

# Mental Health and Protective Factors for Transgender and Gender-Diverse Youths Who Trade Sex: A Minnesota Statewide School-Based Study, 2019

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 See also Antebi-Gruszka, p. 363.

**Objectives.** To describe the prevalence of sex trading by gender and by associations with mental health concerns and protective factors.

**Methods.** We used data from 9th and 11th graders who completed the 2019 Minnesota Student Survey. The analytic sample ( $n = 67\,806$ ) included transgender and gender-diverse (TGD) youths and cisgender youths who reported trading sex. Data on 7 mental health measures and 4 school-related and health care-related protective factors were collected.

**Results.** The prevalence of sex trading (5.9%) was 5 times higher among TGD students than cisgender students (1.2%). In addition, the prevalence of all mental health concerns was high among TGD students who traded sex (e.g., 75.9% reported a lifetime suicide attempt, as compared with 45.9% of cisgender students who traded sex). Fewer statistical differences were found across protective factors. When TGD students who traded sex were compared according to sex assigned at birth, no statistically significant differences were found.

**Conclusions.** Our findings support strong calls for increased competence regarding gender and sex trading or exploitation in clinical and school-based settings to decrease health disparities among TGD youths.

**Public Health Implications.** In this study, we have presented unique prevalence estimates of mental health disparities among TGD students in the United States who trade sex. Our results indicate that TGD students who trade sex are at risk for mental health symptoms and that sensitivity to both gender and sex trading or exploitation will be critical to meeting the needs of this group in clinical as well as school-based settings. (*Am J Public Health.* 2022;112(3):499–508. <https://doi.org/10.2105/AJPH.2021.306623>)

**S**ex trading refers to the act of engaging in sexual services in exchange for something of value (e.g., money, food, drugs, alcohol, shelter). Sex trading is a neutral term that does not indicate how a young person might experience that behavior, which can include instances of survival sex,

exploitation, violence, trafficking, and other experiences. In a pivotal population-based study of Minnesota high school students, 1.4% of participants ( $n = 964$ ) reported trading sex, and youth sex trading was associated with an increased risk of long-lasting negative health outcomes.<sup>1</sup> For

example, rates of sex trading were elevated among students with long-term physical, mental, and behavioral health problems.<sup>1</sup>

In the state of Minnesota, an individual younger than 25 years who trades sex for something of value is considered a victim of sexual exploitation.

State legislators and institutions recognize the risks and harms associated with sex trading, exploitation, and trafficking and have enacted a piece of legislation titled the Safe Harbor Law. This policy removes criminal penalties for youths younger than 18 years who trade sex. State and federal funding supports a statewide program for young people up to the age of 24 years who trade sex, and the program includes regional navigators, service providers, and tribal governments that offer referrals to specialized, culturally responsive, youth-centered health care services as well as outreach programming, training, and protocol development.<sup>2,3</sup>

Research focused on transgender and gender-diverse (TGD) youths who trade sex is limited. However, a few studies indicate that TGD youths are at risk for sex trading and exploitation as a result of factors such as homelessness, substance use, bullying at school, difficulty or lack of confidence with academics, and school disconnectedness or pushout.<sup>4,5</sup> The gender minority stress and resilience model<sup>6,7</sup> posits that the elevated risks for harassment and victimization experienced by TGD communities are associated with a higher likelihood of negative mental health outcomes (e.g., depressive symptoms, anxiety, self-harm, suicidal ideation, and suicide attempts). Structural factors such as stigma, unemployment, and lack of police protection further influence health outcomes and contexts that increase the likelihood of involvement in sex trading.<sup>3</sup>

Individual- and interpersonal-level factors, such as having future educational and career goals and school or teacher connectedness, may be protective against buying or selling sex<sup>8</sup> and may be helpful in ending sex trading

and increasing participation in substance use or mental health services.<sup>5</sup> Previous research suggests that youths who trade sex do seek and access health care services<sup>9</sup> but that they experience stigma and bias by providers or in health care settings, including within the mental health field.<sup>10</sup> TGD young people also access services but at lower rates than their cisgender peers.<sup>11</sup> Given that TGD students visit the school nurse's office more often than their cisgender peers,<sup>11</sup> adults at school such as nurses, counselors, and youth workers may be additional sources of support and connection to provide education, resources, and advocacy to, for, and on behalf of TGD students. Because of the school-based methods used in the present study, we focused on school-related protective factors as a potential resource for youths in this highly vulnerable group.

Although there is only a small body of published literature and studies, it has been shown that TGD youths report experiencing concerns associated with sexual exploitation and sex trading.<sup>5,9,12–14</sup> However, TGD youths who trade sex are often left out of relevant research, aggregated with other groups, or excluded owing to small sample sizes. Such exclusions contribute to their invisibility in critical discussions of prevention and intervention services,<sup>15</sup> perpetuating risks for trajectories into trading sex. Furthermore, trading sex is highly stigmatized, often criminalized, and dangerous, making research participation difficult.<sup>16</sup> Most research on sex trading focuses on cisgender girls and women, although sex trading affects people of all genders. Studies with large, diverse samples of adolescents are needed for accurate comparisons between different gender groups who report trading sex. The

purpose of this study was to describe prevalence rates of sex trading according to gender identity, associations with mental health concerns and school- and health care-based factors, and differences by sex assigned at birth.

## METHODS

Data for this study were derived from the Minnesota Student Survey (MSS), a triennial survey coordinated by the state departments of education, health, human services, and public safety. The MSS is offered as an online survey and is administered during a single class period to students in grades 5, 8, 9, and 11. In 2019, 81% of public school districts in the state participated, yielding data from 66% of 9th graders and 54% of 11th graders enrolled statewide (the question about sex trading was asked only of students in grades 9 and 11).

## Survey Measures

Sex trading was assessed via the question "Have you ever traded sex or sexual activity to receive money, food, drugs, alcohol, a place to stay, or anything else?" (yes or no). Sex assigned at birth and gender were assessed with a series of questions adapted from validated approaches.<sup>17</sup> Participants were first asked "What is your biological sex?" (male or female) and then were asked "Do you consider yourself transgender, genderqueer, or genderfluid?" (yes, no, I am not sure about my gender identity, or I am not sure what this question means). Students who reported that they were transgender, genderqueer, or genderfluid were then asked which of the following 4 responses described them: "male, trans male, trans man, or trans masculine"; "female, trans female,

trans woman, or trans feminine”; “non-binary, genderqueer, or genderfluid”; or “I prefer to describe my gender as something else.”

Data on 7 measures of mental health were collected and are detailed in Table 1. Protective factors were 3 school-related measures and 1 health care-related experience. A 4-item scale adapted from the Student Engagement Inventory was used to assess school adult-student relationships; response options ranged from 1 (strongly disagree) to 4 (strongly agree;  $\alpha = 0.84$ ).<sup>20</sup> The 4 scale items were (1) “Overall, adults at my school treat students fairly”; (2) “Adults at my school listen to students”; (3) “At my school, teachers care about students”; and (4) “Most teachers at my school are interested in me as a person.”

Feeling safe at school was measured with a Likert-response item (“I feel safe at school”) for which high scores indicated strong agreement. A dichotomous measure of help from an adult at school was created by combining affirmative responses to 2 questions asking whether an adult at school helped students “think about education options for after high school (college or other

training program)” and “find career-focused field experiences (job shadowing, work-based learning, service learning, career camps, apprenticeships).” With regard to health care, we created a single dichotomous item assessing whether students had ever been treated for any long-term mental health, behavioral, or emotional problem.

Sociodemographic characteristics included grade (9th or 11th) and sexual orientation. Sexual orientation response options were as follows: “heterosexual (straight),” “bisexual,” “gay or lesbian,” “pansexual,” “queer,” “questioning/not sure,” and “I don’t describe myself in any of these ways.” The “questioning/not sure” and “I don’t describe myself in any of these ways” responses were combined into 1 group because of small sample sizes among youths trading sex.

Students selected all racial/ethnic categories that described them, and responses were combined to create a 6-category race/ethnicity variable denoting Native+; Asian or Asian American; Black, African, or African American; Hispanic/Latinx; White; and multiple races. (The Native+ category is a combination of students who self-reported identifying as only American Indian or

Alaska Native (AIAN), as only Native Hawaiian or other Pacific Islander (NHPI), as American Indian or Alaska Native and additional races and ethnicities, or as Native Hawaiian or other Pacific Islander and additional races and ethnicities, due to these groups’ recognition as Indigenous peoples and experiences of colonialism.<sup>21,22</sup>)

An indicator of homelessness assessed whether students had experienced unstable housing during the preceding year (i.e., “lived in a shelter, somewhere not intended as a place to live, or someone else’s home because you had no other place to stay”). School location was dichotomized as within or outside the Minneapolis/St. Paul metropolitan area.

## Data Analysis

Our analytic sample included participants who responded to the sex trading item and responded either yes or no as to whether they identified as transgender, genderqueer, or genderfluid ( $n = 67\,806$ ). Participants were 1024 TGD students and 66 782 cisgender students. Univariate statistics describing the sociodemographic characteristics of TGD

**TABLE 1— Minnesota Student Survey Measures of Mental Health**

Measure	Survey Item	Dichotomized Responses
Depressive symptoms (PHQ-2)	Over the last 2 weeks, how often have you been bothered by: little interest or pleasure in doing things? Feeling down, depressed, or hopeless?	1 = score of 3+; 0 = score < 3
Anxiety symptoms (GAD-2)	Over the last 2 weeks, how often have you been bothered by: feeling nervous, anxious, or on edge? Not being able to stop or control worrying?	1 = score of 3+; 0 = score < 3
Nonsuicidal self-injury	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?	1 = 1+ times; 0 = none
Suicidal ideation (past year or ever)	During the last 12 months, have you ever seriously considered attempting suicide? (mark all that apply)	1 = yes, during the last year; 0 = no 1 = yes, during the last year and/or yes, more than a year ago; 0 = no
Suicide attempt (past year or ever)	Have you ever actually attempted suicide? (mark all that apply)	1 = yes, during the last year; 0 = no 1 = yes, during the last year and/or yes, more than a year ago; 0 = no

Note. PHQ-2 = 2-item version of the Patient Health Questionnaire;<sup>18</sup> GAD-2 = 2-item version of the Generalized Anxiety Disorder screening tool.<sup>19</sup>

and cisgender students who traded and never traded sex were calculated. Self-reported descriptions of gender identities (trans feminine, trans man, nonbinary, etc.) are presented but were not used to stratify the TGD sample owing to small subgroup sizes.

We used  $\chi^2$  tests to compare indicators of mental health and protective factors across 4 subgroups of students: TGD students who traded and never traded sex and cisgender students who traded and never traded sex. A second series of  $\chi^2$  tests focused only on TGD students and again compared 4 subgroups: TGD students assigned female at birth who traded and never traded sex and TGD students assigned male at birth who traded and never traded sex. Note that we have chosen these broad categories in an attempt to reflect the wording of the MSS survey items and the diversity of gender identities and experiences. We recognize that it is not possible to select terms that would be entirely inclusive owing to the Western conceptualization of gender in the MSS, the use of the English language, and many other considerations. Furthermore, although we acknowledge that sex assigned at birth may not reflect TGD participants' identities, we chose to stratify by this variable to maximize statistical power. To reduce type I error resulting from the large sample size and multiple group comparisons, we set the 2-sided significance level at .001.

## RESULTS

Among 9th and 11th graders who completed the MSS, approximately 5.9% of TGD students, 1.3% of cisgender girls, and 1.2% of cisgender boys reported trading sex. Relative to their peers, TGD students who traded sex tended to be youths of color (e.g., 23.3% Native+,

10.0% Black, African, or African American), to identify as LGBTQ+ (lesbian, gay, bisexual, queer or questioning; e.g., 26.7% pansexual, 25.0% bisexual), and to have experienced unstable housing (Table 2). Equal percentages of TGD and cisgender students who traded sex attended schools in metropolitan and nonmetropolitan locations.

### Comparisons by Gender Identity and Sex Trading

We found statistically significant group differences for several mental health indicators, with greater mental health concerns among TGD youths and those who traded sex (Table 3). Fewer differences for protective factors were noted.

**Mental health concerns.** Across almost all indicators, the prevalence of mental health concerns was higher among TGD students who traded sex than among their peers. For example, 75.9% of TGD students who traded sex reported a lifetime suicide attempt, as compared with 45.9% of cisgender students who traded sex, 30.1% of TGD students who never traded sex, and 7.2% of cisgender students who never traded sex ( $P < .001$  for each comparison). Similarly, nonsuicidal self-injury was highly prevalent among TGD students who traded sex (86.2%) and less common, yet still concerning, among cisgender students who traded sex (55.8%;  $P < .001$ ).

**Protective factors.** In the case of protective factors, more similarities between groups were noted. For example, with the exception of TGD students who never traded sex and cisgender students who never traded sex, similarly high percentages of students reported having an adult at school who helped

with educational and career options after high school. Likewise, comparisons between TGD and cisgender students who traded sex indicated no group differences except for feeling safe at school (50.0% vs 74.1%;  $P < .001$ ).

### Comparisons by Assigned Sex and Sex Trading

The many nonsignificant group differences between TGD students assigned female and assigned male at birth who traded sex suggest similarly high rates of mental health concerns (Table 4). Importantly, rates for most protective factors were also similar across groups.

**Mental health concerns.** Across all indicators of mental health concerns, rates were highest among TGD students assigned female at birth who traded sex and lowest among TGD students assigned male at birth who never traded sex. Comparisons between TGD students assigned female at birth and assigned male at birth who traded sex did not reveal statistically significant differences, but rates were high. For example, both TGD students assigned female at birth and TGD students assigned male at birth who traded sex exhibited high rates of lifetime suicide attempts (82.4% vs 66.7%), lifetime suicidal ideation (94.1% vs 70.8%) and positive screening for depressive symptoms (73.5% vs 62.5%).

**Protective factors.** Rates for all protective factors were similar among TGD students who traded sex, regardless of sex assigned at birth. No significant group differences were noted between TGD students assigned male at birth and TGD students assigned female at birth who traded sex with respect to feeling safe at school (51.6% vs 47.8%)

**TABLE 2— Sociodemographic Characteristics of Minnesota Student Survey Participants, 2019**

Characteristic	Total, No. (%)	TGD Traded Sex, No. (%)	TGD Never Traded Sex, No. (%)	Cisgender Traded Sex, No. (%)	Cisgender Never Traded Sex, No. (%)
Overall	67 806 (100.0)	60 (5.9)	964 (94.1)	822 (1.2)	65 960 (98.8)
Grade					
9th	37 715 (55.6)	29 (48.3)	554 (57.5)	392 (47.7)	36 740 (55.7)
11th	30 091 (44.4)	31 (51.7)	410 (42.5)	430 (52.3)	29 220 (44.3)
Sex assigned at birth					
Male	32 537 (48.0)	25 (41.7)	201 (21.4)	379 (46.1)	31 932 (48.5)
Female	35 187 (52.0)	35 (58.3)	739 (78.6)	443 (53.9)	33 970 (51.5)
Self-described gender					
Male, trans male, trans man, or trans masculine		25 (41.7)	366 (38.2)		
Female, trans female, trans woman, or trans feminine		7 (11.7)	109 (11.4)		
Nonbinary, genderqueer, or gender fluid		19 (31.7)	412 (43.1)		
I prefer to describe my gender as something else		9 (15.0)	70 (7.3)		
Sexual orientation					
Heterosexual (straight)	54 252 (81.1)	6 (10.3)	120 (12.6)	520 (64.4)	53 606 (82.4)
Bisexual	3 767 (5.6)	15 (25.9)	205 (21.5)	138 (17.1)	3 408 (5.2)
Gay or lesbian	1 029 (1.5)	10 (17.2)	141 (14.8)	39 (4.8)	839 (1.3)
Pansexual	1 051 (1.6)	16 (27.6)	290 (30.4)	29 (3.6)	716 (1.1)
Queer	240 (0.4)	5 (8.6)	91 (9.5)	8 (1.0)	136 (0.2)
Questioning/not sure or don't describe myself in any of these ways	6 537 (9.8)	6 (10.3)	107 (11.2)	73 (9.0)	6 351 (9.8)
Race/ethnicity					
Native+ <sup>a</sup>	2 826 (4.2)	14 (23.3)	82 (8.6)	72 (8.8)	2 658 (4.0)
Asian/Asian American	4 175 (6.2)	3 (5.0)	54 (5.7)	22 (2.7)	4 096 (6.2)
Black, African, or African American	3 953 (5.9)	6 (10.0)	28 (2.9)	61 (7.5)	3 858 (5.9)
Hispanic or Latinx	3 811 (5.6)	3 (5.0)	40 (4.2)	50 (6.1)	3 718 (5.7)
Multiple races or ethnicities	3 565 (5.3)	4 (6.7)	72 (7.5)	60 (7.4)	3 429 (5.2)
White	49 180 (72.8)	30 (50.0)	678 (71.1)	550 (67.5)	47 922 (73.0)
Unstable housing in past year					
Yes	2 761 (4.1)	24 (42.1)	67 (7.1)	144 (18.5)	2 526 (3.9)
No	63 946 (95.9)	33 (57.9)	878 (92.9)	636 (81.5)	62 399 (96.1)
School location					
Twin Cities metropolitan	35 071 (51.7)	29 (48.3)	488 (50.6)	370 (45.0)	34 184 (51.8)
Nonmetropolitan	32 735 (48.3)	31 (51.7)	476 (49.4)	452 (55.0)	31 776 (48.2)

Note. TGD = transgender and gender diverse. Sample sizes differ because of missing data across variables of interest.

<sup>a</sup>Includes all students identifying as American Indian or Alaska Native (AIAN) only, AIAN along with additional races and ethnicities, Native Hawaiian or other Pacific Islander (NHPI) only, or NHPI along with additional races and ethnicities.

**TABLE 3—** Prevalence of Mental Health and Protective Factors, by Gender and Sex Trading: Minnesota Student Survey Participants, 2019

	TGD Traded Sex (n = 60), No. (%) or Mean $\pm$ SD	TGD Never Traded Sex (n = 964), No. (%) or Mean $\pm$ SD	Cisgender Traded Sex (n = 822), No. (%) or Mean $\pm$ SD	Cisgender Never Traded Sex (n = 65 960), No. (%) or Mean $\pm$ SD	TGD Traded Sex vs TGD Never Traded Sex, <i>P</i>	TGD Traded Sex vs Cisgender Traded Sex, <i>P</i>	TGD Never Traded Sex vs Cisgender Traded Sex, <i>P</i>	TGD Never Traded Sex vs Cisgender Never Traded Sex, <i>P</i>
Mental health								
Depressive symptoms (PHQ-2)	40 (69.0)	555 (58.2)	388 (49.6)	14 114 (21.7)	.11	.004	<.001	<.001
Anxiety symptoms (GAD-2)	40 (69.0)	609 (63.9)	428 (54.7)	17 067 (26.3)	.44	.03	<.001	<.001
Nonsuicidal self- injury (past year)	50 (86.2)	546 (57.4)	444 (55.8)	9 930 (15.2)	<.001	<.001	.53	<.001
Suicidal ideation (past year)	40 (69.0)	389 (41.5)	371 (47.7)	7 759 (12.0)	<.001	<.001	.01	<.001
Suicidal ideation (ever)	49 (84.5)	594 (63.3)	521 (67.1)	13 631 (21.1)	.001	.01	.11	<.001
Suicide attempt (past year)	26 (44.8)	128 (13.8)	209 (27.0)	2 033 (3.1)	<.001	.004	<.001	<.001
Suicide attempt (ever)	44 (75.9)	280 (30.1)	355 (45.9)	4 693 (7.2)	<.001	<.001	<.001	<.001
Protective factors								
School adult-student relationships	2.43 $\pm$ 0.77	2.76 $\pm$ 0.65	2.52 $\pm$ 0.72	2.91 $\pm$ 0.58	.003	.34	<.001	<.001
Feel safe at school	27 (50.0)	630 (70.4)	583 (74.1)	59 046 (91.1)	.002	<.001	.09	<.001
Adult help with education/ career <sup>a</sup>	38 (63.3)	649 (67.6)	567 (69.7)	47 693 (72.6)	.49	.30	.33	<.001
Treatment for mental health problem	40 (67.8)	562 (59.5)	430 (54.2)	15 144 (23.3)	.02	.04	.03	<.001

Note. GAD-2 = 2-item version of the Generalized Anxiety Disorder screening tool; PHQ-2 = 2-item version of the Patient Health Questionnaire; TGD = transgender and gender diverse. Sample sizes differ because of missing data across variables of interest. The overall sample size was 67 806.

<sup>a</sup>Adult at school helped you think about education options for after high school or find career-focused field experiences.

**TABLE 4—** Prevalence of Mental Health and Protective Factors, by Sex Assigned at Birth and Sex Trading: Minnesota Student Survey TGD Participants, 2019

	TGD-AFAM Traded Sex (n = 35), No. (%) or Mean ± SD	TGD-AFAM Never Traded Sex (n = 739), No. (%) or Mean ± SD	TGD-AMAB Traded Sex (n = 25), No. (%) or Mean ± SD	TGD-AMAB Never Traded Sex (n = 201), No. (%) or Mean ± SD	TGD-AFAB Traded Sex vs TGD-AFAM Never Traded Sex, p	TGD-AFAB Traded Sex vs TGD-AMAB Traded Sex, p	TGD-AFAB Never Traded Sex vs TGD-AMAB Never Traded Sex, p	TGD-AMAB Traded Sex vs TGD-AMAB Never Traded Sex, p
Mental health								
Depressive symptoms (PHQ-2)	25 (73.5)	466 (63.5)	15 (62.5)	75 (38.3)	.23	.37	<.001	.92
Anxiety symptoms (GAD-2)	28 (82.5)	518 (70.6)	12 (50.0)	76 (38.8)	.14	.01	<.001	.03
Nonsuicidal self-injury (past year)	30 (88.2)	449 (61.6)	20 (83.3)	82 (41.2)	.002	.59	<.001	.03
Suicidal ideation (past year)	24 (70.6)	323 (45.1)	16 (66.7)	57 (28.8)	.004	.75	<.001	.04
Suicidal ideation (ever)	32 (94.1)	490 (68.4)	17 (70.8)	88 (44.4)	.001	.02	<.001	.80
Suicide attempt (past year)	17 (50.0)	107 (15.1)	9 (37.5)	19 (9.7)	<.001	.35	<.001	.003
Suicide attempt (ever)	28 (82.4)	233 (32.8)	16 (66.7)	42 (21.4)	<.001	.17	<.001	.001
Protective factors								
School adult-student relationships	2.37 ± 0.78	2.74 ± 0.62	2.52 ± 0.78	2.87 ± 0.72	.01	.47	<.001	.11
Feel safe at school	16 (51.6)	473 (69.1)	11 (47.8)	144 (75.4)	.04	.78	.01	.03
Adult help with education/career <sup>a</sup>	22 (62.9)	492 (66.8)	16 (64.0)	142 (71.0)	.63	.93	.33	.77
Treatment for mental health problem	27 (77.1)	466 (64.0)	13 (54.2)	83 (42.8)	.11	.06	<.001	.32

Note. TGD-AFAB = transgender and gender diverse, assigned female at birth; TGD-AMAB = transgender and gender diverse, assigned male at birth; PHQ-2 = 2-item version of the Patient Health Questionnaire; GAD-2 = 2-item version of the Generalized Anxiety Disorder screening tool.

<sup>a</sup>Adult at school helped you think about education options for after high school or find career-focused field experiences.



or having an adult at school who helped with educational or career goals (62.9% vs 64.0%).

## DISCUSSION

To our knowledge, this is the first large-scale study to compare prevalence rates of mental health concerns and protective factors in a statewide, school-based sample of TGD and cisgender high school students who traded and never traded sex. Rates for all mental health concerns were alarmingly high among TGD students who traded sex, with more than three quarters reporting a lifetime suicide attempt. Rates were also high among TGD students who never traded sex and cisgender students who traded sex. These high rates did not differ significantly when TGD students who traded sex were stratified by sex assigned at birth. Such findings are critical in providing more comprehensive and nuanced understandings of opportunities for intervention and prevention, in addition to improving access to needed education and health care resources and challenging and discrediting misconceptions about sex trading.

Our findings indicated that, in comparison with their peers, greater numbers of Minnesota TGD students who traded sex identified as Native+ or Black, African, or African American. The majority of TGD students who traded sex reported their sexual orientation as something other than straight or heterosexual. Almost half of TGD youths who traded sex reported unstable housing, consistent with literature suggesting that exchanging sex to meet basic needs is common.<sup>15,23</sup> Given this information, future research incorporating an intersectional approach is needed.

Our study, which disaggregated rates by sex assigned at birth when possible, adds specific data on TGD students to the field. Furthermore, it illuminates disparities in this particularly understudied population and identifies mental health and well-being as a critical area of needed support. The significance of the prevalence rates we calculated is that they were a determination not simply of risk levels but also of the multilevel power dynamics that contribute to risks. TGD identity in itself is not a risk factor for poorer health outcomes; the multiple minority stressors that TGD individuals face at all levels (individual, community, institutional) increase barriers to mental health and well-being.<sup>24</sup> Moreover, the intersectional stigma and discrimination faced by TGD youths contribute to fear and hesitancy in seeking critical resources to address their concerns (e.g., health care, housing). These barriers increase not only the potential for a trajectory into sex trading but also the risk of adverse health outcomes, including mental health concerns.

Given our findings that half of TGD students assigned female at birth and a third of TGD students assigned male at birth who trade sex reported a suicide attempt in the preceding year, our results call for policymakers, schools, and health care institutions to establish priorities and distribute resources to better support TGD students who trade sex, including youth initiatives and community-run intervention and prevention programs.

Importantly, young people who trade sex, regardless of gender, report protective factors related to school and health care services. Adults in school and clinical contexts, such as mental health and sexual health providers, can help both TGD and cisgender students

who trade sex by using trauma-informed, healing-focused, and affirming approaches; having an understanding of sexual exploitation; responding in a nonjudgmental and nonpathologizing manner;<sup>25</sup> and deconstructing and challenging dominant narratives and expectations of gender and sexuality.

Approximately two thirds of TGD and cisgender students who traded sex reported that a school adult helped them think about educational and career options after high school, which has been noted as an important protective factor with respect to ending sex trading among youths.<sup>5</sup> School adults such as nurses, counselors, social workers, and youth workers are in a unique position to talk with TGD students who trade sex about health risks and provide comprehensive and inclusive sexual education. They can also discuss the frequency of health-related visits for preventive and therapeutic reasons, which can contribute to young people feeling empowered in their decision-making. Furthermore, they can engage with youths in attempts to change structural factors such as stigma, unemployment, and lack of police protection or housing.

Previous studies have demonstrated the importance of school protective factors in buffering against poorer mental health outcomes.<sup>26,27</sup> The school setting and school adults may be particularly important avenues for bolstering such protective factors and support for not only TGD young people but all youths who trade sex and are attending school.

## Strengths and Limitations

This large, statewide study provided adequate sample sizes for analyses across multiple mental health variables



and protective factors. Also, the school-based sampling methodology increases the generalizability of our findings relative to studies with TGD young people in which convenience samples are used.

However, limitations exist, such as an inability to infer causality owing to the cross-sectional data used and the measurement problems inherent in secondary analyses. For example, only one broad question asked about sex trading, and no questions asked about reasons for trading sex, the role of coercive third parties (e.g., pimps or traffickers), or what youths wanted in terms of support and resources. We acknowledge the limitations of the terminology and recognize that the labels TGD students assigned male at birth and TGD students assigned female at birth may not reflect the heterogeneous labels, identities, and expressions of the TGD community.

Furthermore, the MSS failed to include “intersex” with the options of male and female when asking about sex. Response options for gender were also limited because the MSS grouped transgender, genderqueer, and genderfluid together and did not allow for multiple responses or a write-in category in which self-defined or culturally specific terms (e.g., Two-spirit) could be listed. Because of small cell sizes, even in this very large sample, we were unable to compare specific disaggregated gender identity groups. The large sample sizes for many comparisons resulted in multiple statistically significant findings. Small cells combined with a *P* value set at .001, however, may mask practical differences.

Finally, the rates we observed are likely underestimations as a result of missing data stemming from

unresponsiveness, fear of answering, sociocultural stigma, lack of accessibility, or students not being surveyed owing to school absence, dropout, or pushout. Young people who trade sex and identify as TGD may feel shame; may worry about bias, mistreatment, or discrimination; or may not consider sex trading as exploitative or victimization, all of which can contribute to nondisclosure or school absence on the day of the survey.<sup>8,28</sup> Motivations behind sex trading among both TGD and cisgender youths are complex and highlight the need for future research, which should incorporate young people who trade sex as experts in their lived experiences.

## Public Health Implications

In this study, we have presented unique census-style, school-based estimates of mental health disparities among TGD students who trade sex and informed intervention points and opportunities to prevent harm by identifying critical protective factors. Our results highlight that TGD students who trade sex are at particularly elevated risk and that sensitivity to both gender and sex trading will be critical in meeting the needs of this group in clinical and school-based settings. Disaggregating data and documenting the prevalence of sex trading and health disparities in marginalized communities are important for uprooting misconceptions about gender and sex trading, which may limit allocation of resources and access to services. *AJPH*

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## CONTRIBUTORS

In addition to contributing equally as co-first authors, G. N. Rider and B. J. McMorris conceptualized the article, analyzed the data, and drafted and revised the article. C. Brown, M. E. Eisenberg, A. L. Gower, K. Johnston-Goodstar, M. Filoteo, E. Singerhouse, and L. Martin contributed to the interpretation of findings and critically reviewed and revised the article.

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## CONFLICTS OF INTEREST

The authors report no conflicts of interest.

## HUMAN PARTICIPANT PROTECTION

The University of Minnesota’s institutional review board determined that this secondary analysis of existing anonymous data was exempt from review.

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## HEALTHY AGING THROUGH THE SOCIAL DETERMINANTS OF HEALTH

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