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Sexual Minority Status and Age of Onset of Adolescent Suicide Ideation and Behavior

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Abstract

Objective: To determine whether sexual minority adolescents have earlier onset of suicidality and faster progressions from ideation to plan and attempt, than heterosexual adolescents.

Methods: A population-based longitudinal cohort of 1771 adolescents participated in the NEXT Generation Health Study. Participants reported sexual minority status (defined by sexual attraction) in 2010/11, and retrospectively reported age of onset of suicidality in 2015/2016.

Results: Sexual minority adolescents (5.8% of weighted sample) had higher lifetime risk of suicide ideation (26.1% vs. 13.0%), plan (16.6% vs. 5.4%), and attempt (12.0% vs. 5.4%) than heterosexual adolescents. Survival analyses adjusted for demographic characteristics and depressive symptoms revealed positive associations of sexual minority status with time to first onset of suicide ideation (Hazard Ratio [HR] = 1.77, 95% CI [1.03–3.06]) and plan (HR = 2.69, 95% CI [1.30–5.56]). The association between sexual minority status and age at onset of suicide attempt was stronger below age 15 (HR = 3.26, 95% CI [1.25–8.47]) than age 15 (HR = 0.59, 95% CI [0.21–1.66]). The association between sexual minority status and progression from

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Contributors' Statements:

Dr. Luk conducted the literature review, formulated the research questions and the statistical analyses, and wrote the first draft of the manuscript.

Dr. Goldstein contributed to the conceptualization of the study, the statistical analyses, and critically revised the manuscript.

Dr. Yu contributed to the conceptualization of the study, the statistical analyses, and critically revised the manuscript.

Dr. Haynie designed the parent study, supervised data collection, contributed to the conceptualization of the study, and critically revised the manuscript.

Dr. Gilman contributed to the conceptualization of the study, the statistical analyses, and critically revised the manuscript.

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ideation to plan was stronger in the same year of first ideation (HR = 2.01, 95% CI [1.07–3.77]) than 1 year after first ideation (HR = 1.33, 95% CI [0.26–6.77]).

Conclusions: Sexual minority adolescents had earlier onset of suicidality and faster progression from suicide ideation to plan than heterosexual adolescents. The assessment of sexual minority status in routine pediatric care has the potential to inform suicide risk screening, management, and intervention efforts among early sexual minority adolescents.

Table of Contents Summary

In a nationally representative cohort study, sexual minority youth were found to have earlier onset of suicide ideation and behavior than heterosexual youth.

Suicide is the second leading cause of death among youth aged 15–24 in the United States.¹ Between 12.1–24.0% of U.S. adolescents report lifetime suicide ideation and 3.1–8.8% of adolescents report one or more lifetime suicide attempts.^{2,3} Data from the National Comorbidity Survey Replication-Adolescent Supplement (NCS-A) show that suicide ideation is rare before age 10 and increases sharply between ages 12 and 17.³ Suicide plan and attempt often develop after ideation and risks of planning and attempting suicide tend to increase linearly from age 12 through late adolescence, leveling off in the 20s.^{3–6} Adolescents with suicide ideation are 12 times more likely to attempt suicide by age 30⁷ and have poorer adult functioning across financial, health, risky/legal, and social domains.⁸ Thus, identification of risk factors for onset of suicidality could inform targeted and optimally timed suicide prevention efforts.

Sexual minority status, which has been variably defined in the literature based on sexual identity, behavior, and/or attraction and commonly used to refer to lesbian, gay, and bisexual individuals, is strongly associated with suicide ideation and behavior.^{4,9} Relative to their heterosexual peers, sexual minority adolescents report more depressive symptomatology and are more likely to experience suicide ideation, plan and attempt.^{10–12} The Youth Risk Behavior Survey (YRBS) is the principal data source used to study sexual orientation health disparities among U.S. adolescents.^{13–18} Recent YRBS studies show that the proportion of adolescents who identified as sexual minorities increased from 7.3% in 2009 to 14.3% in 2017¹⁹ and that past-year prevalence of suicide ideation, plan, and attempt remained markedly high among sexual minority youth across the 23-year study period.²⁰ In the 2015 YRBS, sexual minority adolescents were more likely than their heterosexual peers to consider suicide seriously (39.7% vs. 14.8%), make a suicide plan (34.9% vs. 11.9%), and attempt suicide (24.9% vs. 6.3%) in the past year.²¹ As data on age of onset of suicide ideation and behavior are unavailable in the YRBS,²² the examination of the timing of sexual orientation disparities in other recent, nationally representative datasets would be valuable.

According to minority stress theory, lesbian, gay, bisexual, and transgender (LGBT) populations are at elevated risk for mental health problems because they face a more hostile and stressful social environment characterized by stigma, prejudice, and discrimination.²³ As a result, individuals who identify as sexual minorities tend to have higher prevalence and earlier onset of self-injurious thoughts and behaviors than heterosexual individuals.²⁴ In

a longitudinal study of sexual minority youth, earlier age of first same-sex attraction was correlated with increased likelihood of lifetime and recent suicide attempt, and depressive symptoms constituted a key mediator of the associations between family support and victimization due to being or perceived as LGBT with suicide attempt.²⁵ Therefore, although recent meta-analyses suggest that depression alone may not be sufficient for predicting suicide ideation and behaviors,^{24,26} it has substantial relevance for suicide prevention among sexual minority youth considering sexual minority disparities in adolescent depressive symptoms.^{27,28}

Effective screening practices in the pediatric primary care setting can help identify and refer at-risk youth to appropriate specialty treatment or services.^{29–31} Current recommendations from the U.S. Preventive Services Task Force (USPSTF) and the American Academy of Pediatrics (AAP) promote universal screening for depression after age 12.^{32,33} While there are unique challenges associated with the implementation of pediatric suicide risk screening,³⁴ a growing number of brief screening tools have been developed to detect suicide risk in youth.^{35–37} Regardless of whether suicidality is detected within or outside the context of depression, improved understanding of the timing of sexual minority disparities in suicide ideation and behaviors could inform the appropriate age at which suicide risk screening procedures should incorporate an assessment of sexual orientation to enhance clinical care.³⁸

Ideation-to-action theories of suicide outline typical progressions from suicide ideation to plan and from suicide plan to attempt.³⁹ Using a data source other than the YRBS, we examined prevalence of lifetime suicide ideation, plan, and attempt among sexual minority and heterosexual youth, investigated whether sexual minority youth had earlier onset of suicide ideation and behavior than their heterosexual peers, and tested whether sexual minority youth had faster progressions from suicide ideation to plan and plan to attempt than their heterosexual peers while controlling for depressive symptoms.

Method

Sample

The NEXT Generation Health Study (NEXT) is a 7-year longitudinal study of 2,783 10th graders who were followed annually from 2009–2010 to 2015–2016. A three-stage stratified design was used to recruit a nationally representative sample of U.S. high school students. Self-report questionnaires were administered initially (Wave 1) in classrooms, with annual online follow-ups. Adolescents who participated at Wave 2, when sexual minority status was measured, and Wave 7, when lifetime history of suicide ideation and behaviors were assessed, were included in the current study ($n = 1,771$). Attrition analyses revealed that females were more likely than males to participate in Wave 7; participation in Wave 7 did not vary by sexual minority status, race/ethnicity, family affluence, or depressive symptoms at Wave 2. Parents provided written consent for adolescent participation; upon reaching age 18, participants provided consent. The study was approved by the Institutional Review Board of the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development.

Measures

Sexual minority status (Wave 2).—Sexual minority status was determined using a single item querying sexual attraction, a core dimension of sexual orientation that adolescents find relevant and easy to answer.^{40–42} Participants were asked, “Which of the following best describes your sexual orientation?” Response options assessed: (1) attraction to opposite sex, (2) attraction to same sex, (3) attraction to both sexes, and (4) questioning. Adolescents who endorsed sexual attraction to the opposite sex only were coded as heterosexual adolescents, whereas the last three sexual minority subgroups were combined for analyses.

Suicide ideation and behavior (Wave 7).—Three separate questions adapted from the World Mental Health Survey Version of the World Health Organization Composite International Diagnostic Interview⁴³ were asked of all respondents, assessing lifetime suicide ideation, plan, and attempt: “Have you ever seriously thought about committing suicide?” “Have you ever made a plan for committing suicide?” and “Have you ever attempted suicide?” Participants who endorsed lifetime suicide ideation, plan, and/or attempt were asked to report retrospectively the ages at which they first had suicide ideation, plan, and/or attempt.

Demographic covariates.—Demographic covariates included age, race/ethnicity, and family affluence. Race/ethnicity was categorized into four groups: White, African American, Hispanic and other. Participants’ family affluence was assessed using the Health Behaviour School-Aged Family Affluence Scale, which asked about number of family cars and computers, whether participants had their own bedroom, and frequency of family holidays.⁴⁴

Depressive symptoms (Wave 2).—The 8-item pediatric Patient-Reported Outcomes Measurement Information System (PROMIS) scale,⁴⁵ which does not include questions on suicidality, was used to measure depressive symptoms ($\alpha = .94$). Sample items included, “I felt like I couldn’t do anything right,” “I feel sad,” and “I thought that my life was bad.” Response options ranged from 0 (*never*) to 4 (*almost always*) in the last 7 days. *T*-scores were assigned based on published norms.⁴⁶

Analysis

Lifetime prevalence and mean age of first suicide ideation, plan, and attempt were computed for the overall analytic sample and by sexual minority status. Survival analyses were conducted to test associations of sexual minority status with ages at first suicide ideation, plan, and attempt, as well as progressions from ideation to plan and plan to attempt. The SAS LIFETEST procedure was utilized to generate Kaplan-Meier survival curves by sexual minority status. The SAS SURVEYPHREG procedure was used to fit Cox survival models of time-to-event outcomes adjusting for Wave 2 age, race/ethnicity, family affluence, and depressive symptoms. Survival models were extended to evaluate time-varying associations between sexual minority status and suicide ideation and behaviors (at ages <15 vs. 15 years, as the median of onset ages was around 15 years), and in progressions from suicide ideation to plan and from plan to attempt (in the same year vs. 1 or more years since first ideation or plan, as more than half of these transitions occurred in the same year). All

analyses accounted for the complex survey design of NEXT; all proportions reported were weighted using the study's sampling weight which accounted for selection probability into the study and attrition over the follow-up period.

Results

As shown in Table 1, the mean age of the adolescents was 17.2 years old at Wave 2 and 22.6 years old at Wave 7. The sample was 60.8% female and diverse with respect to race/ethnicity, with 5.8% sexual minority adolescents. The lifetime prevalences of suicide ideation, plan, and attempt in the overall sample were 13.8%, 6.0%, and 5.8%, respectively (Table 2). Sexual minority adolescents had higher lifetime prevalence of suicide ideation (26.1% vs. 13.0%), plan (16.6% vs. 5.4%), and attempt (12.0% vs. 5.4%) than heterosexual adolescents. Mean ages of first suicide ideation, plan, and attempt were generally younger among sexual minority than heterosexual adolescents. Though subgroup sizes were smaller, these patterns generally held across adolescents reporting that they were attracted to same sex, both sexes, and questioning (Supplemental Table 1) and among males and females (Supplemental Table 2).

Kaplan-Meier curves for time to first suicide ideation, plan, and attempt (constructed using ages retrospectively reported at Wave 7) in Figure 1 reveal marked differences between sexual minority and heterosexual participants beginning at age 10, the youngest age reportable on the survey. According to the Cox survival models (Table 3), sexual minority adolescents had earlier onsets of ideation, plan, and attempt than heterosexual peers. Model 1 revealed associations of sexual minority status with ages of first ideation (Hazard Ratio [HR] = 1.77 [95% Confidence Interval [CI], 1.03–3.06]) and plan (HR = 2.69 [95% CI, 1.30–5.56]) but not attempt. Model 2 examined these associations at ages <15 and 15 years. Sexual minority disparities in suicide ideation, plan, and attempt were largely phenomena of the youngest ages: hazard ratios were markedly larger below age 15 than at ages 15 or above, and the hazard ratio for suicide attempt at younger (HR = 3.26 [95% CI, 1.25–8.47]) was significantly different from the HR at older ages (HR = 0.59 [95% CI, 0.21–1.66]) ($p = 0.02$).

Kaplan-Meier curves for progressions from ideation to plan and plan to attempt also revealed pronounced differences between sexual minority and heterosexual youth (Figure 2). Of the 208 participants who reported suicide ideation, 42.5% ($n = 91$) progressed to developing suicide plan. Of the 92 participants who reported suicide plan, 63.8% ($n = 57$) progressed to suicide attempt. Progression from suicide ideation to attempt without any plan was observed in 19 participants (Supplemental Table 3); due to the low frequency, we did not conduct survival analyses of this progression. As shown in Table 3, survival analyses examining the time-varying effect of sexual minority status on progression from ideation to plan similarly revealed stronger association during the same year (HR = 2.01 [95% CI, 1.07–3.77]) than after 1 or more years (HR = 1.33 [95% CI, 0.26–6.77]), indicating that sexual minority adolescents had faster progression from ideation to plan than heterosexual adolescents. Sexual minority and heterosexual adolescents did not differ in the timing of progression from suicide plan to attempt.

Discussion

The lifetime prevalences of suicide ideation, plan, and attempt in the NEXT sample (13.8%, 6.0%, and 5.8%, respectively) were comparable to those reported in the NCS-A sample (12.1%, 4.0%, and 4.1%).³ Consistent with prior meta-analyses,^{10–12} sexual minority adolescents were 2–3 times more likely to report lifetime suicide ideation (26.1% vs. 13.0%), plan (16.6% vs. 5.4%), and attempt (12.0% vs. 5.4%) than heterosexual peers. Because the YRBS assessed past year but not lifetime prevalence or ages of onset suicide ideation and behavior, direct comparisons of suicidality prevalences between NEXT and YRBS are not possible. Nonetheless, the magnitude of disparities in past-year prevalence of suicide attempt was notably greater in the YRBS (24.9% for sexual minority vs. 6.3% for heterosexual adolescents) than in NEXT.²² The higher prevalence of suicide attempt among sexual minorities in the YRBS may be due to concurrent measurement of sexual orientation and suicidality and/or measuring sexual identity rather than attraction. Coming out at an earlier age is a risk factor for suicide attempt.^{47,48} If adolescents who self-identify as sexual minority are more likely to come out than adolescents who have same-sex attraction,⁴⁹ the resulting negative reactions from parents and friends may account for the more drastic sexual orientation disparity in YRBS.^{50–52}

As age of onset of suicidality was assessed in NEXT but not in YRBS, our results complement YRBS-based studies^{13–18} and reveal earlier ages of onset of suicide ideation, plan and attempt among sexual minority adolescents compared to their heterosexual peers. Potential contributors to sexual minority disparities identified in previous studies include child psychopathology and family conflict,⁵³ negative family and school environment,^{54,55} perceived burdensomeness and social rejection,^{56,57} and stress associated with the coming out process.^{49,51,52} Accordingly, it would be beneficial for interventions to address minority-status related risk (e.g., discrimination experiences) and promote protective factors (e.g., family acceptance⁵⁸ and affirming and supportive school environments⁵⁹). Furthermore, our results underscore the importance of intervention timing. Indeed, one explanation for the persistently large disparities in suicidality for sexual minority youth is the absence of developmentally timed interventions.⁶⁰ Assessment of sexual orientation beginning in early- to mid-adolescence may facilitate early identification of sexual minority adolescents at elevated suicide risk, so that timely interventions can be provided.

Sexual minority adolescents also had faster progression from ideation to plan, but not from plan to attempt. The lack of association between sexual minority status and progression from plan to attempt may be due to fewer adolescents with suicide plans and higher clinical severity among suicide planners. In a recent study of adolescents admitted to inpatient psychiatric services, sexual minority adolescents reported higher levels of suicide ideation but not behavior, and no sexual orientation disparities were found in depression, clinical impairment, or life satisfaction.⁶¹ More research is needed to understand mental health and treatment related disparities among sexual minority youth in high-risk clinical samples. Conceptualized within the ideation-to-action theoretical framework,^{39,62} our findings highlight the importance of addressing sexual minority disparities before the onset of suicide ideation and before the progression from suicide ideation to plan.

Data from the NCS-A indicate that 66.4% of adolescents with suicide ideation received mental health specialty treatment in their lifetime, but only 39.6% were treated before the onset of suicide behavior.³ As sexual minority adolescents have earlier onset of suicide ideation and behaviors than heterosexual peers, there is an urgent need to develop and test psychosocial interventions tailored for sexual minority adolescents at earlier developmental stages.⁶³ Sexual minority disparities in mental health symptoms including depression, anxiety and traumatic distress have been found in pediatric primary care,³⁰ making it uniquely suited to identify at-risk sexual minority adolescents and connect them to appropriate resources and treatment.^{64,65} The AAP recommends providing culturally sensitive office-based care for sexual minority youth, which includes taking a confidential psychosocial history using a gender-neutral approach and following prevention and screening guidelines as outlined in *Bright Futures*.^{33,66} To successfully implement these screening procedures, a behavioral health workforce embedded in the primary care setting could increase the capacity for culturally sensitive care and referral to treatment. Greater sensitivity to confidentiality and privacy concerns related to sexual minority status, as well as an openness to discuss minority stressors can foster a supportive environment for sexual minority adolescents.^{67,68}

Study limitations include the classification of sexual minority status based on a single item assessing sexual attraction at one timepoint. This item only categorized youth who experienced some same-sex attraction as sexual minority youth and did not capture asexual youth nor the full spectrum of gender identity. Such classification of sexual minority youth did not account for the multidimensionality of sexual orientation and excluded alternative definitions based on sexual identity and behavior. Second, the number of sexual minority adolescents in NEXT was not large enough to conduct analyses among males and females separately, limiting our ability to examine sex differences in suicide risk associated with sexual minority status. Likewise, small cell sizes for sexual minority subgroups precluded formal analyses to test which subgroup had the highest risk for suicide ideation and behaviors. Larger samples are needed to overcome these limitations. Third, single-item measures of suicide ideation and behavior could lead to under- or over-endorsement of these items.⁶⁹ For instance, requiring suicide ideation to be “serious” may exclude adolescents with mild, transient, but clinically important ideation, whereas not requiring “intent to die” as part of the suicide attempt definition may lead to over-endorsement of this outcome.^{69,70} Fourth, the analytic sample consisted of 63.6% of the full NEXT cohort due to attrition and missing data on study variables. Lastly, retrospectively reported age of onset of suicidality could be prone to recall bias (e.g., influenced by current distress) and the timing of suicide ideation and behavior could have preceded the assessment of sexual minority status. Prospective research measuring multiple dimensions of sexual orientation and suicide-related behaviors should begin in early adolescence so as to enable modeling of fluidity of sexual orientation over time. Regional and state differences in acceptance, legal protection, and access to culturally sensitive health care for sexual minority youth should also be examined.

Sexual minority disparities in suicide risk emerge early in, and in some instances before, adolescence and are substantially independent from depressive symptoms. Our study highlights the importance of early identification of sexual minority adolescents

who experience elevated suicidality. The inclusion of sexual orientation assessment, psychosocial support, education for families, appropriate treatment referral in pediatric primary care, and consideration of using tele-behavioral health approaches to reach underserved sexual minority youth could inform suicide prevention.^{31,67} Utilization of evidence-based interventions that are well-timed may help sexual minority adolescents navigate developmental, social, and psychological challenges. Clinical research is needed to evaluate if developmentally-timed interventions improve the effectiveness of suicide risk reduction efforts among sexual minority youth.^{60,63} Future studies that incorporate multiple levels of data to capture individual-level (e.g., perceived burdensomeness, access to lethal means) and state-level characteristics (e.g., legalization of same-sex marriage, anti-discrimination policies) can improve our understanding of risk and protective factors associated with suicidality among sexual minority youth.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Abbreviations:

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| AAP | American Academy of Pediatrics |
| NEXT | NEXT Generation Health Study |
| PROMIS | Patient-Reported Outcomes Measurement Information System |
| YRBS | Youth Risk Behavior Survey |

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What's Known on This Subject

Sexual minority youth have greater risk for suicide ideation and behavior than heterosexual youth, but less is known about the timing of first suicidality. A better understanding of the timing of disparities can inform targeted, optimally timed suicide risk screening.

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What This Study Adds

After controlling for depressive symptoms, sexual minority adolescents had earlier onset of suicide ideation, plan, and attempt than heterosexual adolescents. Sexual minority adolescents also progressed faster from suicide ideation to plan but not from plan to attempt, than heterosexual adolescents.

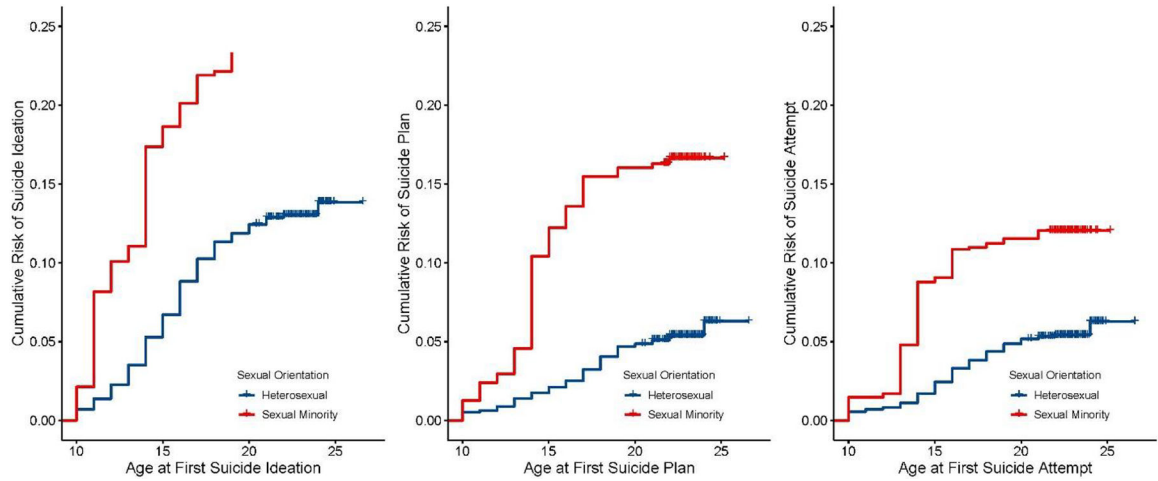


Figure 1. Sexual minority status and time to first age of suicide ideation, plan, and attempt Kaplan-Meier survival curves showing a more rapid increase in the cumulative risk of suicide ideation, plan, and attempt before age 15 among sexual minority youth compared with heterosexual youth.

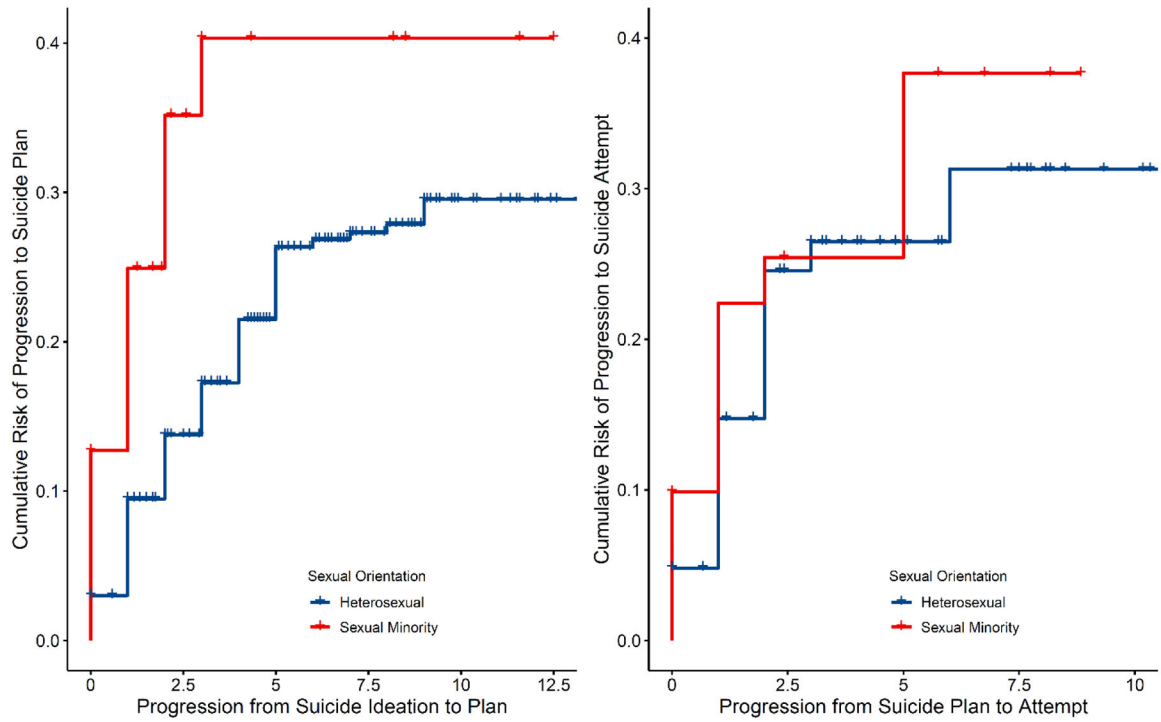


Figure 2.

Sexual minority status and progressions from suicide ideation to plan and from suicide plan to attempt

Kaplan-Meier survival curves showing a more rapid increase in the cumulative risk of progression from suicide ideation to plan in the same year among sexual minority youth compared with heterosexual youth.

Table 1.

Demographic characteristics of participants in the NEXT Generation Health Study included in the current study ($n = 1771$)

| | Mean (SE) | Frequency | Weighted Percent |
|-------------------------------------|--------------|-----------|------------------|
| Age at Wave 2 | 17.19 (0.01) | | |
| Age at Wave 7 | 22.63 (0.01) | | |
| Sex | | | |
| Male | | 717 | 39.2% |
| Female | | 1054 | 60.8% |
| Race/Ethnicity | | | |
| White | | 721 | 58.9% |
| African American | | 440 | 19.5% |
| Hispanic | | 530 | 17.3% |
| Other | | 80 | 4.2% |
| Family Affluence | | | |
| Low | | 560 | 22.2% |
| Moderate | | 826 | 50.1% |
| High | | 385 | 27.7% |
| Family Structure ^a | | | |
| Both biological | | 874 | 54.8% |
| Biological and step parent | | 240 | 17.3% |
| Single parent | | 318 | 19.7% |
| Other | | 162 | 8.2% |
| Parental Education ^b | | | |
| High school or less | | 615 | 31.5% |
| Some college | | 614 | 40.5% |
| Bachelor's degree or more | | 398 | 28.0% |
| Sexual Minority Status at Wave 2 | | | |
| Heterosexual | | 1630 | 94.2% |
| Sexual minority (combined) | | 141 | 5.8% |
| Attracted to the same sex | | 33 | 1.5% |
| Attracted to both males and females | | 78 | 3.4% |
| Questioning | | 30 | 0.9% |
| Depressive Symptoms at Wave 2 | 51.11 (0.28) | | |

^aDue to missing data among 177 participants, valid weighted percentages are presented.

^bDue to missing data among 144 participants, valid weighted percentages are presented.

Table 2.

Lifetime prevalence and age of first suicide ideation, suicide plan, and suicide attempt for the overall sample and by sexual minority status

| | Overall (<i>n</i> = 1771) | | Heterosexual (<i>n</i> = 1630) | | Sexual Minority (<i>n</i> = 141) | |
|-------------------------------|-------------------------------|------------------|------------------------------------|------------------|--------------------------------------|------------------|
| | <i>n</i> | Weighted Percent | <i>n</i> | Weighted Percent | <i>n</i> | Weighted Percent |
| Lifetime suicide ideation | | | | | | |
| No | 1563 | 86.2% | 1454 | 87.0% | 109 | 73.9% |
| Yes | 208 | 13.8% | 176 | 13.0% | 32 | 26.1% |
| Lifetime suicide plan | | | | | | |
| No | 1679 | 94.0% | 1559 | 94.6% | 120 | 83.4% |
| Yes | 92 | 6.0% | 71 | 5.4% | 21 | 16.6% |
| Lifetime suicide attempt | | | | | | |
| No | 1690 | 94.2% | 1567 | 94.6% | 123 | 88.0% |
| Yes | 81 | 5.8% | 63 | 5.4% | 18 | 12.0% |
| | <i>n</i> | Mean (SE) | <i>n</i> | Mean (SE) | <i>n</i> | Mean (SE) |
| Age of first suicide ideation | 208 | 15.16 (0.20) | 176 | 15.29 (0.22) | 32 | 14.11 (0.58) |
| Age of first suicide plan | 92 | 15.83 (0.35) | 71 | 16.10 (0.40) | 21 | 14.37 (0.56) |
| Age of first suicide attempt | 81 | 15.49 (0.34) | 63 | 15.69 (0.39) | 18 | 14.07 (0.59) |

Table 3.

Results from survival analyses modeling the effect of sexual minority status on first age of suicide ideation and behavior and progressions from ideation to plan and from plan to attempt

| | Model 1 | | Model 2 | | Time-varying effect <i>p</i> -value |
|-----------------------------------|------------------|-------------------------------|------------------------------------|--|--|
| | Full time period | Younger age (below age 15) | Older age (age 15 or above) | | |
| | HR (95% CI) | HR (95% CI) | HR (95% CI) | | |
| | Total | Event | Censored (Weighted %) | | |
| Time to first ideation | 1771 | 208 | 1563 (86.2%) | | 0.10 |
| Time to first plan | 1771 | 92 | 1679 (94.0%) | | 0.12 |
| Time to first attempt | 1771 | 81 | 1690 (94.2%) | | 0.02 |
| | Model 1 | | Model 2 | | Time-varying effect <i>p</i> -value |
| | Full time period | Early progression (same year) | Late progression (1 or more years) | | |
| | HR (95% CI) | HR (95% CI) | HR (95% CI) | | |
| | Total | Event | Censored (Weighted %) | | |
| Progression from ideation to plan | 208 | 91 | 117 (57.5%) | | 0.60 |
| Progression from plan to attempt | 92 | 57 | 35 (36.2%) | | 0.10 |

Note. Two models were conducted for each suicide outcome. In Model 1, the time-invariant effect of sexual minority status on the suicide outcome was examined. In Model 2, the time-varying effect of sexual minority status on the suicide outcome was examined. All models adjusted for age, race/ethnicity, family affluence, and depressive symptoms. HR = Hazard Ratio; CI = Confidence Interval. Significant findings are highlighted in **bold**.