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Effects of Victimization and Violence on Suicidal Ideation and Behaviors Among Sexual Minority and Heterosexual Adolescents

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Abstract

Purpose: Sexual minority youth (SMY) are at higher risk for victimization and suicide than are heterosexual youth (HY). Relatively little research has examined which types of victimization are most closely linked to suicide, which is necessary to develop targeted prevention interventions. The present study was conducted to address this deficit.
Methods: The data come from the 2011 Chicago Youth Risk Behavior Survey ($n = 1{,}907$). Structural equation modeling (SEM) in M*plus* evaluated the direct, indirect, and total effects of sexual orientation on a latent indicator of suicidal ideation and behaviors via seven types of victimization. Four indicators of victimization were school-specific (e.g., harassment due to sexual orientation or gender identity (SO/GID), bullying, threatened or injured with a weapon, and skipping school due to safety concerns), and three indicators assessed other types of victimization (e.g., electronic bullying, intimate partner violence, and sexual abuse).
Results: Thirteen percent of youth were classified as SMY. Significantly more SMY than HY reported suicidal ideation (27.95% vs. 13.64%), a suicide plan (22.78% vs. 12.36%), and at least one suicide attempt (29.92% vs. 12.43%) in the past year (all $P < .001$). A greater percentage of SMY reported SO/GID-related harassment, skipping school, electronic bullying, and sexual abuse. Sexual orientation was not directly related to suicidal ideation and behaviors in SEM. Rather, SMY's elevated risk of suicidality functioned indirectly through two forms of school-based victimization: being threatened or injured with a weapon ($B = .19$, $SE = .09$, $P \leq .05$) and experiencing SO/GID-specific harassment ($B = .40$, $SE = .15$, $P \leq .01$). There also was a trend for SMY to skip school as a strategy to reduce suicide risk.
Conclusion: Although SMY experience higher rates of victimization than do HY, school-based victimization that involves weapons or is due to one's SO/GID appear to be the most deleterious. That SMY may skip school to reduce their risk of suicidal ideation and behaviors is problematic, and schools should be encouraged to enact and enforce policies that explicitly protect SMY from victimization.

Key words: child and adolescent development, LGBT youth, sexual orientation, suicide.

Introduction

Suicide is the second leading cause of death for adolescents aged 10–19 years old in the United States (U.S.).[1] Among young people in the U.S., sexual minority youth (SMY), i.e., young people who identify as lesbian, gay, bisexual, queer or unsure, or who report same-sex attractions or behaviors, are significantly more likely to report suicidal ideation and attempts than are heterosexual youth (HY).[2,3] For example, a 2011 meta-analysis found that suicide risk was 2.92 times higher among SMY than HY.[4] Reducing and preventing suicide during adolescence is particularly important as nationally representative U.S. data suggest that adolescence may be a life-course specific period of heightened risk for suicide among SMY.[5]

Several theories have been developed to explain health disparities among sexual minority populations.[6–9] Chief among these is Minority Stress Theory, which posits that

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health disparities experienced by lesbian, gay, bisexual, and transgender (LGBT) populations in the U.S. are primarily due to experiences with sexual orientation- and gender identity-related stigma, discrimination, and victimization.[8] Minority stressors can be institutional, such as the absence of policies that protect SMY from harassment due to their sexual orientation, or interpersonal, such as when SMY are victimized in their homes, schools, or communities. Indeed, a growing body of research has found that suicidal ideation and behaviors and other health disparities amongst SMY are largely driven by factors in the social environment, especially experiences with homophobia, violence, and victimization.[2,10–14]

For adolescents, victimization in the school context is particularly important due to the amount of time spent in school, the increased sensitivity to peer influences,[15,16] and the heightened social anxieties that occur in the school setting during adolescence.[17] Despite greater public acceptance and legal protections for LGBT populations in many countries,[13,18–20] SMY continue to report high rates of school-based victimization and violence.[10–14,21–24] For example, in a 2012 survey of British students, 55% of SMY experienced homophobic bullying at school, which included verbal threats, physical abuse, and death threats.[13] Similarly, a 2010 Australian survey found that schools were the primary site of homophobic abuse for LGBT youth.[14] In the U.S., the site of the present study, school-based victimization also disproportionately affects SMY. According to the 2013 National School Climate Survey (NSCS), 74.1% of SMY were verbally harassed at school because of their sexual orientation in the last year, and 32.6% were physically harassed.[25] Actual rates of school-based harassment may be higher, as many SMY are hesitant to report victimization to school teachers and administrators.[25]

In addition to school-based victimization, SMY are susceptible to victimization and violence in other social and developmental contexts. As youth involvement in online and electronic environments has grown, so too have reports of electronic and cyberbullying.[14,26,27] In a Web-based study of 1,454 American adolescents ages 12–17, 72% reported being bullied online at least once in the past year.[28] As with school-based victimization, SMY in the U.S. are more likely to be cyber- and electronically-bullied than are HY.[26,29] In addition, studies indicate that SMY report significantly higher rates of childhood sexual abuse, dating violence, and sexual assault.[23,30–33] Taken together, these data highlight the disproportionate exposure to victimization and violence that SMY in the U.S. continue to experience in their social and romantic relationships.

Whereas studies have established a link between victimization and suicide among SMY,[22,24] less research has examined the relative contributions of different forms of violence and victimization among SMY in the U.S.[34–37] For example, in a longitudinal study of sexual and gender minority youth, Birkett et al.[34] created a composite item of ten different measures of victimization to address the relationship between victimization and psychological distress. These studies are important for understanding the links between victimization and suicide. However, disentangling the specific types of victimization that may lead to suicidal planning and behaviors is critical for developing targeted interventions. Indeed, prior research has found that different types of violence and victimization are associated with divergent psychological, emotional, and behavioral responses.[11]

In the present study, we examine the influence of seven types of victimization on suicidal ideation and behaviors in a school-based sample of American youth. In doing so, we extend the research on victimization among SMY in the U.S. in several ways. First, prior research often combines measures that span different forms and/or contexts of victimization.[23,34–37] However, SMY experience multiple forms of victimization[38,39] and assessing only one type of violence or victimization may confound or overestimate its effect on health and development.[40] Following this, it is plausible that experiences with cyberbullying, sexual assault, intimate partner violence, or harassment based on sexual orientation may be differentially related to youth's suicidal ideation and behaviors. In addition, we conduct Structural Equation Modeling (SEM) to understand how specific pathways between victimization and suicide may differ between SMY and HY in a representative sample of school-based youth. Based on the extant research, we hypothesized that sexual orientation would have a positive direct effect on suicidal ideation and behaviors and that it would be indirectly related to suicide via experiences with violence and victimization. We expected that all forms of victimization would be potential pathways through which sexual orientation was positively associated with suicide, but that in-school harassment due to sexual orientation or gender identity (SO/GID) would be the primary path, given the developmental stage, primacy of school as a social, relational, and developmental context, and the intensity of such victimization as a proximal minority stressor.[8]

Methods

Data

We used data from the 2011 Chicago Youth Risk Behavior Survey (YRBS), a 98-item questionnaire administered to 1,907 students in Chicago public high schools. The YRBS is administered by the Centers for Disease Control and Prevention (CDC) every two years to examine the leading causes of morbidity and mortality among American adolescents.[41] While the CDC provides core survey items, individual sites can add questions of interest. As such, different city and state surveys provide different opportunities to examine the relationship between social context and health. Until 2015, questions about sexual orientation were optional, with different locations inquiring about sexual identity, sexual attraction, or the gender of youth's sexual partners. We analyzed the 2011 Chicago YRBS for several reasons. First, it assessed both sexual identity and multiple forms of victimization, including victimization that is specific to SO/GID (this item is not present in all YRBS surveys). Although research on diverse SMY in the U.S. has grown, the relationship between multiple forms of victimization and suicide among SMY of color remains understudied. Chicago is one of the most segregated cities in the U.S.,[42] and enrollment in Chicago Public Schools (CPS) reflects this segregation. In the 2011–2012 academic year, 85.7% of CPS students identified as African American or Latino (84.9% in 2014–2015).[43] In 2010, CPS enacted an anti-bullying policy and Illinois state had a bullying prevention law that protected both sexual orientation *and* gender identity/expression. The 2011 data are the first Chicago YRBS survey to be completed after these policies were passed. Participation by students was voluntary and parental permission was obtained according to local procedures.

Additional details on YRBS study procedures are described elsewhere.[44] Approval to conduct secondary data analysis was obtained from the University of Chicago's Institutional Review Board.

Measures

Suicidal ideation and behaviors. Youth reported if they had ever seriously considered attempting suicide (0 = no, 1 = yes), made a suicide plan (0 = no, 1 = yes), and the number of times they had attempted suicide (0 = 0 times, 1 = 1 times, 2 = 2 or more times) in the past 12 months. These three items were modeled as a latent indicator of suicidal ideation and behaviors.

Sexual orientation. Youth were asked: ''Which of the following best describes you?'' with responses of ''Heterosexual (straight) [referent],'' ''Gay or lesbian,'' ''Bisexual,'' or ''Not sure.'' All youth identifying as lesbian, gay, bisexual (LGB), or unsure were classified as SMY due to sample size constraints and because unsure youth report similar rates of victimization[39] and suicidality[45] to LGB youth.

Violence and victimization. Seven items assessed violence and victimization. Three items measured the past year frequency of school victimization: being bullied; being harassed due to perceived SO/GID; and being threatened or injured with a weapon. Each item was recoded so that 0 = no victimization, and 1 = one or more victimization experiences. A fourth item asked youth to report the number of days in the past month they had skipped school because of safety concerns (0 = none, 1 = 1 or more days). The final three items assessed having been electronically bullied in the past 12 months, hit or slapped by a partner in the past 12 months, and ever forced to have sexual intercourse (0 = no, 1 = yes).

Demographics. Race/ethnicity was measured with two items: ''What is your race?'' and ''Are you Hispanic/Latino?'' Responses were recoded into four categories: white [referent], black/African American, Latino/Multiple Latino, and Other. Youth also reported their age (12 and under to 18 and above) and gender (0 = male, 1 = female).

Analytic strategy

Descriptive characteristics were analyzed in SPSS 22.0 (IBM SPSS: IBM SPSS Statistics Version 22.0. Boston, Mass: International Business Machines Corp., 2012). Differences in study variables between SMY and HY were examined using binary logistic regression in SPSS 22.0 Complex Samples, which can accommodate the complex sampling frame of the Chicago YRBS. For these comparisons, we used a Holm-modified Bonferroni adjustment to minimize the likelihood of Type I and II errors[46] and expected that a significantly greater percentage of SMY than HY would report violence and victimization, as well as suicidal ideation and behaviors. Following this, SEM in M*plus* 7.1 (Muthén & Muthén, Los Angeles, CA)[47] was conducted to examine the direct, indirect, and total effects between sexual orientation, victimization, and suicidal ideation and behaviors. Our dependent variable, suicidal ideation and behaviors, was modeled as a latent variable measured by three indicators described above: considered suicide, made a suicide plan, and attempted suicide. The factor loading for the first indicator of the latent suicide variable was fixed at 1.00 to set the scale. All indicators of victimization and violence, as well as sexual orientation and demographic covariates, were modeled as observed indicators.

Analyses were pursued with weighted least-squares estimator with mean and variance adjustment (M*plus* estimator WLSMV).[48] The model estimated the direct effect between sexual orientation and suicidal ideation and behaviors, the direct effects from victimization to suicidal ideation and behaviors, and the indirect, total indirect, and total effects from sexual orientation to suicidal ideation and behaviors via each of the seven victimization indicators. Unstandardized (B) and standardized regression (β) coefficients along with standard errors and *P*-values for B are reported for both direct and indirect effects. All analyses controlled for gender, age, and race/ethnicity. Exact model fit was assessed by evaluating the chi-square test statistic. Because the chi-square is sensitive to sample size,[49] we also evaluated model fit with the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), and the weighted root mean square residual (WRMR). Satisfactory model fit was determined if these statistics met two of the following criteria: RMSEA <0.06, CFI ≥0.95, and a WRMR <1.00.[50,51]

Table 1. Descriptive Characteristics, Chicago Youth Risk Behavior Survey 2011 (N = 1,907)

	Percent or Mean
Sexual Orientation	
Sexual minority	13.0
Lesbian/gay	2.5
Bisexual	5.9
Unsure	4.6
Heterosexual	87.0
Gender	
Male	50.3
Female	49.7
Age	15.7 years
Race/Ethnicity	
White	3.3
Black	41.0
Latino/Multiple Latino	49.3
Other	6.4
Victimization and Violence	
Threatened or injured with weapon at school	10.6
Bullied at school	13.1
SO/GID harassment at school	7.6
Skipped school due to safety concerns	10.4
Electronically bullied	11.2
Intimate partner violence	15.6
Sexual abuse	8.9
Suicidal Ideation and Behaviors	
Suicidal ideation	15.3
Suicide plan	14.0
Suicide attempts	
0 times	84.5
1 time	10.3
2 or more times	5.2

SO/GID, sexual orientation or gender identity.

Table 2. Differences in Victimization and Suicidal Ideation and Behaviors Between Sexual Minority and Heterosexual Adolescents, Chicago Youth Risk Behavior Survey 2011 ($N = 1,907$)

	Sexual Minority %	*Heterosexual %*	P-*Value*
Suicidal Ideation and Behaviors			
Suicidal ideation	27.95 (22.06–34.77)	13.64 (12.05–15.40)	<.001
Suicide plan	22.78 (17.42–29.18)	12.36 (10.63–14.31)	<.001
Suicide attempt	29.92 (22.78–38.20)	12.43 (9.75–15.75)	<.001
Victimization and Violence			
Threatened or injured with weapon at school	14.82 (9.75–21.88)	10.15 (8.51–12.05)	.081
Bullied at school	15.75 (10.71–22.60)	12.28 (10.07–14.82)	.209
SO/GID harassment at school	18.10 (13.64–23.61)	5.48 (4.31–6.89)	<.001
Skipped school due to safety concerns	14.75 (10.71–19.87)	9.91 (7.83–12.51)	.022
Electronically bullied	16.81 (12.28–22.54)	11.03 (9.42–12.97)	.013
Intimate partner violence	19.48 (14.75–25.32)	15.11 (13.19–17.29)	.085
Sexual abuse	18.17 (12.97–24.87)	7.83 (6.45–9.50)	<.001

Results

Descriptive statistics

Table 1 provides descriptive characteristics and the rates of victimization and suicidal ideation and behaviors among all youth. The majority of youth identified as Latino (49.3%) or black/African American (41.0%). A total of 13.0% of youth identified as lesbian, gay, bisexual or unsure (SMY), with no significant differences in sexual orientation as a function of age or race/ethnicity (results not shown). However, females were significantly more likely than males to identify as a sexual minority (18.03% vs. 7.75%, $P < .001$). Approximately 15% of youth reported any type of suicidal behavior in the past year. Across the sample, experiences with violence and victimization were generally low, ranging from 7.6% for verbal harassment due to perceived SO/GID to 15.6% for having ever experienced intimate partner violence.

Disparities in victimization and suicide between SMY and HY

Table 2 shows the differences in suicidal ideation and behaviors and experiences with victimization and violence between SMY and HY. As hypothesized, a greater percentage of SMY reported suicidal ideation, plans, and attempts in the past year (see Table 2). Significant differences also were observed for school-based harassment due to SO/GID (18.10% vs. 5.48%, $P < .001$) and for skipping school because of fearing for one's safety (14.75% vs. 9.91%, $P = .022$). In addition, SMY were more likely to have been electronically bullied (16.81% vs. 11.03%, $P = .013$) and to have experienced sexual abuse (18.17% vs. 7.83%, $P < .001$) than were HY.

SEM results

The SEM results are presented in Figure 1 and Tables 3 and 4. Figure 1 shows the unstandardized regression coefficients for the structural equation model. There were no indicators of ill fit; the chi-square was 40.85 (df = 22, $P = .009$), the RMSEA was .021 (90% CI = .01–.03), the WRMR was .50, and the CFI was 0.99. We first report the direct effects from sexual orientation to suicide and the seven types of victimization; these results document the difference in the latent suicide outcome and in each type of victimization between SMY and HY. Following this, we report the direct effects from victimization to suicidal ideation and behaviors,

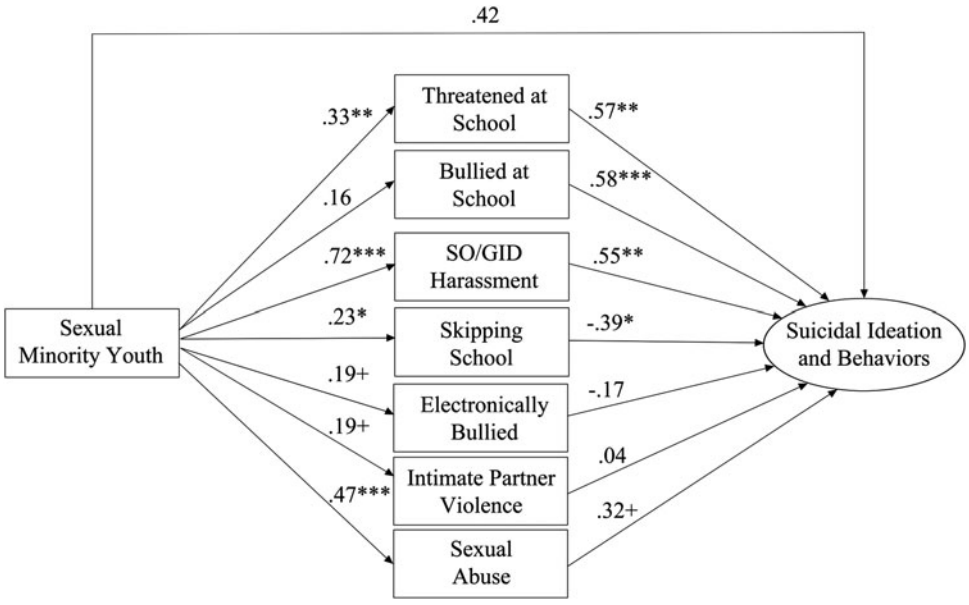

FIG. 1. Structural equation model depicting paths and unstandardized regression coefficients between sexual orientation, victimization and violence, and suicidal ideation and behaviors, Chicago Youth Risk Behavior Survey 2011 ($n = 1,907$). ***$P < .001$, **$P < .01$, *$P < .05$, $^{+}P < .10$ for structural coefficients (Measurement model component not shown; $P < .001$ for all measurement coefficients). Analyses control for gender, race/ethnicity, and age (coefficients not shown). SO/GID, sexual orientation or gender identity.

Table 3. Unstandardized and Standardized Regression Coefficients and Direct Effects for the Structural Equation Model, Chicago Youth Risk Behavior Survey 2011 ($N = 1,907$)

	B	*SE*	β
Sexual Orientation to Suicidal Ideation and Behaviors			
SMY → Suicidal Ideation and Behaviors	.42	.27	.07
Sexual Orientation to Victimization			
SMY → Threatened or injured with weapon at school	.33**	.13	.11
SMY → Bullied at school	.16	.13	.06
SMY → SO/GID harassment at school	.72***	.12	.24
SMY → Skipped school due to safety concerns	.23*	.10	.08
SMY → Electronically bullied	.19+	.11	.06
SMY → Intimate partner violence	.19+	.10	.06
SMY → Sexual abuse	.47***	.11	.16
Victimization to Suicidal Ideation and Behaviors			
Threatened or injured with weapon at school → Suicidal Ideation and Behaviors	.57**	.20	.27
Bullied at school → Suicidal Ideation and Behaviors	.58***	.17	.28
SO/GID harassment at school → Suicidal Ideation and Behaviors	.55**	.19	.27
Skipped school due to safety concerns → Suicidal Ideation and Behaviors	–.39*	.16	–.19
Electronically bullied → Suicidal Ideation and Behaviors	–.17	.18	–.08
Intimate partner violence → Suicidal Ideation and Behaviors	.04	.20	.02
Sexual abuse → Suicidal Ideation and Behaviors	.32+	.19	.16

SMY, sexual minority youth.
$^{***}P \le .001$; $^{**}P \le .01$; $^{*}P \le .05$, $^{+}P < .10$.
Analyses control for gender, race/ethnicity, and age (results not shown).

followed by the indirect, total indirect, and total effects. Because there were few significant effects for demographic factors, these results are not shown (results available from corresponding author).

Contrary to our hypothesis, there was no direct association between sexual orientation and suicidal ideation and behaviors. However, when controlling for demographic factors and multiple forms of victimization, identifying as lesbian, gay, bisexual or being unsure of one's sexual orientation was directly and positively related to being threatened or injured with a weapon at school (B = .33; SE = .13, $P \le .01$), being harassed at school due to one's perceived SO/GID (B = .72, SE = .12, $P < .001$), having skipped school due to safety concerns (B = .23, SE = .10, $P < .05$), and to having experienced sexual abuse (B = .47, SE = .11, $P < .001$). The direct effects to electronic-bullying and partner violence were marginally significant (see Table 3).

The direct effect of being threatened or injured with a weapon at school (B = .57, SE = .20, $P < .01$) and experiencing SO/GID-specific harassment (B = .55, SE = .19, $P < .01$) on suicidal ideation and behaviors were significant in the expected directions, as was bullying (B = .58, SE = .17, $P < .001$). Notably, skipping school was negatively associated with suicidal ideation and behaviors (B = −.39, SE = .16, $P < .014$).

Table 4 shows the indirect effects, the sum of the four indirect effects, and the total effects for the model. The indirect effect of being threatened with a weapon at school for SMY on suicidal ideation and behaviors was significant (B = .19, SE = .09, $P < .05$), as was the indirect effect for being harassed at school due to one's SO/GID (B = .40, SE = .15, $P < .01$). The indirect effect from skipping school due to safety concerns on suicidal ideation and behaviors was marginally significant (B = −.09; SE = .05, $P = .090$), as was the indirect effect for sexual abuse (B = .15; SE = .09, $P = .096$). Finally, the sum of the seven indirect effects from identifying as a SMY on suicidal ideation and behaviors was significant (B = .72, SE = .23, $P < .01$), as was the overall total effect (B = 1.14, SE = .22, $P < .001$).

Table 4. Indirect, Total Indirect and Total Effects for the Structural Equation Model, Chicago Youth Risk Behavior Survey 2011 ($N = 1,907$)

	B	SE	β
SMY → Threatened or injured with weapon at school → Suicidal Ideation and Behaviors	.19*	.09	.03
SMY → Bullied at school → Suicidal Ideation and Behaviors	.10	.07	.02
SMY → SO/GID harassment at school → Suicidal Ideation and Behaviors	.40**	.15	.06
SMY → Skipped school due to safety concerns → Suicidal Ideation and Behaviors	−.09+	.05	−.01
SMY → Electronically bullied → Suicidal Ideation and Behaviors	−.03	.04	−.01
SMY → Intimate partner violence → Suicidal Ideation and Behaviors	.01	.04	.001
SMY → Sexual abuse → Suicidal Ideation and Behaviors	.15+	.09	.02
Total Indirect Effect	.72**	.23	.12
Total Effect	1.14***	.22	.18

$^{***}P \le .001$; $^{**}P \le .01$; $^{*}P \le .05$, $^{+}P < .10$.
Coefficients, standard errors, and *P*-values were estimated using M*plus* 7.11 with the WLSMV estimator. Analyses control for gender, race/ethnicity, and age (results not shown).

Discussion

The present study examined how multiple forms of victimization are related to suicide in a representative sample of school-based adolescents in Chicago, IL. Although research has found that SMY are at greater risk for suicide than are HY, prior work has not always considered the simultaneous influence of multiple types of victimization and violence.[34–36] In contrast, we utilized SEM to understand how sexual orientation is related to suicidal ideation and behaviors via the risks posed by seven types of victimization encountered in important social and developmental contexts. In doing so, we extend the research base by documenting the differential pathways through which sexual orientation is related to suicidal ideation and behaviors amongst SMY and HY.

Consistent with prior research, our descriptive statistics show that SMY report more suicidal ideation and behaviors than do HY.[4,11,52] Notably, almost 30% of SMY reported that they had attempted suicide in the past year and SMY were significantly more likely than HY to report experiencing victimization and violence. Amongst SMY, reported suicide attempts were higher than reports of suicidal ideation and having made a suicide plan, which was not the case with heterosexual youth. Additional research should explore the potential reasons underlying this pattern, as it may reflect under- or over-reporting of suicidal ideation and behaviors on the part of some SMY. Turning to the SEM results, the overall pattern indicated that there was no direct relationship between sexual orientation and suicide, but that SMY's elevated risk of suicidal ideation and behaviors functioned indirectly through two forms of school-based victimization: being threatened or injured with a weapon at school and experiencing harassment specific to SO/GID appear to be especially important. Whereas SO/GID-based victimization speaks to the centrality of minority stressors on SMY's health and well-being,[8] being threatened or injured with a weapon at school highlights the grave harm that many SMY encounter in some American schools.

This study contributes to a growing body of international work highlighting the role of unsafe school climates in fostering poor health among SMY.[10,11,13,14,23,25] According to the 2013 NSCS, 32.6% of SMY were physically harassed at school due to their sexual orientation.[25] It is not surprising, then, that SMY were more likely than HY to skip school because they feared for their personal safety. Although the indirect path for skipping school was marginally significant, the overall pattern of results suggests that SMY skip school as a coping strategy to avoid victimization and protect themselves. This finding is consistent with prior U.S. and international research, in which SMY have discussed how bullying at school alters their attendance and educational trajectories.[13,14,25] Skipping school is an important indicator of school disengagement and has been linked to an increased risk of dropping out, as well as substance use and misuse in young adulthood.[53] Hostile school environments during adolescence, therefore, may be important for not only influencing suicidal ideation and behaviors, but also for shaping long-term socioeconomic outcomes,[54] which may contribute to sexual orientation health disparities later in life.

The burden of responsibility to reduce exposure to victimization should not fall on the shoulders of SMY. Our results underscore the importance of working in schools to develop programs and policies that can reduce school-based victimization of SMY. Supportive environments characterized by gay-straight alliances (GSA) and policies that specifically protect LGBT students are school-based structural interventions that may increase safety and reduce victimization and suicide risk among SMY.[55–59] Furthermore, research suggests that school staff may benefit from targeted interventions, as they often fail to intervene when LGBT youth are victimized and may make homophobic comments about LGBT students.[25,60] Our results also underscore the disparities in sexual abuse between SMY and HY. Although school-based victimization had a more robust association with suicidal ideation and behaviors, sexual abuse is a reliable correlate of poor psychological, physical, and behavioral health.[61–66] Unfortunately, the YRBS measure did not identify the nature, perpetrator(s), or chronicity of these incidents. However, future research should examine how to prevent sexual abuse among SMY for its potential to prevent suicide.

Limitations

This study has several limitations. First, causal inferences cannot be made given cross-sectional data and the Chicago YRBS may not generalize to other locations. Although SEM offers several methodological strengths, prospective studies that formally examine mediation in representative samples of SMY are needed. Second, all incidents of victimization are self-reported. Previous research has shown that victimization is largely underreported,[25,28] thus our results may underestimate the association between victimization and suicidal ideation and behaviors. Third, we combined lesbian, gay, bisexual, and unsure adolescents due to sample size restrictions but previous research with pooled YRBS data has shown differences in victimization and suicidal ideation and behaviors between sexual minority groups.[52] We also did not have school-level measures of LGBT-specific policies, which may affect suicidal ideation and behaviors both directly and indirectly via reduced exposure to victimization.[67] Given the study's purpose, we focused specifically on risk factors but prior research with YRBS data from Milwaukee suggests that family support in particular can offset the risk of suicide associated with victimization.[21] Research that evaluates the simultaneous influence of risk and resilience in different developmental contexts is needed to enrich our understanding of how best to support the optimal health and development of SMY.[2] Finally, our data do not speak to the needs of transgender youth, as the Chicago YRBS did not assess gender identity. Future research should examine how diverse groups of LGBT youth experience victimization and suicide, as well as resilience. The addition of standardized items on gender identity to surveys such as the YRBS will be particularly important as transgender youth experience greater victimization than their cisgender LGB peers.[34]

Conclusion

Despite these limitations, findings implicate school-based victimization over other types of violence and victimization as a social driver of health disparities in suicide between SMY and HY. Research from the U.S. and Australia has found that LGBT youth in schools with anti-bullying policies that protect sexual orientation and gender identity report

significantly less bullying and abuse.[67,68] Although CPS and Illinois state had an anti-bullying policy that protected sexual orientation and gender identity/expression in 2011, our results suggest that there may be gaps in implementation and/or enforcement. It also may require additional years of policy enactment or additional social change around LGBT social issues to see reductions in homophobic bullying. For example, same-sex marriage became legal in Illinois in 2014, which could have a positive influence on LGBT people's mental health.[69] Analyses of subsequent YRBS data will assist in understanding how the changing social landscape is potentially related to SMY's reports of school-based victimization and suicide. It also is possible that additional partnerships with key stakeholders are needed, as prior work on developing effective anti-bullying policies for LGBT youth[70] and a recent global call to prevent suicide[12] both highlight the need to develop comprehensive, multisectoral responses. As this work proceeds in the U.S., our results suggest that addressing sexual orientation- and gender identity-related victimization and reducing weapons-related threats and harms should be a central focus of efforts designed to prevent suicide among SMY.

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Author Disclosure Statement

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