



Original article

Understanding the Mental Health of Transgender and Nonbinary Youth



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A B S T R A C T

Purpose: Currently, there is a lack of nationwide data examining the mental health of transgender and nonbinary youth. Furthermore, relatively little is known about how the mental health of transgender and nonbinary youth compares to that of their cisgender lesbian, gay, bisexual, queer, and questioning peers or differences within subgroups of transgender and nonbinary youth. The goal of the present study was to better understand the mental health of transgender and nonbinary youth.

Methods: We analyzed responses from a national quantitative cross-sectional survey of more than 25,000 lesbian, gay, bisexual, transgender, queer, and questioning youth, aged between 13 and 24 years, in the U.S.

Results: Transgender and nonbinary youth were at increased risk of experiencing depressed mood, seriously considering suicide, and attempting suicide compared with cisgender lesbian, gay, bisexual, queer, and questioning youth. Controlling for sexual orientation–based or gender identity –based experiences of perceived discrimination and physical threats or harm reduced the disparities but did not fully account for them. Within-group analyses highlighted particularly increased risk for negative mental health outcomes among transgender males and nonbinary youth assigned female at birth.

Conclusions: Findings point to the need to directly address the needs of transgender and nonbinary youth in prevention and intervention programs and to advance policies that reduce discrimination and victimization based on sexual orientation or gender identity.

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IMPLICATIONS AND CONTRIBUTION

It is crucial to understand the needs of transgender and nonbinary youth. Transgender and nonbinary youth were at more than double the risk for depressed mood and suicidality compared with cisgender lesbian, gay, bisexual, queer, and questioning youth. Transgender men were at highest risk. Accounting for victimization and perceived discrimination reduced disparities.

The inclusion of sexual identity measures in large-scale national surveys has increased our knowledge of mental health disparities faced by lesbian, gay, bisexual, queer, and questioning youth (LGBQ). For example, data from the Centers for Disease Control and Prevention (CDC) found that 5% of straight high school students

attempted suicide in the past year compared with 23% of gay, lesbian, and bisexual students, and 14% of students who were unsure of their sexual identity [1]. In addition, survey data from the Substance Abuse and Mental Health Services Administration found that 1.3% of straight young adults, aged 18–25 years, attempted suicide in the past year compared with 6% of lesbian and gay young adults and 5% of bisexual young adults [2]. However, there remains a lack of national data examining the mental health of transgender and nonbinary youth. We use the phrase “transgender and nonbinary” to refer to youth whose sex assigned at birth does not completely align with their current gender identity, while also

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recognizing that identities of transgender and nonbinary are not always mutually exclusive. The few studies that have specifically examined mental health outcomes among transgender and nonbinary youth have found that they are at increased risk for poor mental health outcomes. For example, transgender youth report higher rates of depression, suicidality and self-harm, and eating disorders compared with their cisgender peers [3,4] and less social support compared with cisgender LGBTQ youth [5]. In 2019, the CDC released a report on transgender high school students across 10 states and nine large urban school districts, finding increased mental health disparities for transgender youth compared with their cisgender peers [6]. Given the lack of data on youth who identify as nonbinary [3], there is also a need to examine the diversity of experiences and outcomes within transgender and nonbinary identities.

This increased risk for poor mental health outcomes among lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ) youth has been linked to chronic stress stemming from the marginalized social status that minority individuals have in society [7]. Specific to LGBTQ individuals, Meyer's Minority Stress Model [8] suggests processes of minority stress fall along a continuum, including distal stressors (external stressful events and conditions) to proximal stressors (internalization of negative societal attitudes). This model has also been adapted to capture gender-based distal stressors [9]. Distal stressors include experiences of rejection, victimization, and discrimination experienced by LGBT youth [10,11]. Indeed, prior studies have found that increased victimization and discrimination explain disparities in poor mental health outcomes among transgender adults [12] as well as between LGBTQ youth and their straight/cisgender peers [13,14].

It is also necessary to recognize that transgender and nonbinary youth are heterogeneous groups in and of themselves. However, the limited research exploring the mental health of transgender and nonbinary youth often, largely because of sample size constraints, fails to explore within-group differences [3,15,16]. Of exception, a large study examining the prevalence of suicide behavior across gender identity among youth aged 11–19 years found that transgender males reported the highest rates of attempted suicide, followed by youth who identified as neither exclusively male nor female [17]. These findings indicate a need to further examine the heterogeneity in mental health that exists within transgender and nonbinary youth.

The present study addresses gaps in the current literature by examining the mental health (e.g., depressive symptoms, seriously considering suicide, and suicide attempts) of transgender and nonbinary youth in a large, national sample of LGBTQ youth aged 13–24 years. To extend this area of research, we examined whether controlling for rates of victimization and perceived discrimination related to sexual orientation and gender identity would reduce the disparities in mental health outcomes between transgender and nonbinary youth and their cisgender LGBTQ peers. Furthermore, we explored within-group differences among (1) cisgender LGBTQ youth, (2) transgender males, (3) transgender females, (4) nonbinary youth assigned male at birth, and (5) nonbinary youth assigned female at birth.

Methods

Participants

A sample of 34,808 individuals aged between 13 and 24 years residing in the U.S. consented to complete an online survey. They

were recruited through targeted advertisements placed on two social media platforms: Facebook and Instagram. The advertisements targeted those who interacted with material deemed to be relevant to the LGBTQ community. Respondents completed a secure online questionnaire that included up to 110 questions, depending on skip logic. Consistent with institutional review board protocol, a statement was included before questions specific to youth mental health and suicidality that directed participants to call one of The Trevor Project's core 24/7 crisis interventions, Lifeline, if at any time they needed to talk to someone about their mental health or thoughts of suicide. Individuals who completed the survey were eligible to be entered into a drawing for a \$50 Amazon gift card by providing their email address after being routed to a separate survey. The research proposal was reviewed and approved by an independent institutional review board. We obtained a waiver of parental consent for youth aged 13–17 years as the research posed a minimal risk and could have presented potential harm for youth who were not out to their parents about their LGBTQ identity.

Measures

Gender identity. Gender identity was assessed using questions aligned with standard practices identified by the Williams Institute [18]. Youth were asked, "What sex were you assigned at birth? (meaning the sex showing on your original birth certificate)," with options of male or female. Next, youth were asked, "What is your gender identity? Please select all that apply," with options (1) man, (2) woman, (3) trans male/trans man, (4) trans female/trans woman, (5) gender queer/gender nonconforming, and (6) different identity (please state). For the purposes of the current analyses, gender identity was coded as "cisgender" for youth whose assigned sex at birth was consistent with their current gender identity. Youth who self-identified as a trans female/trans woman or who reported an assigned sex at birth of male and a current gender identity of woman were coded as "transgender female." Youth who self-identified as a trans male/trans man or who reported an assigned sex at birth of female and a current gender identity of man were coded as "transgender male." Youth who were assigned male at birth and self-identified as a gender queer/gender nonconforming ($n = 849$) or indicated a different gender identity outside of the available options were coded as nonbinary assigned male at birth. Youth who were assigned female at birth and identified as gender queer/gender nonconforming ($n = 3,605$) or indicated a different gender identity outside of the available options were coded as nonbinary assigned female at birth.

Sexual orientation. Sexual orientation was assessed using the National Center for Health Statistics' [19] question, "Do you think of yourself as:" with the options (1) gay or lesbian; (2) straight, that is not gay or lesbian; (3) bisexual; (4) something else; and (5) do not know. Youth who selected "something else" were asked a follow-up question where they could specify that they identified with another sexual orientation (e.g., queer, omnisexual, pansexual, and trisexual), did not use labels, or that they were unsure of their sexual orientation. Youth who responded "do not know" to the initial question were asked to specify what they meant in a follow-up question where they could select that they did not understand the question, were unsure of their sexual identity, or something else. The current analyses report

Table 1
Cisgender LGBQ compared with transgender and nonbinary youth characteristics

	All youth (n = 25,398), n (%)	Cisgender LGBQ youth (n = 17,031), n (%)	Transgender and nonbinary youth (n = 8,367), n (%)
Demographic characteristics			
Age (years)			
13–17	12,858 (50.6)	8,232 (48.3)	4,626 (55.3)
18–24	12,540 (49.4)	8,799 (51.7)	3,741 (44.7)
Youth of color	6,985 (27.9)	4,806 (28.5)	2,179 (26.6)
Low income	7,736 (36.3)	4,814 (33.1)	2,922 (43.2)
Sexual identity			
Gay/lesbian	11,217 (45.4)	9,075 (54.5)	2,142 (26.5)
Straight	198 (.8)	0 (.0)	198 (2.5)
Bisexual	8,097 (32.7)	5,740 (34.5)	2,357 (29.2)
Something else	5,216 (21.1)	1,834 (11.0)	3,382 (41.9)
Discrimination			
Because of sexual orientation	14,941 (70.2)	9,725 (68.1)	5,216 (74.5)
Because of gender identity	8,098 (35.5)	2,561 (16.3)	5,537 (78.2)
Physically threatened or harmed	4,744 (20.3)	2,523 (15.9)	2,221 (29.7)
Depressive mood	15,797 (71.0)	9,629 (65.0)	6,168 (82.8)
Seriously considered suicide	8,675 (38.6)	4,749 (31.2)	3,926 (54.2)
Attempted suicide	4,135 (18.4)	2,065 (13.6)	2,070 (28.6)

the overarching categories of gay or lesbian, straight, bisexual, and something else.

Age. Youth were asked to select their age using whole numbers from 13 to 24. These responses were coded to reflect youth who were aged 13–17 years (0) and those who were aged 18–24 years (1) to provide separation based on status as a minor.

Ethnicity/race. To assess ethnicity, youth were asked, “Do you consider yourself to be Hispanic or Latino?” Race was separately assessed by asking youth, “What race or races do you consider yourself to be?” There were 17 possible response options for youth to select from, and as the race was not the focus of the present study, it was dichotomized to reflect the youth of color (1) compared with white non-Hispanic youth (0).

Family income. Following practices commonly used in examining socioeconomic status among youth populations [20,21], an assessment of free or reduced-price lunch was used as a proxy for family income. Respondents were asked if they were currently, or previously for those no longer enrolled, eligible for free or reduced-price lunch. A variable was created to reflect youth who were eligible for free or reduced-price lunch (1) compared with those who were not (0).

Table 2

Multivariate multinomial logistic model: aOR of experiencing a poor mental health outcome among transgender and nonbinary youth compared with cisgender LGBQ youth

	aOR (95% CI)
Adjusted for age, family income, and race/ethnicity	
Depressive mood (n = 18,536)	2.38 (2.20–2.57)
Seriously considered suicide (n = 18,740)	2.42 (2.27–2.58)
Attempted suicide (n = 18,740)	2.32 (2.15–2.51)
Adjusted for age, family income, race/ethnicity, and perceived discrimination and physically threatened or harmed because of sexual orientation or gender identity	
Depressive mood (n = 14,508)	1.77 (1.59–1.97)
Seriously considered suicide (n = 14,671)	1.90 (1.73–2.09)
Attempted suicide (n = 14,671)	1.73 (1.54–1.94)

n represent number of respondents included in the model.

Bolded values are significant at <.05.

aOR = adjusted odds ratio; CI = confidence interval; LGBQ = lesbian, gay, bisexual, and queer/questioning.

Perceived discrimination. Youth's lifetime perception of their experiences with discrimination based on their sexual orientation was assessed by asking, “Do you feel that you have ever been the subject of discrimination because of your sexual orientation?” From these, a variable was created to reflect youth who had perceived discrimination experiences based on their sexual orientation (1) compared with those who had not (0). A parallel question was used to assess perceived discrimination based on gender identity.

Physically threatened or harmed. Youth were asked, “In the past 12 months, have you felt physically threatened or been physically abused because of your sexual orientation or gender identity?” to assess their experiences with being physically threatened or harmed in the past 12 months. A variable was created to reflect youth who were physically threatened or harmed because of their sexual orientation or gender identity (1) compared with those who were not (0).

Outcome variables

Depressive mood. Recent depressed mood was assessed using an item based on the CDC's assessment of depressed mood on the Youth Risk Behavior Surveillance System (YRBS) [1]. Youth were asked, “During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?” A variable was created to reflect youth who reported a period of depressed mood in the past 12 months (1) compared with those who did not (0).

Seriously considered suicide. Whether youth had seriously considered suicide in the past 12 months was assessed using an item based on CDC's assessment of suicidality on the YRBS [1]. Youth were asked, “During the past 12 months, did you ever seriously consider attempting suicide?” A variable was created to reflect youth who reported seriously considering suicide in the past 12 months (1) compared with those who did not (0).

Attempted suicide. Past year attempted suicide was also assessed using an item based on the CDC's YRBS [1]. Youth who reported ever having seriously considered suicide were asked, “During the past 12 months, how many times did you actually attempt

Table 3
Youth characteristics across all gender identities

	All youth (n = 25,396), n (%)	Cisgender males (n = 8,954), n (%)	Cisgender females (n = 8,073), n (%)	Transgender males (n = 3,103), n (%)	Transgender females (n = 508), n (%)	Nonbinary youth assigned male at birth (n = 957), n (%)	Nonbinary youth assigned female at birth (n = 3,797), n (%)
Demographics							
Age							
13–17	12,855 (50.6)	3,989 (44.5)	4,242 (52.5)	1,913 (61.7)	246 (48.4)	467 (48.8)	1,998 (52.6)
18–24	12,537 (49.4)	4,965 (55.5)	3,831 (47.5)	1,190 (38.3)	262 (51.6)	490 (51.2)	1,799 (47.4)
Youth of color	6,984 (27.9)	2,903 (32.7)	1,901 (23.8)	768 (25.2)	25.2 (12.3)	332 (35.5)	955 (25.6)
Low income	7,734 (36.3)	2,400 (31.6)	2,414 (34.8)	1,173 (47.1)	166 (41.1)	323 (41.3)	1,258 (40.7)
Sexual identity							
Gay/lesbian	11,215 (45.4)	6,570 (74.5)	2,504 (32.0)	680 (23.0)	122 (25.8)	453 (48.2)	886 (23.9)
Straight	198 (.8)	0 (0)	0 (0)	153 (5.2)	32 (6.8)	3 (3)	10 (.3)
Bisexual	8,095 (32.7)	1,892 (21.5)	3,846 (49.2)	956 (32.3)	180 (38.1)	202 (21.5)	1,019 (27.5)
Something else	5,214 (21.1)	358 (4.1)	1,475 (18.8)	1,168 (39.5)	138 (29.2)	281 (29.9)	1,794 (48.4)
Perceived discrimination							
Because of sexual orientation	14,939 (70.2)	5,400 (70.6)	4,323 (65.2)	1,861 (70.8)	252 (61.3)	670 (80.6)	2,433 (77.8)
Because of gender identity	8,096 (35.5)	655 (7.8)	1,905 (25.8)	2,589 (92.4)	325 (79.1)	471 (58.8)	2,151 (70.1)
Physical threatened/harmed	4,743 (20.3)	1,520 (18.1)	1,002 (13.3)	1,007 (36.7)	153 (33.3)	280 (32.5)	781 (22.9)

suicide?” Response options were (1) 0 times, (2) 1 time, (3) 2 or 3 times, (4) 4 or 5 times, and (5) 6 or more times. Youths’ responses were dichotomized such that youth who reported no attempted suicide in the past 12 months (0) were compared with those who reported one or more attempted suicides in the past 12 months (1). Those who reported not to having seriously considered suicide and were thusly skipped out of this question were also coded as 0, no attempt.

Data analysis

Identifying the analytical sample. A total of 34,808 youth consented to complete the online survey. In addition to 475 youth who lived outside of the U.S. and 294 who were both straight/heterosexual and cisgender, the data were examined for validity, and 52 (.15%) youth who provided highly unlikely answers (e.g., selecting all possible religious affiliations and race/ethnicity categories) and/or those who provided obvious hate speech directed toward LGBTQ populations in the open-response options were also removed. In addition, a filter was applied such that any youth who (1) completed less than half of the survey items or (2) reached the end of the survey within 3 minutes (n = 8,091) was removed. Finally, given our focus on gender identity, these analyses excluded youth who did not respond to the assessment of gender (n = 498). This resulted in a final analytical sample of 25,398 youth. Sample sizes for individual analyses differ, as youth were allowed to skip any questions they did not want to answer. We provide actual sample sizes used in each analysis in our tables.

Analytic procedures. Adjusted logistic regression presents the relative odds of a poor mental health outcome for transgender and nonbinary youth compared with cisgender LGBTQ youth controlling first for age, family income, and race/ethnicity, then perceived discrimination and physical threat or harm were added to the model. Chi-squares were used to examine the difference in mental health outcomes across five gender identities: transgender male, transgender female, nonbinary youth assigned male at birth, nonbinary youth assigned female at birth, and cisgender youth. Finally, adjusted multinomial logistic regression was used to quantify the relative differences between cisgender LGBTQ youth, transgender males, transgender females, nonbinary youth assigned male at birth, and nonbinary youth assigned female at birth controlling first for age, family income, and race/ethnicity, with perceived discrimination and physical threat or harm later added to the model.

Results

Of the 25,396 youth, 33% identified as transgender or nonbinary. Across all gender identities, 35% of youth identified as cisgender males, 32% as cisgender females, 12% as transgender male, 2% as transgender female, 4% as nonbinary assigned male at birth, and 15% nonbinary assigned female at birth. The sample was an average of 18 years old (standard deviation: 2.89; range 13–24 years), 28% nonwhite, and 36% reporting they were eligible for free or reduced-price lunch. Furthermore, 45% of the sample identified as gay or lesbian, 33% as bisexual, 21% something else, and 1% as straight. Overall, 71% of LGBTQ youth reported depressive mood in the past 12 months, 39% considered suicide in the past 12 months, and 18% attempted suicide in the past 12 months. In bivariate analyses, transgender and nonbinary

Table 4
Mental health outcomes across gender identities

	All youth (n = 25,396), n (%)	Cisgender males (n = 8,954), n (%)	Cisgender females (n = 8,073), n (%)	Transgender males (n = 3,103), n (%)	Transgender females (n = 508), n (%)	Nonbinary youth assigned male at birth (n = 957), n (%)	Nonbinary youth assigned female at birth (n = 3,797), n (%)
Depressive mood	15,796 (71.0)	4,376 (56.2)	5,253 (74.8)	2,407 (86.5)	343 (76.1)	620 (72.2)	2,797 (83.4)
Seriously considered suicide	8,674 (38.6)	2,043 (25.3)	2,705 (37.9)	1,670 (61.7)	228 (51.8)	355 (43.1)	1,673 (51.1)
Attempted suicide	4,135 (18.4)	868 (10.7)	1,197 (16.8)	941 (34.7)	119 (27.0)	190 (23.1)	820 (25.1)

youth reported significantly higher rates of depressive mood (83%), having seriously considered suicide (54%), and having attempted suicide (29%) compared with cisgender youth (Table 1).

Adjusting for age, family income, and race/ethnicity, transgender and nonbinary youth were two times more likely to report depressive mood, seriously considering suicide, and attempting suicide. When adding indicators of perceived discrimination and physical threats or harm related to sexual orientation or gender identity, the odds of experiencing depressed mood or suicidality were reduced (Table 2).

In bivariate analyses, nonbinary youth, both those assigned male and those assigned female at birth, reported the highest rates of having been discriminated against because of their sexual orientation, 81% and 78%, respectively (Table 3). Transgender males reported the highest rates of having been discriminated against because of their gender identity (92%), followed by transgender females (79%). Transgender males also reported the highest rates of being physically threatened or harmed (37%), although not significantly different from transgender females (33%). Also, nonbinary youth assigned male at birth reported rates of physical or threatened harm (32%) similar to transgender females.

Across all gender identities, transgender males reported higher rates of depressive mood (86%), having seriously considered suicide (62%) and attempted suicide (35%) in the past 12 months compared with youth of all other gender identities (Table 4). Nonbinary youth assigned female at birth and transgender females also reported higher rates of these outcomes compared with youth of other gender identities.

The adjusted multinomial logistic regression controlling for demographic variables found that transgender males were nearly two times more likely to report depressive mood (odds ratio [OR] = 2.11) and having seriously considering suicide (OR = 2.13) in the past 12 months and nearly one and half times as likely to have attempted suicide in the past 12 months (OR = 1.45) compared with cisgender LGBQ youth (Table 5). Transgender females were also more likely to report both having seriously considered suicide (OR = 1.82) and having attempted suicide in the past 12 months (OR = 1.44) compared with cisgender LGBQ youth after controlling for demographic variables. However, they were not significantly more likely to report depressive mood compared with cisgender LGBQ youth. Nonbinary youth assigned male at birth were more likely to report having attempted suicide (OR = 1.44) compared with cisgender LGBQ youth. Finally, nonbinary youth assigned female at birth were more likely to report depressive mood in the past 12 months (OR = 2.02) and having seriously considered suicide in the past 12 months (OR = 1.63) compared with cisgender LGBQ youth.

When adding sexual orientation–based and gender identity–based perceived discrimination and victimization to the model, nonbinary youth assigned male at birth were no longer significantly more likely to experience any of the assessed adverse mental health outcomes (Table 5). Similarly, the disparities in mental health outcomes between transgender females and cisgender LGBQ youth were no longer significant, with the exception of seriously considering suicide, which was reduced (OR = 1.67).

Although victimization and perceived discrimination partially accounted for the disparity in attempted suicide between nonbinary youth assigned female at birth and cisgender LGBQ

Table 5

Multivariate multinomial logistic model: aOR of experiencing poor mental health outcomes compared with cisgender youth

	Transgender males (n = 3,103), aOR (95% CI)	Transgender females (n = 508), aOR (95% CI)	Nonbinary youth assigned male at birth (n = 957), aOR (95% CI)	Nonbinary youth assigned female at birth (n = 3,797), aOR (95% CI)
Adjusted for age, family income, and race/ethnicity				
Depressive mood	2.11 (1.83–2.44)	1.18 (.88–1.58)	1.08 (.88–1.31)	2.02 (1.79–2.28)
Seriously considered suicide	2.13 (1.87–2.42)	1.82 (1.34–2.46)	1.24 (.99–1.55)	1.63 (1.45–1.83)
Attempted suicide	1.45 (1.27–1.65)	1.44 (1.04–1.98)	1.44 (1.12–1.86)	1.14 (1.00–1.30)
Adjusted for age, family income, race/ethnicity, and perceived discrimination and physically threatened or harmed because of sexual orientation or gender identity				
Depressive mood	1.62 (1.34–1.95)	.87 (.63–1.22)	.96 (.76–1.20)	1.67 (1.44–1.95)
Seriously considered suicide	1.96 (1.64–2.34)	1.67 (1.17–2.37)	1.06 (.82–1.39)	1.50 (1.29–1.74)
Attempted suicide	1.25 (1.04–1.50)	1.23 (.85–1.80)	1.19 (.88–1.61)	1.03 (.87–1.22)

n represent number of respondents included in the model.

Bolded values are significant at <.05.

aOR = adjusted odds ratio; CI = confidence interval.

youth, they remained more likely to report depressive mood (OR = 1.67) and seriously consider suicide (OR = 1.50), although the disparity in both of these was decreased. Likewise, victimization and perceived discrimination reduced the disparity in mental health outcomes between transgender males and cisgender LGBQ youth; however, they all remained significant.

Discussion

LGBTQ youth are at increased risk of seriously considering and attempting suicide compared with their cisgender, straight peers [22]; however, there has been little empirical study of the mental health of transgender and nonbinary youth specifically. Because of the dearth of studies that specifically examine transgender and nonbinary youth mental health, many studies have compared transgender and nonbinary youth to cisgender youth without specifically comparing them to their LGBQ cisgender peers [6,23]. Although these studies offer valuable contributions to the literature, our findings go beyond that to suggest that transgender and nonbinary youth are at increased risk of experiencing negative mental health outcomes even when compared with their cisgender LGBQ peers.

We hypothesized that increased levels of minority stress related to perceived discrimination and physical harm would result in transgender and nonbinary youth being more susceptible to poorer mental health outcomes compared with cisgender LGBQ youth. The present study found that transgender and nonbinary youth reported higher rates of perceived discrimination because of their sexual orientation as well as higher rates of perceived discrimination because of their gender identity compared with cisgender LGBQ youth. Furthermore, transgender and nonbinary youth reported having been physically threatened or harmed at nearly twice the rate of cisgender LGBQ youth.

Importantly, when controlling for these experiences of victimization and perceived discrimination, the disparity in the odds of experiencing adverse mental health outcomes decreased for transgender and nonbinary youth. This finding is consistent with the Minority Stress Model's [8] posit that disparities in poor mental health outcomes found between LGBTQ youth and straight cisgender youth are largely because of experiences of marginalization. They are also supported by a previous study that found retrospective accounts of LGBT-specific victimization eliminated the relationship between gender nonconformity and poor mental health outcomes in young adulthood [24] and suggests that reducing victimization and perceived

discrimination would likely reduce disparities in mental health for transgender and nonbinary youth. That said, the difference in mental health outcomes between transgender and nonbinary youth and other LGBTQ youth was not entirely accounted for by these distal stressors, suggesting other possible explanations, perhaps more proximal, for the discrepancies.

Our results of the within-group analyses highlight the importance of conducting this type of analysis to better understand the unique needs of subgroups of transgender and nonbinary youth. More specifically, in the present study, transgender males reported the highest rates of depressive mood, seriously considering suicide, and attempted suicide across all gender identities. There is a relative paucity of studies examining the experiences of transgender males, particularly because transgender females are more often represented in HIV-related research. That said, a study of adult transgender males found that they reported marked reduced mental health-related quality of life [25].

Although novel and important, these findings should be considered with limitations. First, these data are cross-sectional and, therefore, temporality cannot be determined. Moreover, the recruitment strategy does not lend for a truly representative sample. However, this is becoming increasingly more difficult to achieve [26] and is further exacerbated when recruiting transgender and nonbinary youth for studies involving sensitive topics such as suicidality. Age-matched comparisons of the rates of having attempted suicide in the past 12 months between LGBTQ youth in this study and LGB youth in the CDC's YRBS [1] assuage some concerns about the representativeness of the sample, as the rates were within 1 percentage point (24% vs. 23%). Another limitation can be found in our use of single-item measurements of mental health outcomes; however, these items were select to match the CDC's YRBS, which currently contains the largest representative sample of LGBTQ youth. Finally, there may be some concerns related to the age of the sample, given the distribution across early and late adolescence. However, we ran separate adjusted regression models, segmented by age group, and did not find any differences in patterns and significance levels of our results. Indeed, the association between gender identities and suicidality are robust across developmental age categories among youth.

Overall, the findings of the present study confirm previous work in this area by illustrating that transgender and nonbinary youth are at an even higher risk for poor mental health outcomes than their cisgender LGBQ peers. Increased rates of victimization and perceived discrimination among transgender and nonbinary

youth underpin the need for inclusive and affirming support specific to the experiences of transgender and nonbinary youth, as opposed to a one-size-fits-all approach, even within the LGBTQ community. Health professionals, school employees, and others in direct contact with youth should acknowledge the distinct experiences of transgender and nonbinary youth as well as the differences that exist within this group of youth. Furthermore, as most youth spend a substantial amount of their time in schools, the finding that victimization and perceived discrimination contribute to these disparities suggests that schools should enact anti-discrimination and anti-bullying policies inclusive of protections for LGBTQ youth [11]. Such policies should specifically address the needs and concerns of transgender and nonbinary youth, such as allowing youth to use the bathroom that corresponds with their gender identity and their chosen name, in addition to requiring that school officials respect their pronouns, all of which have been found to improve health outcomes [27,28].

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