

# The Association Between Hate Crime Laws That Enumerate Sexual Orientation and Adolescent Suicide Attempts

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Sexual minority youth are at elevated risk for suicide, and previous research supports an association between hate crimes targeting sexual minority youth and suicide attempts. Hate crime laws (HCLs) may reduce bias-motivated victimization or reflect community support for marginalized groups, although not all states with such laws explicitly name sexual minorities as a protected class. We used a quasi-experimental design to examine whether the inclusion of sexual orientation as an explicitly protected group within states' HCLs was associated with decreased suicide attempts among high school aged adolescents using data from the Youth Risk Behavior Survey. Results showed that sexual minority youth attempted suicide at rates 2.9 to 4.3 times higher than heterosexual youth. The enactment of enumerated HCLs was associated with a small but significant 1.2–percentage point (95% confidence interval, CI [−1.8%, −0.6%],  $p < .001$ ) reduction in suicide attempts among high school aged adolescents, and these reductions were not specific to sexual minority youth. Among sexual minority youth, enumerated HCLs were associated with larger reductions in suicide attempts among questioning and bisexual youth than gay and lesbian peers. By contrast, general HCLs that did not explicitly name sexual minorities as a protected group did not differ from the absence of any HCL in their association with suicide attempts (−.5%, 95% CI [−1.6%, 0.7%],  $p = .43$ ). We conclude that HCLs may help to decrease rates of adolescent suicide attempt, but this potential appears to be contingent on naming sexual minorities as a protected group.

**Keywords:** youth suicide, sexual minority, LGBT, hate crime, enumerated hate crime law

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Youth suicide is a major public health concern and represents the second leading cause of death among adolescents in the United States (Centers for Disease Control and Prevention, 2018a). In addition to suicide mortality outcomes, an estimated 157,000 youth visit the emergency department annually due to a nonfatal self-inflicted injury, which includes deliberate self-harm with either suicidal or nonsuicidal intent (Centers for Disease Control and Prevention, 2018b). Rates of nonfatal self-inflicted injuries resulting in emergency department visits increased significantly between 2001 and

2015, particularly among adolescent females (Mercado et al., 2017). Further, estimates suggest that 12% to 24% of adolescents have considered suicide (Nock et al., 2008, 2013), and over one-third of adolescents who experience suicidal ideation make a suicide attempt within 2 years (Glenn et al., 2017; Nock et al., 2013).

Sexual minority youth are at higher risk for suicide relative to their heterosexual peers (e.g., Eisenberg & Resnick, 2006; Liu et al., 2020). Among youth who identify as sexual minorities, the likelihood of death by suicide has been estimated to be two to seven times greater

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than among heterosexual youth (Haas et al., 2011). Ream (2019), utilizing data from the CDC's National Violent Death Reporting System (NVDRS), found that almost one in four (24%) youth between the ages of 12 and 14 who died by suicide were lesbian, gay, bisexual, or transgender (LGBT). Among sexual minority suicide decedents, gay males are overrepresented (53.9%), followed by lesbian (28%) and bisexual (7.5%) individuals (Lyons et al., 2019).

### Contributors to Suicide Risk Among Sexual Minority Youth

Sexual minority youth have considerably higher rates of psychological disorders than their heterosexual counterparts (Bostwick et al., 2014; Grant et al., 2014; Rodriguez-Seijas et al., 2019). For instance, meta-analytic results find that gay and lesbian individuals have a twofold higher lifetime prevalence of mental disorder than their heterosexual counterparts (Meyer, 2013). Other meta-analytic evidence finds that sexual minority youth have nearly three times greater odds of experiencing a depressive disorder compared with heterosexual youth, and this difference is particularly prominent among sexual minority females (Lucassen et al., 2017). Although the link between psychological disorder and suicide (e.g., San Too et al., 2019) helps to partially account for elevated suicide rates among sexual minority youth, there are a variety of proximal and distal factors that contribute to negative psychological outcomes and suicide risk in this population.

The Minority Stress Theory (Meyer, 2013) helps to explain increased risk of psychological distress, disorder, and suicide outcomes through conceptualizing social (or distal) and individual (or proximal) stressors that are chronic and unique to sexual minority populations (Meyer et al., 2021). The theoretical framework posits that lived discrimination/victimization, internalized stigma, and expectations of rejection are social processes through which the environment contributes to stress and health. The empirical evidence to support significant associations between minority stressors and poor mental health outcomes is long-standing (Cronin et al., 2021; Hatzenbuehler & Pachankis, 2016). However, more research is needed to examine intervention mechanisms targeting these social processes to reduce youth suicide outcomes. A bioecological analysis of how minority stress factors influence suicide outcomes in sexual minority youth offers a life course perspective that accounts for multilevel social exchanges (Anderson & Ford, 2021). Examining minority stress factors at a structural level suggests the potential influences of state-level legislation, though otherwise seemingly distal from an individual young person, on mental health outcomes and suicide. It is clear that social policy, as a structural level factor, can alter social determinants of health and, through which, may influence health and disease. However, minimal research has focused on the potential, immediate impacts of legislated policy interventions on individual or population health (Osypuk et al., 2014), especially as it relates to suicide outcomes.

### Victimization Experiences and Sexual Minority Youth

Sexual minority youth are at elevated risk for a variety of victimization experiences, including bullying, verbal harassment, sexual assault, and other forms of victimization (Cramer et al., 2012; Silverschanz et al., 2008), and victimization experiences among sexual minority youth have been linked to their risk for suicide

(Smith & Reidy, 2021). In a large regional sample of high school students in the Northeastern United States, sexual minority youth endorsed more victimization experiences of every kind relative to heterosexual youth, including bullying, sexual harassment, unwanted sexualized contact and rape, and dating conflict (Norris & Orchowski, 2020). In this study, among sexual minority youth, 91% of females and 79% of males experienced at least one form of peer victimization (rates among heterosexual females and males were 78% and 63%, respectively). Longitudinal research finds that these victimization disparities have an early onset that persists at least into adolescence, with victimization disparities emerging by age 9 that are of a similar magnitude to those observed at age 15 (Martin-Storey & Fish, 2019).

In addition to experiencing higher rates of victimization, evidence shows that these experiences are more strongly linked to negative outcomes among sexual minority youth relative to their heterosexual peers. Ybarra et al.'s (2015) study of 5,907 youth between the ages of 13 and 18 found that, although there is an association between bullying victimization and suicidal ideation across sexual orientations, this association was more pronounced among members of certain sexual minority groups. Namely, whereas 10% of heterosexual youth reported suicidal ideation after being bullied, 39% of bisexual youth and 31% of other sexual minority youth experienced postbullying suicidal ideation. Related research has found that bullying that is perceived to be based on the victim's sexual orientation might result in more adverse psychological consequences, including lower perceived quality of life, depressed mood, and suicidal ideation, compared with bullying victimization perceived to be motivated by other factors (Patrick et al., 2013). Taken together, this body of research suggests that sexual minority youth are more likely to be bullied, to experience a particularly injurious form of bullying, and to experience more adverse psychological consequences in response. Although suicidality after bullying victimization is an important outcome, it is clear that it is only one among many adverse consequences. For instance, bullying experiences among sexual minority youth have been linked to risky health behaviors, including increased rates of gun carrying (Romero et al., 2017; Streed et al., 2022), school truancy (Birkett et al., 2014), substance use (Conron et al., 2010), and homelessness (Institute of Medicine Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities, 2011).

Sexual minority youth are also at increased risk for sexual harassment and assault (Cramer et al., 2012), and research suggests that these victimization experiences may have more harmful mental health consequences than bullying (Gruber & Fineran, 2008). A study examining sexual harassment among lesbian, gay, bisexual, transgender, or questioning (LGBTQ) high school students found that sexual minority students that experienced sexual harassment had poorer mental health over a 3-year period than LGBTQ students who were not harassed (Hatchel et al., 2018). These researchers also found that this effect was mediated by school support, such that when students perceived school belonging, they reported fewer depressive symptoms, suggesting that environmental supports might alleviate some of the mental health sequelae associated with such victimization experiences (Hatchel et al., 2018).

### Stigma

Data regarding disparities in victimization experiences among sexual minority youth, such as that described above, reflect enacted

stigma, or that which involves actual experiences of discrimination (Maluwa et al., 2002). As described by Parker et al. (2018), enacted stigma exists alongside felt stigma, which involves feelings of shame or fear related to identifying as part of a stigmatized group. Although overt victimization experiences are more common among sexual minority youth, such experiences are not necessary to be stigmatized and experience the associated adverse consequences.

Empirical data on the experiences and consequences of stigma among sexual minority youth portray stigma as the driver of a range of health disparities (e.g., Hatzenbuehler & Pachankis, 2016), including adverse psychological consequences. For instance, Pachankis et al.'s (2018) 8-year longitudinal study of young gay and bisexual men found that felt stigma, such as not wanting to be associated with the "stereotypical image of effeminate gays," was predictive of social anxiety symptoms (p. 1384). They also found that whereas feelings of being stigmatized decreased over time, symptoms of depression remained consistent and social anxiety increased. These results were consistent with previous findings suggesting that although perceived circumstances may improve for sexual minority individuals, the health effects of minority stress can be persistent.

Feinstein (2020) applied the rejection sensitivity model to the conceptualization of sexual minority mental health and emphasized the role of perceptions of stigmatizing experiences and the psychological effects of anticipatory emotions. This framework serves to organize research finding that sexual minorities often have expectations of negative events and that these expectations, independent of actual experiences of discrimination, impact their well-being (Almeida et al., 2009; Lewis et al., 2006; Sattler & Christiansen, 2017). For example, in an online study examining gay victimization experiences, rejection expectations, and mental health symptoms in 1,423 gay and bisexual men, Sattler and Christiansen (2017) found that both previous victimization and expectations of gay-related rejection were associated with increased mental health symptoms. These researchers found that gay and bisexual men were more sensitive to rejection, and this sensitivity predicted mental health symptoms in a linear way. They also found that when participants had both previous victimization experiences and expectations of rejection, their mental health was poorer than participants who endorsed only one of these risk factors (Sattler & Christiansen, 2017).

Lewis et al. (2006) surveyed 105 self-identified "out" lesbians and found that their level of stigma consciousness was positively correlated with intrusive thoughts, internalized homophobia, and physical symptoms (i.e., cold, diarrhea, or cough). Similarly, in a study of 1,032 high school students in Boston, MA, Almeida et al. (2009) found that one in three (33.7%) sexual minority youth perceived discrimination based on their sexual orientation and that perceived discrimination was associated with elevated emotional distress in this group. Further, these researchers found that sexual minority youth were significantly more likely than their heterosexual peers to report past-year suicidal ideation (30% vs. 6%) and self-harm (21% vs. 6%). Overall, these studies demonstrate that sexual minority individuals experience negative expectations of social events at a higher rate than heterosexual youth, which significantly contributes to mental health difficulties, including suicidality.

## Structural Interventions

Stigma and discrimination are multilevel constructs that are enacted at structural (i.e., state policies and institutional practices), interpersonal

(abuse, rejection, and discrimination), and individual (self-stigma and disclosure) levels (Hatzenbuehler & Pachankis, 2016). Although sexual minority youth are victimized at disproportionate rates, which contributes to a range of adverse psychological outcomes, including increased suicidality, research suggests that interventions targeting individual, interpersonal, and structural stigma can mitigate these outcomes. For example, studies have consistently found that interventions that increase sexual minority youths' perceptions of schools as supportive environments—whether through the establishment of specific organizations, such as Gay-Straight Alliances, or general perceptions of teachers as supportive—are associated with improved psychological health and reduced suicidality (Davis et al., 2014; Denny et al., 2016; Eisenberg & Resnick, 2006; Hatzenbuehler, 2011). Although laws impacting the rights and protections of sexual minorities have been found to be related to a range of health outcomes, relatively few studies have empirically tested the effects of structural policy interventions on sexual minority mental health (Hatzenbuehler, 2017).

## Antidiscrimination and Same-Sex Marriage Policies

Seelman and Walker (2018) examined whether state-level anti-bullying laws were related to suicidality, bullying victimization, and absenteeism among LGBQ high school students. These authors noted that although antibullying laws are now found in all 50 states, only 19 states enumerated specific protections for sexual minorities at the time of their study. Using data from the Youth Risk Behavior Survey (YRBS) from 22 states, these researchers found that general (i.e., nonenumerated) antibullying laws were associated with a 6.4% decrease in bullying victimization among sexual minority students and enumerated antibullying laws were associated with a 5.1% decrease. However, these authors did not find support for an association between antibullying laws and suicidality among LGBQ youth. By contrast, Hatzenbuehler and Keyes (2013) found that sexual minority youth living in counties where schools had higher rates of LGBT-inclusive antibullying laws had lower rates of attempting suicide relative to their sexual minority counterparts in areas where LGBT individuals were not named as a protected group in their schools' antibullying policies. Furthermore, these authors found that the positive effects of LGBT-inclusive antibullying policies on peer victimization were not specific to sexual minority youth, as reduced rates of peer victimization were also observed among heterosexual youth in areas with LGBT-inclusive antibullying policies.

Raifman et al. (2017) examined the association between state-level same-sex marriage policies and adolescent suicide attempts using a difference-in-differences approach with data from the YRBS. In contrast to Seelman and Walker's (2018) analysis of antibullying laws, these authors found a significant .6-percentage point reduction in suicide attempts for all high school students after the enactment of same-sex marriage policies. These findings mirror those of Hatzenbuehler and Keyes (2013) in that the positive effects associated with each structural intervention were not limited to sexual minority youth. In a secondary analysis, state-level same-sex marriage laws were associated with a significant 4.0-percentage point reduction in suicide attempts among sexual minority youth, suggesting that these laws might be particularly protective in this population (Raifman et al., 2017).



## Hate Crime and Sexual Minority Youth

### *Hate Crime Victimization*

Hate crimes represent a particularly malignant form of discrimination that is especially relevant for sexual minorities and other stigmatized groups. The U.S. Congress defines a hate crime as any act of criminality against a member of a minority group driven by bias against that group, or when the crime “manifests evidence of prejudice” (Hate Crime Statistics Act, 1990). Estimates suggest that hate crimes represent approximately three percent of all violent crimes in the United States (Harlow, 2005). In 2018, there were 8,496 hate crimes reported to the Federal Bureau of Investigation (FBI), of which 16.5% ( $n = 1,404$ ) were committed due to bias based on perceived sexual minority status (Federal Bureau of Investigation, 2018). Studies indicate that these statistics significantly underestimate the true prevalence of hate crimes generally and specifically those targeting individuals based on their sexual orientation (e.g., King, 2007; Nolan et al., 2015). Briones-Robinson et al. (2016), using data from the National Crime Victimization Survey, estimated that approximately 70.7% of hate crimes motivated by sexual orientation were not reported to police. This is particularly notable given that sexual orientation bias crimes are more likely to be violent and result in hospitalization relative to other bias motivated crimes. Furthermore, 20.4% of sexual orientation bias crime victims reported that, although they reported the incident to police, their complaint did not result in a formal police report. By contrast, only 9.0% of bias crime victims whose victimization was not motivated by sexual orientation reported that their complaint did not result in a police report (Briones-Robinson et al., 2016).

Beyond the physical and emotional consequences of being the direct victim of a hate crime, data suggest that the prevalence of hate crimes in ones' community can have significant psychological consequences for other members of the targeted group. For example, Duncan and Hatzenbuehler (2014), using data from the Boston Youth Survey and Boston Police Department Community Disorders Unit, found that in neighborhoods with higher assault rates against LGBT individuals, sexual minority youth reported higher rates of past-year suicide attempts.

### *Hate Crime Laws*

Hate crime laws (HCLs) reflect a structural intervention aimed at reducing victimization among stigmatized groups through enhanced punishment for crimes motivated by bias. There exists considerable variation across states in the scope of their hate crime legislation, and there are three states with no hate crime statute (Arkansas, South Carolina, and Wyoming). Some states, for example, enumerate specific groups that the law explicitly protects. For example, California Penal Code §422.55 lists disability, gender, nationality, race or ethnicity, religion, sexual orientation, and association with a person who falls into one of these categories. Other states either do not specify any group or provide incomplete lists of stigmatized groups relative to states that enumerate more comprehensively. One example of the latter is found in Ohio Revised Code §2927.12, which enumerates race, color, religion, and national origin, but does not include sexual orientation, gender identity, and other groups explicitly protected under some states' laws (Anti-Defamation League, 2019).

These differences may impact the experiences of sexual minority individuals. For example, Stotzer (2010) examined how state and institutional hate crime policies were related to hate crime reporting among sexual minorities at colleges and universities. Consistent with expectations, institutions with the highest reported rates of sexual-orientation bias crimes had inclusive sexual orientation policies and were in states with inclusive antibias laws that enumerated sexual minorities as a protected class (Stotzer, 2010). By contrast, institutions without antibias policies, whether in states with or without antibias laws, had the lowest rates of reporting of hate crimes against sexual minorities. Given that underreporting of bias crimes against sexual minorities is a significant concern and often stems from victim perceptions of police as biased (Briones-Robinson et al., 2016), these findings suggest that the presence of clear institutional antidiscrimination policies might reduce underreporting to institutional officials.

### Current Study

Sexual minority youth are at increased risk for suicide. Structural interventions that promote the rights and protections of sexual minorities provide opportunities to address these disparities, although empirical work examining the effects of such legislation is limited. In this study, we examine whether the enumeration of sexual orientation as a protected group in state HCLs is associated with reductions in the proportion of adolescents attempting suicide. We hypothesized that the enactment of HCLs that enumerate sexual orientation as a protected class would be associated with lower rates of suicide attempt among adolescents. Additionally, it was hypothesized that the magnitude of the reduction in suicide attempts associated with enumerated HCLs would be larger among youth who identified as a sexual minority relative to their heterosexual counterparts.

## Method

### Participants

Primary analyses included all high school aged adolescents and secondary analyses stratified youth by sexual orientation. Because the YRBS did not include sexual orientation on the standard high school questionnaire until 2015, we pooled all participants for primary analyses. This approach minimizes the risk of bias that would result from limiting analyses to the small number of states that opted to include this item in earlier years and allows for analysis of rates of suicide attempt immediately after the enactment of HCLs. There were 679,663 high school aged youth included in the full study sample. The mean age of participants was 16.0 years ( $SD = 1.2$ ), 49.6% identified as male, and 50.4% as female. The racial/ethnic composition included 67.8% White, Non-Hispanic, 16.4% Black, Non-Hispanic, 8.8% Hispanic/Latino, and 7.0% Other race/ethnicity.

Secondary analyses included a subset of 83,852 youth who participated in the YRBS between the years 2015 and 2018. This group was generally demographically similar to the full study sample, although consistent with demographic trends the proportion of students identifying as White, non-Hispanic was nearly seven-percent-age points lower than in the overall sample. The mean age was 16.0 years ( $SD = 1.2$ ), 49.5% identified as male, and 50.5% as female. The racial/ethnic composition included 60.9% White, non-Hispanic,

12.0% Black, non-Hispanic, 17.2% Hispanic/Latino, and 9.9% Other race/ethnicity. In terms of sexual orientation, 13.9% identified as a sexual minority, with 86.1% identifying as heterosexual, 2.5% gay or lesbian, 7.2% bisexual, and 4.1% questioning (see online Supplemental Materials Table 1 for demographic characteristics by sexual orientation). A substantial proportion of youth endorsed multiple marginalized identities, with nearly half (46.0%) of sexual minority youth endorsing a non-White racial/ethnic identity.

## Procedures

Several sources of data were merged for the current study. The YRBS is a biennial, cross-sectional survey that examines health behaviors and attitudes of students in grades 9 through 12 in the United States. Data have been published biennially in odd-numbered years since 1991, with the exception of Maryland, which has been published in even-numbered years since 2014. The survey is coordinated by the Centers for Disease Control and Prevention (CDC) and is carried out by state, local, tribal, or territorial education departments (Centers for Disease Control and Prevention, 2018b). Although the YRBS added a sexual identity demographic question in 1995, this information was not collected as part of the standard high school questionnaire until 2015. Therefore, consistent with prior research (e.g., Raifman et al., 2017), our primary analysis used the full population of high school adolescents from 1991 through 2018 and secondary analyses were conducted using data from 2015 through 2018 that included youth sexual orientation.

## Youth Risk Behavior Survey

Demographic information related to age, race, sex, and sexual orientation was collected in addition to information regarding past-year suicide attempts.

## Sexual Orientation

Sexual orientation was measured by a sexual identity question: "Which of the following best describes you?" The response options were "heterosexual (straight)," "gay or lesbian," "bisexual," or "not sure." We refer to the not sure group as "questioning" for consistency with previous literature utilizing the YRBS. Due to potential differences in health risk behaviors between members of different sexual minority groups (Centers for Disease Control and Prevention, 2020), we retained each of the four sexual orientations in relevant analyses rather than collapsing gay/lesbian, bisexual, and questioning youth into a combined sexual minority group.

## Suicide Attempts

Suicide attempts were measured by the item: "During the past 12 months, how many times did you actually attempt suicide?" Response options include "0 times," "1 time," "2 or 3 times," "4 or 5 times," or "6 or more times." Given that these response options did not provide equal, nonnegative integer counts, in addition to the empirical approach to these data in related research (e.g., Hatzenbuehler & Keyes, 2013; Raifman et al., 2017; Seelman & Walker, 2018), suicide attempt data were dichotomized to create a binary variable representing zero versus one or more suicide attempts in the past year.

## Hate Crime Laws

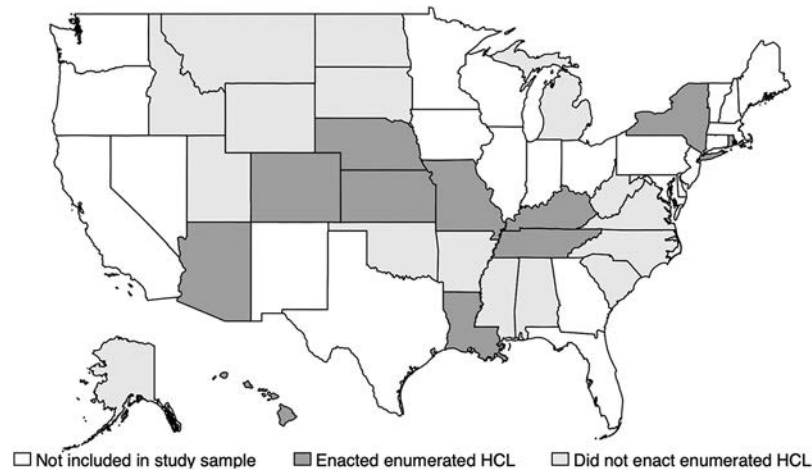
We coded states based on whether they had enacted an enumerated HCL, such that sexual orientation was enumerated as a protected class under its HCL, as well as whether they had enacted a general HCL, such that a HCL existed but did not specifically enumerate sexual orientation. For implementation dates of state-level HCLs, data were retrieved from the Anti-Defamation League (2019), a global antihate crime organization. For enumerated HCLs, data were collected from the Movement Advancement Project (2019), a nonprofit organization focused on policies and research related to lesbian, gay, bisexual, and transgender (LGBT) equality, and the Anti-Defamation League (2019). Years of implementation were cross-referenced to previous research conducted by Jenness and Grattet (2001). When necessary, state legislative websites were consulted for the enactment dates of enumerated HCLs. The year of implementation of each state's enumerated and nonenumerated HCLs is available in online Supplemental Materials Table 2.

We created two indicator variables for each state, one that captured whether the state had ever enacted each type of law (i.e., that remained constant within states for each state-year) and another that captured within state changes by year to capture the timing of enactment. Several states with enumerated HCLs were excluded for at least one of three reasons. First, states that did not participate in the YRBS were excluded (e.g., Washington enacted an enumerated HCL in 1993 but does not participate in YRBS). Second, several states enacted laws in 1993 or earlier, which precluded at least 2 years of prelaw baseline data necessary to evaluate the parallel trends assumption (e.g., Nevada enacted an enumerated HCL in 1989). Third, some states that enacted HCLs during the study period did not provide sufficient YRBS data to produce weighted state-representative estimates (i.e., response rates < 60%). HCL indicators were merged with individual level YRBS data to classify participants based on whether they resided in states with these laws at the time of their participation. As illustrated in Figure 1, the final study sample included youth from 27 U.S. states. This included youth from 11 states with enumerated HCLs and 16 states without enumerated HCLs. Youth from states without enumerated HCLs came from 13 states with general HCLs only and three states lacking any HCL legislation (Arkansas, South Carolina, and Wyoming).

## Statistical Approach

The enactment of enumerated HCLs served as the primary independent variable and past-year suicide attempts served as the primary dependent variable. We used difference-in-differences (DID) regression models to estimate the effects of enumerated HCLs on youth suicide attempts using observational data. Such quasi-experimental designs are necessary to estimate the causal effects of policy when randomization is not feasible (Ashenfelter & Card, 1985). The parallel trends assumption ensures internal validity by requiring that the control and intervention groups remain constant over time during the preintervention period (Doyle et al., 2018). In the current study, the assumption was tested using a linear regression model where suicide attempts were regressed on the interaction term between time and states' status as a treatment or control state. The baseline for the treatment group was restricted to states that enacted an enumerated HCL at some point during the study period and had at

**Figure 1**  
*Youth Participation and Status of Enumerated Hate Crime Laws Protecting Sexual Minorities Among Included States*



least 2 years (i.e., 1991 and 1993) of baseline data where the law was not yet enacted. For the comparison group, states that never enacted an enumerated HCL during the study period were included.

We used linear regression to estimate the association between HCLs and youth suicide attempts. Although logit models are common with binary outcomes, linear regression has been found to provide unbiased estimates of treatment effects with binary outcomes while yielding more readily interpretable quantities (Gomila, 2021) and its use in a prior analysis on same-sex marriage law implementation allows for more direct comparisons (Raifman et al., 2017). Primary analyses included state and year fixed effects in addition to age, sex, and race/ethnicity as covariates, each of which has been linked to risk for youth suicide (Denny et al., 2016; Mueller et al., 2015; Nock et al., 2013). Linearized standard errors were used to account for the complex survey design involving multilevel clustering by state and classroom and sampling weights were applied to account for differential probabilities of selection across certain groups to generate state-representative estimates.

Primary analyses examined the association between the enactment of state-level HCLs and suicide attempts across several models. First, we modeled suicide attempts as a function of the presence (vs. absence) of an enumerated HCL. The reference group of youth living in states without enumerated HCLs included those from 16 states that either had only a general HCL or lacked any HCL legislation. Second, to more specifically estimate the influence of enumeration, we removed youth from the three states lacking any HCL to test the association between enumerated (vs. general) HCLs and suicide attempts. Third, to contextualize these findings, we modeled suicide attempts as a function of the presence of general HCLs relative to the absence of any HCL, excluding youth from 11 states with enumerated HCLs. Primary analyses included all data from the years 1991 to 2018. Sensitivity tests were conducted that limited the follow-up period to within three waves of YRBS surveys (i.e., within 6 years) after the enactment of each state's enumerated HCL. In addition, to evaluate the potential impact of omitting early adopting states lacking prelaw baseline data, we modeled suicide attempts as a function of the enactment of enumerated HCLs, adding an indicator for early adopting states.

Secondary analyses examined whether enumerated HCLs were more strongly associated with suicide attempts among sexual minority youth. To examine this potential heterogeneity, we conducted a series of sexual orientation by enumerated HCL enactment moderation analyses. Consistent with primary analyses, tests of moderation included state and year fixed effects in addition to controlling for the effects of age, sex, and race/ethnicity. In the first series of tests of moderation, members of each sexual minority orientation were contrasted with heterosexual youth. Next, to examine heterogeneity among sexual minority youth, two interaction tests were carried out that excluded heterosexual youth and used gay/lesbian youth as the reference. In these analyses, the interaction term between the enactment of enumerated HCL legislation and endorsement of a gay/lesbian (vs. bisexual or questioning) orientation was used to test for heterogeneity in the effects of these laws on rates of suicide attempt among different groups of sexual minority youth.

The University of Indianapolis Institutional Review Board approved the study (# 01280). Because nonpublic data were provided from several states the final research dataset cannot be made available. Analytic code to replicate full results presented in all tables is available as an online supplement. Analyses were conducted using the svy package in Stata Version 15.1.

## Results

## Descriptive Statistics

There were 62,274 past-year suicide attempts among youth in states included in the full study sample, resulting in an estimated prevalence of 8.6% (95% confidence interval, CI [8.5%, 8.8%]). Rates of suicide attempts varied significantly by sexual orientation based on the subset of participants between the years 2015 and 2018, with the estimated prevalence among gay and lesbian (25.7%, 95% CI [21.6%, 29.7%]), bisexual (27.1%, 95% CI [25.1%, 29.1%]), and questioning (18.5%, 95% CI [16.1%, 20.9%]) youth approximately 2.9 to 4.3 times higher than their heterosexual peers (6.3%, 95% CI [6.0%, 6.7%]). A small majority

of youth included in the study sample resided in states that did not enact an enumerated HCL during the study period (56.2%, 95% CI [54.7%, 57.6%]). On average, across the period from 1991 to 2018, rates of suicide attempt were significantly lower in states included in the study sample that enacted enumerated HCLs (8.5%, 95% CI [8.3%, 8.7%]) relative to states that did not (8.9%, 95% CI [8.7%, 9.1%]),  $F(1, 1875) = 11.86, p < .001$ . States that were early adopters of enumerated HCLs but which were excluded from analyses due to the absence of prelaw baseline data did not differ in rates of suicide attempt from states with enumerated laws that were included in the study sample (8.5%, 95% CI [8.2%, 8.8%]),  $F(1, 1875) = .00, p = .99$ .

### Primary Analyses

It was hypothesized that the enactment of HCLs that enumerate sexual orientation as a protected group would be associated with lower rates of suicide attempts among high school aged youth. The parallel trends assumption was tested through an interaction term between suicide attempts and states' status as having ever implemented an enumerated HCL, controlling for all covariates in the primary analyses. This analysis was restricted to data obtained in the years before states' enactment of enumerated HCLs. As seen in Table 1, the interaction term was nonsignificant ( $p = .30$ ), indicating no significant difference in baseline trends in suicide attempts between youth in treatment and nontreatment states (online Supplemental Materials Figure 1 visually depicts baseline trends). As a result, the observed trends in nontreatment states were thought to provide a valid counterfactual, such that one would expect treatment states to continue to follow a parallel trend to nontreatment states had they not enacted an enumerated HCL, whereas any postlaw differences can plausibly be attributed to the effects of the law.

Difference-in-differences models found that enumerated HCLs were associated with a significant 1.2–percentage point reduction (95% CI [−1.8%, −.6%],  $p < .001$ ) in suicide attempts after the enactment of enumerated HCLs (see Table 2). This very small but reliable effect ( $d = -.04$ ) corresponds to a 16.1% (95% CI [−24.1%, −8.0%]) relative reduction in suicide attempts. When we omit youth from the three states lacking any HCL (i.e., states with neither general or enumerated HCLs) to directly compare the effects of enumerated versus nonenumerated HCLs, results found that relative to nonenumerated laws, enumerated HCLs were associated with a significant 1.3–percentage point reduction (95% CI [−2.0%, −.5%],  $p < .001, d = -.05$ ) in suicide attempts. Correspondingly, when we omit youth from the 11 states with enumerated HCLs and compare the effects of general HCLs relative to no HCL, results found that nonenumerated HCLs do not differ from the absence of any law (−.5%, 95% CI [−1.6%, .7%],  $p = .43, d = -.02$ ). Sensitivity analysis that limited the follow-up period to three YRBS survey waves after the enactment of each state's enumerated HCL revealed similar results, with youth living in states with enumerated HCLs evidencing a significant .9–percentage point (95% CI [−.1%, −1.8%],  $p = .04, d = -.03$ ) reduction in suicide attempts relative to youth in states without an enumerated HCL. To evaluate the potential influence of omitting early adopting states, we conducted an additional sensitivity analysis that included these states with the addition of a corresponding indicator variable to the primary analysis presented in Table 2. Results of this sensitivity analysis found that, all else held constant, youth in omitted states had significantly lower rates of past-year suicide attempt relative their peers included in primary analyses (−1.5%, 95% CI [−.8%, −2.2%],  $p < .001, d = -.04$ ).

### Secondary Analyses

Secondary analyses evaluated whether HCLs that enumerated sexual orientation were differentially associated with suicide

**Table 1**

*Analysis of Parallel Trends in Suicide Attempts in States Included in the Study Sample With and Without Enumerated HCLs*

Predictors in the model	Suicide attempts		
	Coefficient	[95% CI]	<i>p</i>
Enumerated HCL State × Year	0.001	[−0.001, 0.003]	.30
Year	0.001	[−0.001, 0.004]	<.001
Enumerated HCL state			
No	Reference		
Yes	−2.293	[−6.302, 2.079]	.30
Age			
14 and younger	Reference		
15 years old	0.001	[−0.006, 0.007]	.89
16 years old	0.000	[−0.007, 0.007]	.99
17 years old	−0.017	[−0.025, −0.009]	<.001
18 and older	−0.019	[−0.029, −0.011]	<.001
Sex			
Female	Reference		
Male	−0.054	[−0.057, −0.050]	<.001
Race/ethnicity			
White, Non-Hispanic	Reference		
Black, Non-Hispanic	0.008	[0.002, 0.013]	.005
Hispanic/Latino	0.046	[0.035, 0.057]	<.001
Other race/Ethnicity	0.059	[0.049, 0.069]	<.001

*Note.* HCL = hate crime law; CI = confidence interval. Outcomes refer to suicide attempts in the past 12 months. Models also control for state and year.



**Table 2**

*Linear Regression Difference-in-Differences Analysis of Enumerated HCLs and Changes in Suicide Attempts Among Adolescents*

Predictors in the model	Suicide attempts		
	Coefficient	[95% CI]	<i>p</i>
Enacted enumerated HCL			
No	Reference		
Yes	−0.012	[−0.018, −0.006]	<.001
Enumerated HCL state			
No	Reference		
Yes	0.006	[−0.002, 0.015]	.14
Age			
14 and younger	Reference		
15 years old	−0.001	[−0.004, 0.003]	.76
16 years old	−0.002	[−0.006, 0.002]	.37
17 years old	−0.016	[−0.020, −0.011]	<.001
18 and older	−0.014	[−0.019, −0.008]	<.001
Sex			
Female	Reference		
Male	−0.036	[−0.038, −0.034]	<.001
Race/ethnicity			
White, Non-Hispanic	Reference		
Black, Non-Hispanic	0.023	[0.019, 0.027]	<.001
Hispanic/Latino	0.048	[0.044, 0.053]	<.001
Other race/Ethnicity	0.047	[0.043, 0.052]	<.001

*Note.* HCL = hate crime law; CI = confidence interval. Outcomes refer to suicide attempts in the past 12 months. Models also control for state and year.

attempts as a function of youth sexual orientation. Given that general HCLs did not differ from the absence of any HCL in their association with suicide attempts, these groups were pooled as the reference group for all secondary analyses (i.e., rates of suicide attempts were compared between youth in states with enumerated HCLs compared with youth in states with only a general HCL or the absence of any HCL).

As seen in Table 3, interaction results did not reveal significant heterogeneity in the association between enumerated HCLs and the proportion of adolescents attempting suicide among heterosexual youth relative to gay/lesbian youth ( $\beta = .067$ , 95% CI [−.001, .134],  $p = .05$ ,  $d = .04$ ), bisexual youth ( $\beta = −.025$ , 95% CI [−.062, .012],  $p = .19$ ,  $d = .02$ ), or questioning youth ( $\beta = −.009$ , 95% CI [−.060, .042],  $p = .73$ ,  $d = .01$ ). We further examined whether enumerated HCLs were differentially related to suicide attempts among different sexual minority groups, excluding heterosexual youth. Interaction results found that enumerated HCLs were associated with significantly greater reductions in the proportion of youth attempting suicide among bisexual ( $\beta = −.095$ , 95% CI [−.174, −.016],  $p = .02$ ,  $d = .09$ ) and questioning youth ( $\beta = −.091$ , 95% CI [−.165, −.017],  $p = .02$ ,  $d = .10$ ) relative to their gay and lesbian peers (see Table 4). The association between enumerated HCLs and suicide attempts did not differ between bisexual and questioning youth ( $\beta = −.018$ , 95% CI [−.082, .045],  $p = .56$ ,  $d = .02$ ).

## Discussion

Suicide is the second leading cause of death for high school aged adolescents in the United States, and sexual minority youth are at significantly higher risk than heterosexual youth. Minority Stress Theory (Meyer, 2013) provides a conceptualization of stress

and health among sexual minority populations through persistent, social processes. Integrating this framework with a bioecological lens, minority stress as experienced from structural levels may have a more immediate impact on sexual minority mental health and suicide outcomes. Although structural interventions have shown promise for reducing these disparities for sexual minority groups (e.g., Hatzenbuehler & Keyes, 2013; Raifman et al., 2017), most studies have focused on interpersonal- and individual-level interventions.

State-level HCLs vary considerably, including whether sexual minorities (and other stigmatized groups) are specifically enumerated as a protected class. Between 1984 and 2005, 24 states passed enumerated HCL legislation, after which 14 years passed before the next state enacted some version of this law. In 2019, Utah enacted hate crime legislation that explicitly protected individuals based on sexual orientation (Utah Code Ann. §76-3-203-14), and Virginia (Va. Code Ann. §8.01–42.1) and Georgia (Ga. Code Ann. §17-4-20.2) followed suit the next year. The socioenvironmental implications of state HCLs as a structural level factor may be indicative of both the larger macrolevel environment and the more proximal, microlevel environments surrounding youth.

In this study, we evaluated the effects of enumerated HCLs on adolescent suicide attempts. It was hypothesized that the enactment of enumerated HCLs would be associated with decreased rates of suicide attempt and that this effect would be larger among sexual minority youth. These hypotheses were partially supported. Consistent with expectations, we found that enumerated HCLs were associated with a significant 1.2-percentage point reduction in adolescent suicide attempts, which corresponds to 16.1% decreased odds. Results further indicated that HCLs that did not enumerate sexual minorities as a protected group did not differ from the absence of any law in their



**Table 3**  
*Interaction Analysis of Minority Sexual Orientation by Enumerated HCLs on Suicide Attempts Among Adolescents*

Predictors in the model	Gay and lesbian			Bisexual			Questioning		
	Coefficient	[95% CI]	p	Coefficient	[95% CI]	p	Coefficient	[95% CI]	p
Sexual Minority Orientation × Enumerated HCL									
Enacted enumerated HCL									
No	0.067	[−0.001, 0.134]	.05	−0.025	[−0.062, 0.012]	.19	−0.009	[−0.060, 0.042]	.73
Yes	Reference −0.020	[−0.042, 0.001]	.07	Reference −0.018	[−0.037, 0.002]	.08	Reference −0.023	[−0.043, −0.003]	.03
Sexual orientation									
Heterosexual	Reference			Reference			Reference		
Sexual minority	0.148	[0.097, 0.199]	<.001	0.213	[0.185, 0.241]	<.001	0.121	[0.081, 0.161]	<.001
Age									
14 and younger	Reference			Reference			Reference		
15 years old	0.005	[−0.002, 0.012]	.17	0.002	[−0.005, 0.010]	.56	0.005	[−0.001, 0.012]	.12
16 years old	0.004	[−0.003, 0.011]	.27	0.002	[−0.008, 0.011]	.73	0.005	[−0.003, 0.014]	.21
17 years old	−0.006	[−0.015, 0.002]	.15	−0.011	[−0.021, −0.001]	.03	−0.004	[−0.012, 0.005]	.38
18 and older	−0.005	[−0.015, 0.005]	.31	−0.013	[−0.025, −0.000]	.04	−0.009	[−0.018, 0.001]	.07
Sex									
Female	Reference			Reference			Reference		
Male	−0.020	[−0.027, −0.013]	<.001	−0.025	[−0.032, −0.018]	<.001	−0.021	[−0.028, −0.013]	<.001
Race/ethnicity									
White, Non-Hispanic	Reference			Reference			Reference		
Black, Non-Hispanic	0.022	[0.009, 0.035]	.001	0.022	[0.009, 0.034]	.001	0.024	[0.011, 0.037]	<.001
Hispanic/Latino	0.032	[0.022, 0.042]	<.001	0.032	[0.022, 0.042]	<.001	0.035	[0.025, 0.045]	<.001
Other race/Ethnicity	0.031	[0.019, 0.044]	<.001	0.034	[0.022, 0.047]	<.001	0.031	[0.019, 0.044]	<.001

*Note.* HCL = hate crime law; CI = confidence interval. Outcomes refer to suicide attempts in the past 12 months. Models also control for state and year. All interactions contrast sexual minority youth to heterosexual youth.

**Table 4**

*Interaction Analysis of Sexual Orientation by Enumerated HCLs and Suicide Attempts Among Sexual Minority Adolescents With Gay/Lesbian Youth as Referent*

Predictors in the model	Bisexual			Questioning		
	Coefficient	[95% CI]	<i>p</i>	Coefficient	[95% CI]	<i>p</i>
Sexual Minority Orientation × Enumerated HCL	−0.095	[−0.174, −0.016]	.02	−0.091	[−0.165, −0.017]	.02
Enacted enumerated HCL						
No	Reference			Reference		
Yes	0.013	[−0.106, 0.133]	.83	−0.048	[−0.191, 0.096]	.51
Sexual orientation						
Gay/lesbian	Reference			Reference		
Sexual minority	0.071	[0.012, 0.131]	.02	−0.006	[−0.067, 0.054]	.84
Age						
14 and younger	Reference			Reference		
15 years old	−0.002	[−0.058, 0.054]	.95	0.031	[−0.028, 0.090]	.30
16 years old	−0.017	[−0.071, 0.037]	.55	0.022	[−0.039, 0.082]	.48
17 years old	−0.050	[−0.108, 0.009]	.10	0.035	[−0.026, 0.096]	.26
18 and older	−0.043	[−0.109, 0.023]	.21	−0.004	[−0.069, 0.062]	.92
Sex						
Female	Reference			Reference		
Male	−0.014	[−0.054, 0.027]	.51	0.042	[0.002, 0.083]	.04
Race/Ethnicity						
White, Non-Hispanic	Reference			Reference		
Black, Non-Hispanic	0.008	[−0.042, 0.058]	.76	0.036	[−0.033, 0.104]	.30
Hispanic/Latino	0.036	[−0.004, 0.075]	.07	0.070	[0.016, 0.124]	.01
Other race/Ethnicity	0.032	[−0.017, 0.082]	.20	−0.002	[−0.056, 0.051]	.93

*Note.* HCL = hate crime law; CI = confidence interval. Outcomes refer to suicide attempts in the past 12 months. Models also control for state and year. Interactions contrast specified sexual minority youth to gay/lesbian youth.

association with suicide attempts. However, contrary to expectations, sexual minority youth did not experience larger reductions in suicide attempts than heterosexual youth after the passage of enumerated HCLs. There was, however, evidence of heterogeneity in the association between enumerated HCLs and rates of suicide attempt among different sexual minority groups. Relative to gay/lesbian youth, bisexual and questioning participants experienced significantly larger reductions in suicide attempts after the enactment of enumerated HCLs. These findings illustrate that sexual minority youth are not monolithic and, as a result, research aimed at reducing health disparities should explore differential effects of policy interventions across these groups.

The effect sizes observed in the present study were consistently very small, which raises legitimate questions regarding the efficiency of such legislation as a potential means of reducing rates of youth suicide attempt. However, these results were not unexpected in light of prior meta-analytic research, which suggests that suicide prevention interventions tend to have small effect sizes on suicidal behavior (i.e., suicide attempts and suicide) and small to medium effects on outcomes such as engaging in follow-up mental health care, improved suicide knowledge, and suicide attitudes (Doupnik et al., 2020; York et al., 2013). The interpretation of effect sizes should not be divorced from context, as the implications of even small but reliable effects can nonetheless be impactful. Emphasizing consideration of the concrete consequences suggested by effect sizes, Funder and Ozer (2019) observed that even very small effects, although limited in their explanatory power for single events, remain potentially consequential. Similarly, Lakens (2013) concluded, “Small effect sizes can have large consequences, such as an intervention that leads to a reliable reduction in suicide rates with an effect size of  $d = .1$ ” (p. 3).

In the context of prior research examining the association between structural interventions and youth suicide attempts, the present findings suggest that enumerated HCLs may be at least as impactful as antibullying laws, which some research suggests are unrelated to youth suicide attempts (Seelman & Walker, 2018), and state-level same-sex marriage laws, which have been linked to a significant .6-percentage point decrease in youth suicide attempts (Raifman et al., 2017). Although the significant 1.2-percentage point reduction in suicide attempts found in the present study reflects a small effect, the impacts of such a reduction may be substantial in light of the number of suicide attempts made by youth annually. For example, there are nearly 21 million youth between the ages of 14 and 18 in the United States (U.S. Census Bureau, 2019). Combined with the current study’s past-year suicide attempt prevalence rate of 8.6%, this would suggest that there may be approximately 1.8 million suicide attempts annually among this population. Correspondingly, a small but reliable 1.2-percentage point reduction would represent 252,000 fewer youth suicide attempts. Thus, recognizing that the prevention of suicidal behaviors is complex and the generalizability of these findings to all 50 U.S. states is unknown given the present study’s design, it is apparent that even small effects have the potential to impact large numbers of youth.

Findings that enumerated HCLs were not more strongly associated with decreased rates of suicide attempt among sexual minority youth relative to their heterosexual peers is not entirely unexpected in light of prior research, which has consistently found that heterosexual youth, who are not the direct or intended benefactors of a range of LGBT-focused policy interventions, nonetheless experience a range of positive health outcomes in response. Hatzenbuehler (2011), for example, found that heterosexual youth were less likely to attempt suicide when their school campus was characterized by a

positive political atmosphere and the presence of antidiscrimination and antibullying policies designed to protect sexual minority students. Similarly, Raifman et al. (2017) found that the enactment of same-sex marriage laws was associated with a reduction in the proportion of youth attempting suicide, and although this effect was larger for sexual minority youth, it was not unique to this group.

This pattern of findings raises interesting questions about the mechanisms through which these laws and policies are related to youth suicide attempts regardless of sexual orientation. Sociologists have theorized the potential for “social spillover” effects related to structural mechanisms such as health insurance (McKay & Timmermans, 2017), postulating rates of uninsurance affect even those insured within a community. Accordingly, factors contributing to health disparities can be disadvantageous for all members of the population, so reduction in social inequities that influence these disparities may serve to improve population health (Woodward & Kawachi, 2000). Using this framework, the prevalence of minority stress related to enumerated HCLs may have a similar social spillover effect on nonmarginalized youth populations. Consistent with a social spillover effect, Silverschanz et al. (2008) found that heterosexist harassment on a university campus was associated with poorer psychological and academic well-being among both heterosexual and sexual minority youth. Further in line with the present results, Hatzenbuehler and Keyes (2013) found that LGBT-inclusive antibullying policies were associated with reduced rates of peer victimization among not only sexual minority adolescents but also heterosexual youth. Although future research is necessary to further understand the nature and underlying mechanisms of the association between laws promoting the rights and protections among stigmatized populations and improved health outcomes, it is possible that the symbolic nature of enumerated HCLs conveys an appreciation for the experiences of sexual minority individuals and an intolerance of institutional stigma, and that this institutional message positively impacts youth regardless of sexual orientation.

The results of this study further found that nonenumerated HCLs did not differ from the absence of any law in their association to suicide attempts. This lack of association may suggest that not explicitly naming protected groups implies less immediate impact on individuals and their health. Better understanding the psychological interpretation of the distinction between enumerated and nonenumerated policy remains a topic for future research. However, these results parallel Hatzenbuehler and Keyes’ (2013) findings that reduced rates of suicide attempt among sexual minority youth were associated only with LGBT-inclusive antibullying policies, whereas there was no significant relationship between nonenumerated antibullying policies and rates of suicide attempt. Together, these findings highlight the importance of explicitly naming sexual minorities among protected groups in policies and legislation to confer positive mental health benefits, as enumerated policies may provide a uniquely protective effect through serving as an institutional message of acceptance.

## Limitations

The findings in this study are subject to limitations. The study used data from 27 states that participated in the YRBS from 1991 through 2018, had weighted data, and had at least 2 years of baseline data to evaluate the parallel trends assumption. Therefore, the results

do not cover all U.S. states and excluded states that were early adopters of enumerated HCLs, such as California in 1984 and Minnesota in 1989. Although many factors were controlled for in the analyses, the exclusion of these more progressive states may have impacted the generalizability of our results. Sensitivity tests found that, all else held constant, youth in early adopting states endorsed lower rates of suicide attempt compared with youth in states included in primary analyses, although the absence of prelaw baseline data from these states limits our understanding of these differences. For instance, while it is possible that these differences are attributable to earlier reductions associated with these states’ enumerated HCLs, it is also possible that the unmeasured prelaw baseline trends in these early adopting states differed in important ways from states included in the primary analyses. Also, whereas we defined youth sexual orientation based on participants’ self-report, consistent with most research with sexual minority youth, recent evidence suggests an increase in the endorsement of nonheterosexual identities among high school aged adolescents, particularly among girls (Rapoport et al., 2021). This increase has not been mirrored by a corresponding increase in rates of same-sex sexual contact. This raises questions regarding whether nonheterosexual youth have become more comfortable disclosing their identities, the association between the endorsement of sexual orientation and sexual behavior, and the influence of these potential shifts over time on studies that pool samples across multiple years.

Relatedly, given current limitations with identifying the sexual orientation of suicide decedents in national surveillance data, we were unable to include data from individuals who died by suicide. As a result, the study did not capture all adolescents who attempted suicide during the study period and should be understood to represent a comparison of adolescents without a past-year suicide attempt to those who survived a past-year attempt. However, given that sexual minority youth have higher rates of attempting suicide (Haas et al., 2011), coupled with evidence of a strong association between suicide attempts and dying by suicide (Owens et al., 2005), the association between enumerated HCLs and suicide attempts observed in the present study may be generalizable, albeit to an unknown extent, to fatal suicide outcomes.

There are a multitude of sexual minority identities that were not included in the study due to omission on the YRBS, including, but not limited to, asexual, pansexual, and queer. The inclusion of additional sexual minority groups would allow for further generalizability to the sexual minority youth population and may refine our understanding of how enumerated HCLs relate to suicidality among sexual minorities. Given the differences among the sexual minority groups observed in secondary analyses, which illustrate that sexual minority youth are not monolithic, future research should strive to be more inclusive. Related to these limitations, the present study did not include gender minorities, such as transgender or nonbinary youth. Although gender minorities are often placed under the broad umbrella of “sexual minorities” in discourse regarding LGBT and other sexual and gender minority protections, these groups are not identical in their experiences of minority stressors nor uniformly considered in legislation. States infrequently and inconsistently included questions related to transgender identity during the study period. Further, there is variation regarding inclusion of language specifying gender minorities among HCLs that enumerate protections for sexual minorities. Thus, it will be important for future research to explore these nuances.

Individuals who are members of multiple minority groups, such as those that identify as a sexual minority and also a person of color (LGBTQ-POC), are known to experience cumulative discrimination that contributes to multiple marginalization (Cyrus, 2017). In the present study, 46.0% of sexual minority youth also identified as a person of color. Further, it would be expected that a higher proportion of sexual minority youth in the present study are multiply marginalized if factors beyond race and ethnicity were explored. Because multiply marginalized sexual minority individuals have been found to experience unique types of stigmatization (e.g., Balsam et al., 2011), future research is necessary to investigate whether youth with multiple minority identities have distinct responses to structural policy interventions. Consistent with recent calls to enhance socially just diversity science, an intersectional mixed methods approach would provide a particularly valuable tool for understanding these multiply marginalized groups (Watson-Singleton et al., 2021).

It should also be noted that youth categorized as questioning in the present study were classified based on their endorsement of the response option of not sure on the YRBS. There is a lack of uniformity in how this response option should be interpreted as it is not clearly defined by the CDC/YRBS. Specifically, there is a lack of clarity regarding whether not sure adolescents reported they were questioning their sexual identity, questioning the meaning of the question being asked on the survey, or questioning the meaning of the alternate response options. Therefore, the item is potentially prone to be interpreted in various unintended ways, possibly resulting in skewed results regarding the questioning group. Following prior research (e.g., Raifman et al., 2017; Seelman & Walker, 2018), we relied upon responses of not sure to classify youth as questioning their sexual identity; however, there are potential limitations to this approach that should be acknowledged.

Finally, it is a limitation that we were unable to account for differences in the statutory language of states' enumerated HCLs, details surrounding the implementation of these laws, or adolescents' knowledge of and attitudes toward these laws. Given the variability across states in the language, enforcement, and reporting of hate crimes, it is possible that such variations were meaningfully related to rates of suicide attempts. In addition, research suggests that adolescents frequently have relatively minimal knowledge of laws that impact their health care and other rights (Loertscher & Simmons, 2006; Rauscher et al., 2010). Although we might anticipate that sexual minority youth may have greater awareness of enumerated HCLs relative to their heterosexual peers, particularly surrounding periods of public legislative debate, there are currently no data to quantify these considerations. Future research is needed to inform best practices and the adoption of evidenced-based policy in states that might consider enumerated HCL legislation in the future.

## Conclusion

HCLs are associated with reductions in the proportion of adolescents who attempt suicide, but this potential appears to be contingent on naming sexual minorities as a protected group. The present study found that enumerated HCLs are associated with a small but reliable 1.2-percentage point reduction in past-year suicide attempts among high school aged adolescents. Given the prevalence of suicide attempts in this population, small reductions may nonetheless impact large numbers of youth. This study adds

to the current literature in highlighting the promise of structural, policy-level interventions that promote the rights and protections of sexual minorities to help reduce suicide disparities.

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