Sexual minority youth are at disproportionate risk of a variety of negative health outcomes. Results suggest that efforts to increase involvement in school activities and feelings of school connectedness may have broad-based protective effects on substance use and violence for this vulnerable group of students.

Based on the 2015 national Youth Risk Behavior Surveillance System (YRBS), the Centers for Disease Control and Prevention (CDC) estimates that over a million high school students in the US have had at least one same-sex sex partner [1]. Furthermore, results from the 2015 YRBS show that sexual minority students—identifying as lesbian, gay, bisexual, or having sexual contacts with the same sex—reported a significantly higher prevalence of a variety of health risks, including violence, sexual

assault, and substance use. These findings add to a growing number of surveys suggesting that sexual minority youth are at disproportionate risk of myriad adverse health outcomes, including substance use, interpersonal violence, and sexual risk. These results point to the need to address these health risks, as well as mental health and suicide-related behaviors, which sexual minority youth are more likely to report than straight students [1].

Research on the health of sexual minority adolescents has mostly taken a deficit-based approach, emphasizing risks (e.g., suicide) and their antecedents (e.g., depression). More research is needed on protective factors and modifiable environmental conditions that can be leveraged to promote health among these youth. In particular, socioecological and minority stress theories highlight the importance of social environments in shaping the experiences of marginalized youth [2,3]. However, there are

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**Conflicts of Interest:** The authors have no conflicts of interest to disclose.

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limited data on systems-level protective factors that can be improved through policies, programs, and interventions to decrease disparities, such as working to improve school environments.

Schools are meant to support the youth academically, socially, and physically. School social environments, including involvement in school activities and feelings of connection to the school, can decrease adolescent health risk [4]. School involvement and attachment have been related to less sexual risk [5], substance use [6,7], and violence [8,9] among the youth across numerous studies. Although some data suggest that perceptions of school protective factors may be lower among some sexual minority youth [10], no studies have examined whether perceptions of school connectedness and reports of involvement in school activities are protective against sexual risk, substance use, violence, or peer victimization among sexual minority youth.

The present study uses data collected from middle school and high school students in a large urban school district. We examined the relationship between school involvement and connectedness with measures of sexual risk, substance use, and experience of violence among a subsample of students in participating schools who reported sexual contacts of the same sex. School connectedness and school involvement connect the youth to supportive adults and promote adherence to healthy social norms; scaffold relationships with positive, age-appropriate role models; and buffer the negative influence of risk factors (i.e., deviant peer groups, lack of parent support, and community adversity). The influence of school connectedness and school involvement may be particularly important for sexual minority adolescents who are more likely to be marginalized because of their sexual behavior or identity [11,12].

Additionally, the majority of students in the study were racial or ethnic minorities. Past research on protective factors among sexual minority youth have used samples composed predominantly of white adolescents. Therefore, limited research on protective factors exists for adolescents who experience layered stigma and discrimination because of both their sexuality and race/ethnicity. The present study is an important first step toward addressing this gap in the literature.

## Methods

Data were drawn from waves 2–5 of data collection among the nonintervention sample of the Project Connect evaluation. Project Connect was a multilevel school-based intervention designed to decrease sexual risk behavior and to increase the use of sexual health services; the project was implemented between 2005 and 2009 in middle and high schools near Los Angeles, CA, with schools selected from zip codes with high sexually transmitted infection (STI) and teen pregnancy rates. The study design and data collection methods were described extensively elsewhere [13]. The current analyses included middle school and high school participants who reported any sexual partners of the same sex ( $n = 497$ , <1% of the entire Project Connect comparison group sample).

## Measures

Analyses were limited to students who had sexual contact with the same sex based on a single question: “With whom have you had any kind of sexual activity?” Response options included “I have never had any kind of sexual activity,” “males only,” “females

only,” or “males and females.” Male students who selected females only, female students who selected males only, and students who never had any sexual experience were excluded from the analyses. Additionally, this question was used to create a dichotomous control variable comparing students with only same-sex partners with students with both gender partners.

The analyses included seven self-reported health risks, including three measures of substance use (lifetime alcohol, marijuana, and other drug use), one measure of sexual risk (four or more lifetime sex partners), and three measures of violence experience (bullying victimization, feeling unsafe at school, and having been in a physical fight in the past year). Lifetime alcohol use was assessed with the question “During your life, on how many days have you had at least one drink of alcohol?” Response options were “0 days,” “1 or 2 days,” “3–9 days,” “10–19 days,” “20–39 days,” “40–99 days,” and “100 or more days.” Lifetime marijuana use and other drug use were assessed with similar questions: “During your life, on how many times have you used marijuana (also called weed or pot)?” and “During your life, on how many times have you used other drugs (like cocaine, inhalants, heroin, methamphetamines, or ecstasy)?” Response options to both of these questions were “0 times,” “1 or 2 times,” “3–9 times,” “10–19 times,” “20–39 times,” “40–99 times,” and “100 or more times.” Four or more lifetime sex partners were assessed with the question “With how many people have you ever had sexual intercourse?” Response options were “I have never had sexual intercourse,” “one person,” “two people,” “three people,” and “four people or more.” Bullying victimization and feeling unsafe at school were assessed with the statements “I get teased or bullied at this school” and “I feel safe at this school.” Response options for these statements were “agree,” “neither agree nor disagree,” and “disagree.” Physical fight in the past year was assessed with the question “During the past 12 months, how many times were you in a physical fight?” The response options were “0 times,” “1 time,” “2 or 3 times,” “4 or 5 times,” “6 or 7 times,” “8 or 9 times,” “10 or 11 times,” and “12 or more times.” All of the measures of risk were dichotomized with 1 indicating the presence of risk and the absence of risk as the referent.

School involvement was averaged across six ordinal items developed specifically for the present study that assessed participation in activities at school in the prior 3 months. Students were asked, “In the past 3 months, how often did you take part in the following activities at school?” The list of activities included “sports (like baseball or cheerleading),” “academic clubs (like debate team or science club),” “music or arts (like band or drama),” “identity clubs (like Bible club or cultural/ethnic club),” “service clubs (like tutoring club or key club),” and “leadership or career training (like ROTC).” Participation in each activity was rated on ordinal-interval: “never,” “once or twice a month,” “once or twice a week,” or “every day.” These items were averaged to create a school involvement scale (mean = .57, standard deviation [SD] = .57), which demonstrated adequate psychometric properties (composite reliability = .76).

School connectedness was measured with the average of three items, selected from those used in the National Study on Adolescent Health [14], measured with a three-option ordinal scale (disagree, neither agree nor disagree, or agree), including “I feel close to people at this school,” “I feel like I am part of this school,” and “The teachers at this school treat students fairly.” These three items were averaged to create a school connectedness (mean = 1.22, SD = .53) scale that demonstrated adequate psychometric properties (composite reliability = .76).

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