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Mental Health Among Sexual and Gender Minority Youth Incarcerated in Juvenile Corrections

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abstract

OBJECTIVES: This study examined differences by sexual and gender minority (SGM) and incarceration statuses in mental health indicators among youth.

METHODS: Population-based, cross-sectional data are from the 2019 Minnesota Student Survey ($N = 72\,324$) and includes public school students ($M_{\text{age}} = 15.49$) and youth incarcerated in juvenile correctional facilities ($M_{\text{age}} = 15.48$). We categorized youth into 4 groups: (1) non-SGM youth in public schools, (2) non-SGM youth in correctional facilities, (3) SGM youth in public schools, and (4) SGM youth in correctional facilities. Multivariable regression models assessed associations among SGM and incarceration statuses and mental health indicators after controlling for sociodemographic characteristics and exposure to adverse childhood experiences.

RESULTS: More youth in juvenile correctional facilities identified as SGM (28.8%) compared with youth in public schools (20.4%, $P = .002$). SGM youth in correctional facilities reported a higher prevalence of suicidal ideation (42.2%), suicide attempt (37.5%), and self-harm (57.8%) compared with all other groups. Depressive symptom severity was similarly elevated among SGM youth in correctional facilities and SGM youth in public schools. SGM youth in correctional facilities, compared with non-SGM youth in public schools, demonstrated elevated odds of suicide ideation (adjusted odds ratio [aOR] = 2.2, 95% confidence interval [95% CI] = 1.3–3.9), suicide attempt (aOR = 6.3, 95% CI = 3.6–10.9), and self-harm (aOR = 3.6, 95% CI = 2.1–6.3).

CONCLUSIONS: Incarcerated SGM youth disproportionately experience negative mental health indicators. Findings suggest that tailored, intersectional, and responsive mental health interventions are needed to support incarcerated SGM youth.



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WHAT'S KNOWN ON THE SUBJECT: Sexual and gender minority (SGM) youth experience worse mental health than their non-SGM peers. Incarceration is a major public health concern, and incarcerated youth disproportionately experience mental health problems. Yet, the mental health of incarcerated SGM youth is understudied.

WHAT THIS STUDY ADDS: In this population-based, statewide study that included 72 324 youth in public schools and juvenile correctional facilities, SGM youth incarcerated in juvenile correctional facilities reported a higher prevalence of suicidal ideation, suicide attempt, and self-injury than their peers.

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Sexual and gender minority (SGM) youth experience poorer mental health compared with non-SGM (ie, cisgender, heterosexual) youth.¹⁻³ Nationally representative data demonstrate that nearly one-quarter of lesbian, gay, or bisexual (LGB) youth and more than one-third of transgender youth attempted suicide in the past year compared with ~6% of non-SGM youth.^{4,5} Established determinants of poor mental health among SGM youth include exposure to minority stress (eg, discrimination, bullying) and structural stigma (ie, anti-SGM laws, policies, and social norms).^{6,7}

Mass incarceration represents an understudied structural factor that also disproportionately impacts SGM youth.⁸ For example, the National Survey of Youth in Custody-2, a nationally representative study of incarcerated youth, found that LGB youth are overrepresented in juvenile correctional settings, and data from 7 juvenile detention centers corroborated this with ~20% of incarcerated youth reporting an LGB identity compared with 7% to 9% of the general population.^{9,10} Although no national data exist quantifying the prevalence of transgender youth in carceral settings, it is believed transgender and gender diverse youth are also overrepresented on the basis of data from adult samples.¹¹ SGM youth may be overrepresented in the juvenile correctional system partly because of experiences of victimization and discrimination, overpolicing, and preexisting mental health morbidity.¹² Incarcerated youth experience a high prevalence of mental health problems including depression, suicidal ideation and behavior, and trauma-related disorders.^{13,14} Further, contact with the juvenile correctional system is prospectively associated with worse mental health into adulthood.^{15,16} Incarcerated youth's poorer mental

health stems from a dual pathway whereby 1) youth with existing mental health problems are more likely to encounter the criminal-legal system because of low access to mental health care and the criminalization of mental illness; and 2) experiences in juvenile correctional settings (eg, victimization) can exacerbate or contribute to the development of mental health difficulties.^{14,17}

SGM youth who are incarcerated may be at greater risk of experiencing harm, including stigma, discrimination, and sexual victimization contributing to poor mental health.⁹

The mental health of incarcerated SGM youth is understudied. A key barrier to conducting such research is the limited availability of data incorporating sexual orientation and gender identity (SOGI) information, as well as data from incarcerated youth.¹⁸ The Minnesota Student Survey (MSS) overcomes this limitation as the only population-based, statewide survey of youth that captures SOGI information and is administered in both public schools and juvenile correctional facilities. Capitalizing on this unique data, the current study's goals were twofold:

1. to document mental health indicators by SGM and incarceration statuses; and
2. to examine associations among SGM and incarceration statuses and mental health indicators after controlling for sociodemographic variables and exposure to adverse childhood experiences (ACEs), including various types of childhood abuse, neglect, and household dysfunction (ie, parental substance use).

Controlling for ACEs is critical because ACEs are established contributors to incarceration and

poorer mental health, and SGM youth are exposed to substantially more ACEs than their non-SGM peers.^{3,19-21} The study was guided by 2 hypotheses:

1. that incarcerated SGM youth would experience worse mental health compared with all other youth; and
2. that SGM and incarceration statuses would be strongly associated with mental health over and above the influence of exposure to ACEs such that incarcerated SGM youth would experience worse mental health even after adjusting for sociodemographic variables and exposure to ACEs.

METHODS

Data

We used data from the 2019 MSS, a statewide, population-based, self-report survey of youth administered every 3 years in public schools, alternative learning centers, and juvenile correctional facilities.²² The current study used data from public schools and juvenile correctional facilities. In public schools, the MSS is administered online to fifth-, eighth-, ninth-, and 11th-graders. In juvenile correctional facilities, the MSS is administered either online or via paper and pencil to all incarcerated youth, regardless of grade in school. In public schools, SOGI information was only collected among ninth- and 11th-graders, so our analysis is restricted to these grades for public school students. All public schools in Minnesota were invited to participate; in 2019, 81% of public-school districts participated. Of all public-school students in Minnesota, 66% of ninth-grade and 54% of 11th-grade students participated. In 2019, there were 27 juvenile correctional facilities in Minnesota, and 17 participated in

the MSS. The current analytic sample includes 72 324 respondents who reported SOGI information and at least 1 of the 4 primary mental health indicators. Our final analytic samples included 72 102 youth in public schools ($M_{\text{age}} = 15.49$) and 222 youth in juvenile correctional facilities ($M_{\text{age}} = 15.48$). The Vanderbilt University institutional review board approved this analysis.

Measures

Exposure

Sexual orientation was assessed with the question: "How do you describe yourself?" Response options were: heterosexual (straight); bisexual; gay or lesbian; questioning/not sure; pansexual; queer; I don't describe myself in any of these ways; and I am not sure what this question means. Respondents who were not sure what the sexual orientation question meant were not included in further analyses. Transgender and gender-diverse identity were assessed with the question: "Are you transgender, genderqueer, or genderfluid?" Response options included: yes; no; I am not sure about my gender identity; and I am not sure what this question means. Respondents who replied yes to this question also received a follow-up question: How do you describe yourself? Responses options to this question included: male, trans male, trans man, or trans masculine; female, trans female, trans woman, or trans feminine; nonbinary, genderqueer, or genderfluid; and I prefer to describe my gender as something else.

We classified respondents as an SGM individual if they reported any nonheterosexual sexual orientation and/or responded yes or I am not sure about my gender identity to the question assessing transgender and gender diverse identity. We then

used this SGM classification and information on place of survey administration (ie, public school or juvenile correctional facility) to create 4 mutually exclusive groups: (1) non-SGM youth in public schools, (2) non-SGM youth in correctional facilities, (3) SGM youth in public schools, and (4) SGM youth in correctional facilities.

Mental Health Indicators

Suicidal ideation was assessed with the question: "Have you ever seriously considered attempting suicide?" Suicide attempt was assessed with the question: "Have you ever actually attempted suicide?" For both questions, respondents who answered, "Yes, during the last year" were classified as experiencing past-year suicidal ideation and past-year suicide attempt, respectively. Suicidal ideation and attempt have been assessed in the MSS since 1992, use the same wording as suicide-related questions in the Centers for Disease Control and Prevention's national Youth Risk Behavior Survey, and, as an indicator of convergent validity, are positively associated with expected variables recorded in the MSS, including self-injury, exposure to interpersonal violence, and alcohol and substance use.²³

Self-harm was measured with the question: "During the last 12 months, how many times did you do something to purposely hurt or injure yourself without wanting to die, such as cutting, burning, or bruising yourself on purpose?" Respondents who reported purposely hurting or injuring themselves at least once were classified as engaging in past-year self-harm.

Depressive symptoms were assessed using the Patient Health Questionnaire-2 (PHQ-2).^{24,25} The PHQ-2 is a brief, depression

symptom screening tool with 2 items that are predicated with the statement, "Over the last 2 weeks, how often have you been bothered by ...?" and the items are: (1) little interest or pleasure in doing things, and (2) feeling down, depressed, or hopeless. Responses to each item are recorded on a scale from 0 (not at all) to 3 (nearly every day), and then summed. A higher-sum score on the PHQ-2 indicates more-frequent depressive symptoms. The sum score has been widely used as a continuous measure of depressive-symptom severity in previous studies with adolescents, including in primary care, community, and school-based settings.²⁶⁻³⁰ The scale demonstrated acceptable internal consistency (Cronbach's $\alpha = 0.77$).

Exposure to ACEs

Respondents answered 9 yes-or-no questions assessing exposure to ACEs that covered several types of negative and traumatic experiences, including: incarceration of a parent; living with someone who uses too much alcohol, uses drugs, or has serious mental health problems; experiencing verbal or physical abuse by a parent; witnessing domestic violence; and experiencing sexual abuse by a nonfamily or family member. Previous research has documented that exposure to 4 or more ACEs is associated with physical and mental health morbidity across the life course, whereas exposure to 0 ACEs is protective.^{19,31,32} Thus, we categorized the number of endorsed ACEs into 3 categories: none, 1 to 3 ACEs, and 4 or more ACEs.

Sociodemographics

The MSS assessed several sociodemographic covariates, including age (continuous), sex assigned at birth (male/female), race and ethnicity (non-Hispanic white, American Indian or

Alaska Native, Asian or Asian American, Black or African American, Hispanic or Latinx, Native Hawaiian or Pacific Islander, >1 race), and, as a measure of socioeconomic status, free or reduced-price lunch (yes/no/not sure).

Analyses

Descriptive statistics, including means and proportions, were used to describe sociodemographic characteristics and exposure to ACEs among the 4 groups: (1) non-SGM youth in public schools, (2) non-SGM youth in correctional facilities, (3) SGM youth in public schools, and (4) SGM youth in correctional facilities.

We then used separate multivariable logistic regression models to assess adjusted associations between SGM and incarceration groups and binary mental health indicators (suicidal ideation, suicide attempt, and self-harm). For the continuous mental health indicator (depressive symptom score as measured by the PHQ-2), we used a multivariable linear regression model. For all models, the reference group for the 4-level SGM and incarceration group independent variable was set as non-SGM youth in public schools. In the first set of models, we controlled for sociodemographics, including age, sex, race and ethnicity, and free or reduced-price lunch. Models controlled for race/ethnicity as a proxy for experiences of systemic racism, which contribute to the inequitable allocation of mental health resources and worse mental health outcomes among youth of color.³³ In the second set of models, to examine mental health disparities over and above the influence of exposure to ACEs, we also added exposure to ACEs as a control variable. In the final analytic sample, there were very limited missing data (ranging from 0.1% missing age to

6.4% missing exposure to ACEs); nevertheless, in multivariable models, we employed multiple imputation procedures to account for missing data.³⁴ Model fit for all models was assessed in a 20% random subsample using the Hosmer-Lemeshow test and found to be acceptable³⁵; inspection of a correlation matrix found that there was no presence of multicollinearity. Analyses were conducted using SAS version 9.4. Statistical significance was 2-sided and assessed at a *P* value of <.05.

RESULTS

The 72 324 youth included in the current study were classified as non-SGM youth in public schools (*N* = 57 371), non-SGM youth in correctional facilities (*N* = 158), SGM youth in public schools (*N* = 14 731), and SGM youth in correctional facilities (*N* = 64; Table 1). In total, 20.4% of youth in public schools compared with 28.8% of youth in juvenile correctional facilities reported an SGM identity (*P* = .002).

The most prevalent sociodemographic categories of SGM youth in correctional facilities were assigned female sex (64.1%), bisexual sexual orientation (43.8%), multiracial race/ethnicity (31.3%), receiving free or reduced-price lunch (59.4%), and reporting 4 or more ACEs (53.5%; Table 1). SGM youth in correctional facilities were, on average, aged 15 years. In total, 21.9% of SGM youth in correctional facilities identified as transgender or were uncertain of their gender identity. Table 1 presents additional sociodemographic characteristics.

Compared with all other groups, SGM youth in correctional facilities reported the highest prevalence of suicidal ideation (42.2%), suicide attempt (37.5%), and self-harm (57.8%; Fig 1). Depressive-symptom severity was similarly elevated

among SGM youth in correctional facilities (*M* = 2.30, *SD* = 1.76) and SGM youth in public schools (*M* = 2.26, *SD* = 1.97) compared with non-SGM peers. Because of the small sample size of SGM youth in juvenile correctional facilities (*n* = 64), 95% confidence intervals (95% CIs) were relatively imprecise.

Results from the multivariable regression models controlling for sociodemographics (but not ACEs) showed that, compared with non-SGM youth in public schools, the 3 other groups experienced significantly greater odds of reporting suicidal ideation, suicide attempt, self-harm, and significantly higher depressive symptoms; SGM youth in juvenile correctional facilities exhibited the highest-magnitude odds ratios of all binary mental health indicators (Table 2). After also adjusting for exposure to ACEs, all associations were moderately attenuated. However, even in the context of exposure to ACEs, SGM youth in correctional facilities, compared with non-SGM youth in public schools, still demonstrated the highest-magnitude odds of suicide ideation (aOR [adjusted odds ratio] = 2.2, 95% CI = 1.3–3.9), suicide attempt (aOR = 6.3, 95% CI = 3.6–10.9), and self-harm (aOR = 3.6, 95% CI = 2.1–6.3), highlighting the robustness of these disparities over and above the influence of exposure to ACEs. Notably, both non-SGM youth in correctional facilities and SGM youth in public schools also demonstrated elevated odds of suicide ideation, suicide attempt, and self-harm compared with non-SGM youth in public schools, although effect sizes for SGM youth in correctional facilities were of substantially greater magnitude. After adjusting for exposure to ACEs, depressive symptoms were not significantly higher among SGM youth in correctional facilities.

TABLE 1 Sociodemographic Characteristics and Exposure to ACEs by SGM and Incarceration Statuses, *N* = 72 324

Characteristic	Non-SGM Youth in Public Schools (<i>N</i> = 57 371) <i>n</i> (%) ^a	SGM Youth in Public Schools (<i>N</i> = 14 731) <i>n</i> (%) ^a	Non-SGM Youth in Correctional Facilities (<i>N</i> = 158) <i>n</i> (%) ^a	SGM Youth in Correctional Facilities (<i>N</i> = 64) <i>n</i> (%) ^a
Age, mean (SD) ^b	15.5 (1.1)	15.4 (1.1)	15.6 (1.6)	15.0 (1.7)
Sex assigned at birth				
Male	29 870 (52.1)	5122 (34.8)	129 (81.7)	23 (35.9)
Female	27 458 (47.9)	9553 (64.9)	29 (18.4)	41 (64.1)
No answer	43 (0.1)	56 (0.4)	0 (0.0)	0 (0.0)
Race/ethnicity				
American Indian or Alaska Native	578 (1.0)	279 (1.9)	20 (12.7)	13 (20.3)
Asian or Asian American	3443 (6.0)	1088 (7.4)	1 (0.6)	1 (1.6)
Black or African American	3501 (6.1)	939 (6.4)	26 (16.5)	7 (10.9)
Hispanic/Latinx	3100 (5.4)	1056 (7.2)	10 (6.3)	4 (6.3)
>1 race	4358 (7.6)	1560 (10.6)	50 (31.7)	20 (31.3)
Native Hawaiian or Pacific Islander	85 (0.2)	37 (0.3)	0 (0.0)	0 (0.0)
Non-Hispanic white	42 074 (73.3)	9660 (65.6)	51 (32.3)	18 (28.1)
No answer	232 (0.4)	112 (0.8)	0 (0.0)	1 (1.6)
Sexual orientation				
Heterosexual (straight)	57 371 (100.0)	285 (1.9)	158 (100.0)	1 (1.6)
Bisexual	0 (0.0)	4234 (28.7)	0 (0.0)	28 (43.8)
Gay or lesbian	0 (0.0)	1172 (8.0)	0 (0.0)	6 (9.4)
Pansexual	0 (0.0)	1270 (8.6)	0 (0.0)	8 (12.5)
Queer	0 (0.0)	306 (2.1)	0 (0.0)	0 (0.0)
Questioning/not sure	0 (0.0)	1573 (10.7)	0 (0.0)	5 (7.8)
I don't describe myself in any of these ways	0 (0.0)	5891 (40.0)	0 (0.0)	16 (25.0)
Gender identity				
Identifies as transgender/genderqueer/genderfluid	0 (0.0)	1036 (7.0)	0 (0.0)	10 (15.6)
Not sure about gender identity	0 (0.0)	1001 (6.8)	0 (0.0)	4 (6.3)
No/do not understand question	57 285 (99.9)	12 650 (85.9)	147 (93.0)	46 (71.9)
No answer	86 (0.2)	44 (0.3)	11 (7.0)	4 (6.3)
Transgender/genderqueer/genderfluid gender identity ^c				
Male, trans male, trans man, or trans masculine	0 (0.0)	398 (38.6)	0 (0.0)	2 (20.0)
Female, trans female, trans woman, or trans feminine	0 (0.0)	114 (11.1)	0 (0.0)	3 (30.0)
Nonbinary, genderqueer, or genderfluid	0 (0.0)	437 (42.4)	0 (0.0)	4 (40.0)
I prefer to describe my gender as something else	0 (0.0)	81 (7.9)	0 (0.0)	1 (10.0)
Receives free or reduced-price lunch				
Yes	11 759 (20.5)	4180 (28.4)	94 (59.5)	38 (59.4)
No/not sure	44 709 (78.3)	10 087 (68.5)	61 (38.6)	26 (40.6)
No answer	705 (1.2)	464 (3.2)	3 (1.9)	0 (0.0)
Exposure to ACEs ^d				
None	29 156 (54.2)	5029 (36.8)	20 (14.1)	6 (10.3)
1 to 3	21 558 (40.0)	6771 (49.6)	87 (61.3)	21 (36.2)
4 or more	3094 (5.8)	1860 (13.6)	35 (24.7)	31 (53.5)

^a Percentages reflect column percentages.

^b *n* = 72 269.

^c *n* = 1040.

^d *n* = 67 668.

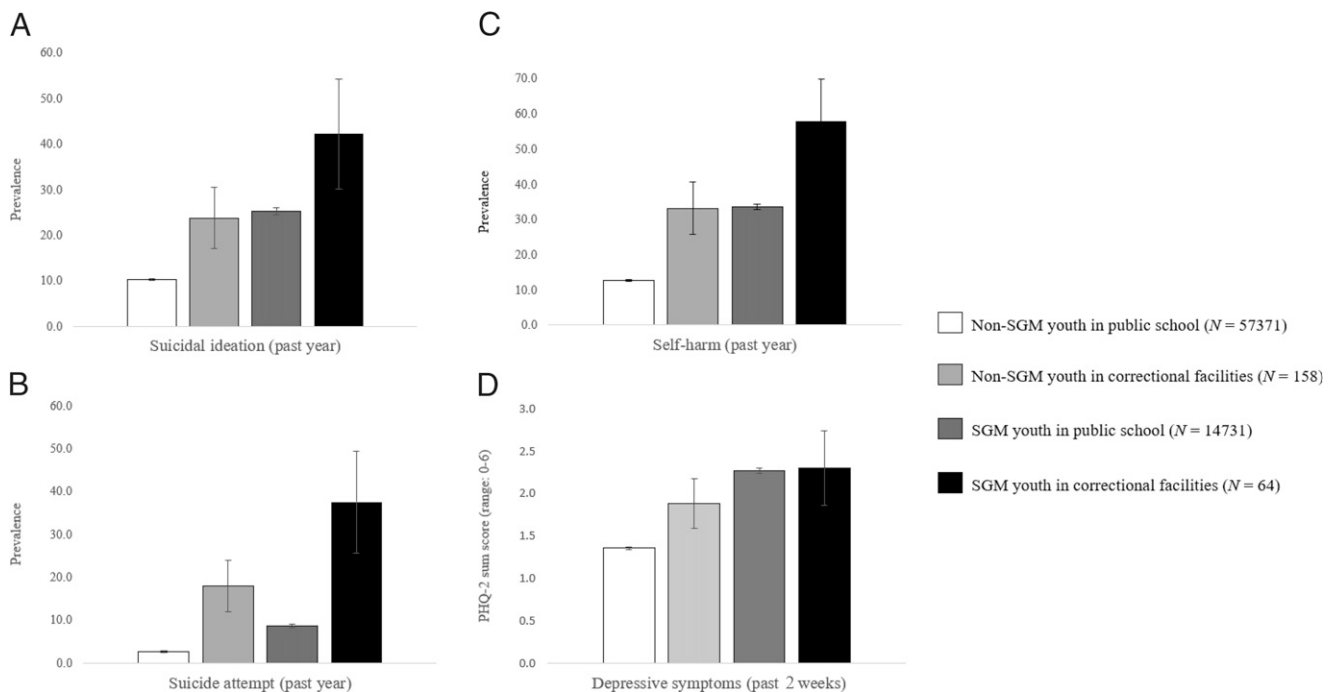


FIGURE 1 Mental health indicators by SGM and incarceration statuses with 95% CIs. Panel A. Prevalence of suicidal ideation assessed by affirmative response to Have you seriously considered attempting suicide during the last year? Panel B. Prevalence of suicide attempt assessed by affirmative response to Have you ever actually attempted suicide during the last year? Panel C. Prevalence of self-harm assessed by reporting 1 or more times to During the last 12 months, how many times did you do something to purposely hurt or injure yourself without wanting to die, such as cutting, burning, or bruising yourself on purpose? Panel D. Depressive symptoms assessed with sum score on the PHQ-2 (range 0–6).

Supplemental Analyses

We classified youth who described their sexual orientation as “I don’t describe myself in any of these ways” as SGM, considering recent research showing that SGM youth use diverse, creative, and rapidly shifting terminology to describe their sexual orientations.³⁶ Yet, because we cannot infer with certainty these youth’s sexual orientations, in a supplemental descriptive analysis, we dropped these youth ($n = 5709$; 8.2%) and results were generally consistent (Supplemental Fig 2). In a second set of supplemental analyses, we assessed mental health indicators among SGM youth in public schools and juvenile correctional facilities by SOGI (Supplemental Table 3). Small sample sizes among incarcerated SGM youth limits interpretability; however, in both public schools and correctional facilities, SGM youth

identifying as bisexual, pansexual, and transgender and gender diverse generally reported the highest prevalence/severity of mental health indicators. In a final set of supplemental analyses, we conducted regression analyses for all mental health indicators controlling for sociodemographic covariates and ACEs but specifying alternative reference groups for the 4-level SGM and incarceration group independent variable. With SGM youth in public schools as the reference group, SGM youth in correctional facilities demonstrated 2.7 times the odds of suicide attempt (95% CI = 1.6–4.7). Notably, SGM youth in correctional facilities demonstrated significantly lower depressive symptoms than SGM youth in public schools ($\beta = -0.62$, 95% CI = -1.02 to -0.23). With non-SGM youth in correctional facilities as the reference group, the point estimates and confidence limits for all mental health indicators

for SGM youth in correctional facilities trended away from the null, but small sample sizes for this comparison limited power to detect significant differences (Supplemental Table 4).

DISCUSSION

We found that SGM youth are disproportionately represented in juvenile correctional facilities, corroborating evidence from previous studies with justice-involved youth.^{9,37,38} We further documented that incarcerated SGM youth face significantly greater suicidal ideation, suicide attempt, and self-harm, even when controlling for exposure to ACEs, an established contributor to poor mental health and incarceration. Sociodemographic findings showed that subgroups of SGM youth may be overrepresented in juvenile correctional facilities, including multiracial, Black, or African American

TABLE 2 Multivariable Logistic and Linear Regression Models Documenting Associations Between SGM and Incarceration Statuses and Mental Health Indicators, *N* = 72 324

	Suicidal Ideation ^a (<i>N</i> = 70 489)		Suicide Attempt ^b (<i>N</i> = 70 507)		Self-Harm ^c (<i>N</i> = 71 368)		Depressive Symptoms ^d (<i>N</i> = 70 656)	
	aOR ^e (95% CI)	aOR ^f (95% CI)	aOR ^e (95% CI)	aOR ^f (95% CI)	aOR ^e (95% CI)	aOR ^f (95% CI)	β ^e (95% CI)	β ^f (95% CI)
Non-SGM youth in public schools	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Non-SGM youth in correctional facilities	2.6 (1.8–3.8)***	1.6 (1.1–2.4)*	6.3 (4.1–9.6)***	3.9 (2.5–6.0)***	3.5 (2.5–4.9)***	2.3 (1.6–3.3)***	0.42 (0.15–0.68)**	–0.01 (–0.26 to 0.24)
SGM youth in public schools	2.6 (2.5–2.8)***	2.2 (2.1–2.3)***	3.0 (2.8–3.3)***	2.4 (2.2–2.6)***	3.1 (2.9–3.2)***	2.6 (2.5–2.8)***	0.79 (0.76–0.82)***	0.61 (0.58–0.64)***
SGM youth in correctional facilities	4.6 (2.8–7.7)***	2.2 (1.3–3.9)**	13.1 (7.7–22.2)***	6.3 (3.6–10.9)***	6.7 (4.0–11.3)***	3.6 (2.1–6.3)***	0.63 (0.23–1.04)**	–0.01 (–0.41 to 0.40)

* *P* < .05; ** *P* < .01; *** *P* < .001. Ref, reference group.

^a Suicidal ideation (past year) assessed by affirmative response to Have you seriously considered attempting suicide during the last year?

^b Suicide attempt (past year) assessed by affirmative response to Have you ever actually attempted suicide during the last year?

^c Self-harm (past year) assessed by reporting 1 or more times to During the last 12 months, how many times did you do something to purposely hurt or injure yourself without wanting to die, such as cutting, burning, or bruising yourself on purpose?

^d Depressive symptoms assessed with sum score on the PHQ-2 (range 0–6).

^e Models adjusted for sociodemographic covariates (age [continuous], race/ethnicity, free or reduced-priced lunch, and sex assigned at birth).

^f Models adjusted for sociodemographic covariates (age [continuous], race/ethnicity, free or reduced-priced lunch, and sex assigned at birth) and ACEs.

youth; American Indian/American Native youth; bisexual and pansexual youth; and transgender youth. Because these groups also represent populations disproportionately impacted by poor mental health partly because of interlocking forces of structural racism, heterosexism, and transphobia, our findings suggest that intersectional approaches are needed for future investigation into how incarceration contributes to poor mental health among minoritized subpopulations of SGM youth.^{4,39,40} Considering this study’s findings, below, we explain how the current study builds upon previous evidence, and we propose several points of intervention, including diminishing SGM youth’s contact with the carceral system, reducing SGM youth’s exposure to ACEs, and supporting incarcerated SGM youth to improve mental health.

Our findings demonstrate that SGM youth are overrepresented in correctional settings, suggesting that interventions aimed at reducing pathways to incarceration for SGM youth, and especially SGM youth with mental health difficulties and additional

minoritized identities, may be warranted. Mechanisms to reduce SGM youth’s interaction with the carceral system can include enhancing access to community mental health care treatment and preventing arrest through utilization of behavioral health crisis-response programs rather than law enforcement.⁴¹ Another way to mitigate SGM youth’s contact with the carceral system may be to work toward dismantling the school-to-prison pathway. Data from a nationally representative sample of youth have shown that LGB youth experience substantially increased exposure to school expulsion, juvenile correctional system involvement, and adult incarceration than their heterosexual counterparts, demonstrating a school-to-prison pathway disproportionately impacting LGB youth.⁴² Lesbian and bisexual girls and youth of color are particularly impacted by the school-to-prison pathway.^{42,43} Supporting this previous literature, we found that girls and youth of color were overrepresented among SGM youth in juvenile correctional facilities. Thus, efforts to dismantle the school-to-prison pathway, specifically among

SGM girls and SGM youth of color, may be a potential public health mechanism to reduce overrepresentation of SGM youth in juvenile correctional facilities.

We found that incarcerated SGM youth reported high exposure to ACEs, which supports previous research linking ACEs with both increased risk for incarceration and poor mental health.^{3,44} Recent research seeking to expand the conceptualization of ACEs suggests that, for Black youth in overpoliced urban neighborhoods, youth–police encounters are themselves a traumatic, adverse experience.⁴⁵ For SGM youth, an expanded conceptualization of ACEs may also be warranted to capture distinctively traumatic experiences often faced by this population but not captured in ACEs assessments, including forced exposure to SOGI change efforts (ie, conversion “therapy”), family rejection and invalidation, and structural discrimination and persecution.^{46–48} Nonetheless, given the high proportion of ACEs reported among SGM youth in our study, especially among those in juvenile correctional facilities, our findings reinforce the notion that interventions

aimed at buffering the harmful effects of youth's exposure to ACEs⁴⁹ should be guided by culturally competent, intersectional practices that recognize the uniquely harmful experiences faced by SGM youth.

Although interventions are needed to reduce pathways to incarceration for SGM youth and exposure to ACEs, our results also demonstrate that incarcerated SGM youth represent a high-priority population for intervention within correctional facilities. Incarceration may be a uniquely harmful experience for SGM youth, who must manage the stressors of a carceral setting while also navigating an SGM identity, which can increase exposure to violence, bullying, isolation, and challenging identity management processes such as concealment.^{50,51} Correctional policies and practices should address the unique needs of SGM youth, including but not limited to equipping correctional mental health providers with SGM structural and clinical competency, and providing access to SGM-affirming health care.⁵² Further, incarcerated transgender and gender diverse youth are typically housed in sex-segregated housing facilities that often do not match their gender identities or expressions, placing them at elevated risk for victimization and associated adverse mental health consequences.⁵² Conducting comprehensive psychosocial screening to assess incarcerated SGM people's exposure to minority stressors within correctional facilities, such as bullying and harassment by staff and other incarcerated people, should be implemented within regular health care screenings.

Limitations

The limitations of our study should be noted. First, although offering the first population-based data comparing mental health across SGM and incarceration statuses among youth, the data source comes from a single state, which may limit generalizability to other contexts. Given the limited survey questions surrounding SGM identities and small sample sizes, we were unable to thoroughly examine subgroups within the SGM population, such as diverse gender minorities in correctional facilities. Notably, the MSS assessed the presence of gender diversity through a modified 1-step question, which may obscure important differences reflected among gender identity subgroups in other population-based surveys.⁵³ Relatedly, the sample size of other individual subcategories, such as SGM people of color in correctional facilities, were too small to power investigation into how incarceration may uniquely impact the mental health of SGM youth of color. This is particularly important given the role of structural racism in exacerbating poor health outcomes, especially for Black SGM individuals.⁵⁴ The retrospective nature of assessing ACEs could be susceptible to recall bias. Additionally, although the very brief nature of the PHQ-2 is appealing to large-scale survey administration, it does not capture some symptoms of depression that might be especially relevant during adolescence, including fatigue, sleep disturbance, changes in appetite, and lack of concentration.⁵⁵ Future MSS waves should consider administering the PHQ-9, the 9-item depressive symptom screening tool that assesses these symptoms. Last, our study does not establish casual inference, nor

does it confirm directionality of associations between SGM and incarceration status and poorer mental health. Additional data and research, including longitudinal studies following youth over time, are needed to further investigate the causal pathway between incarceration and poor mental health among SGM individuals.

CONCLUSIONS

SGM youth are overrepresented within juvenile correctional facilities and experience a high prevalence of exposure to ACEs and poor mental health indicators. Even when controlling for exposure to ACEs, a strong predictor of poor mental health, SGM youth in juvenile correctional facilities still experience heightened odds of suicidal ideation, suicide attempt, and self-harm relative to non-SGM youth, suggesting other factors, such as incarceration-related trauma, may be uniquely harmful to SGM youth. Multilevel and intersectional efforts to prevent incarceration and exposure to ACEs must consider the needs of SGM youth. For SGM youth in juvenile correctional facilities, supportive interventions to reduce exposure to minority stressors and increase coping skills in the face of victimization are warranted.

ABBREVIATIONS

95% CI: 95% confidence interval
ACEs: adverse childhood experiences
aOR: adjusted odds ratio
LGB: lesbian, gay, or bisexual
MSS: Minnesota Student Survey
PHQ-2: Patient Health Questionnaire-2
SGM: sexual and gender minority
SOGI: sexual orientation and gender identity

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