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State-Level Policies and Health Outcomes in U.S. Transgender Adolescents: Findings from the 2019 Youth Risk Behavior Survey

Cameron Miller-Jacobs, Don Operario, PhD, and Jaclyn M.W. Hughto, PhD, MPH^{1,2,4-6}

Abstract

Purpose: Policies have been shown to bear a considerable influence on transgender health. The few studies that have examined policy-related health outcomes in adolescent transgender populations have rarely included policies that directly affect them. Our study explores associations between four state-level policies and six health outcomes in a sample of transgender adolescents.

Methods: Our analytic sample consisted of adolescents residing in 14 states that used the 2019 Youth Risk Behavior Survey's optional gender identity question in their surveys (n = 107,558). Chi-square analyses were performed to examine differences between transgender and cisgender adolescents in demographic variables and suicidal ideation, depression status, cigarette use, binge drinking, grades in school, and perceptions of school safety. Multivariable logistic regression models were run for transgender adolescents only to examine associations between policies and health outcomes, adjusting for demographics.

Results: Transgender adolescents comprised 1.7% (n = 1790) of our sample. Compared with cisgender adolescents, transgender adolescents were more likely to experience adverse health outcomes in chi-square analyses. Multivariable models indicated that transgender adolescents who lived in a state that had explicit transgender guidance in their antidiscrimination laws were less likely to experience depressive symptoms, and those who lived in a state with positive or neutral athlete guidance were less likely to report past 30-day cigarette use.

Conclusion: Our study is one of the first to show protective associations between affirming transgender-specific policies and health outcomes in transgender adolescents. Findings could have important implications for policy-makers and school administrators.

Keywords: adolescence, minority stress, structural stigma, transgender

Introduction

 $\mathbf{T}^{\text{RANSGENDER}}$ adolescents (roughly defined as ages $10\text{--}19)^1$ are at higher risk of depression, $^{2\text{--}4}$ suicidality, 5,6 and nonsuicidal self-injury 7,8 relative to their cisgender (heterosexual and sexual minority) peers. Scholars have often

used the Minority Stress Model, developed by Dr. Virginia Brooks to understand the experiences of lesbian women⁹ and later refined and expanded by Dr. Ilan Meyer,¹⁰ to explain excess adverse psychological outcomes in sexual and gender minority populations.^{11–13} In 2015, recognizing that transgender and nonbinary individuals experience

¹School of Public Health, Brown University, Providence, Rhode Island, USA.

²Department of Social and Behavioral Sciences, School of Public Health, Brown University, Providence, Rhode Island, USA.

³Department of Behavioral, Social, and Health Education Sciences, Rollins School of Public Health, Emory University, Atlanta, Georgia, USA.

⁴Department of Epidemiology, School of Public Health, Brown University, Providence, Rhode Island, USA.

⁵Center for Health Promotion and Health Equity, Brown University, Providence, Rhode Island, USA.

⁶The Fenway Institute, Fenway Health, Boston, Massachusetts, USA.

gender-related stressors that are unique from their lesbian, gay, and bisexual peers, Testa et al. developed the Gender Minority Stress and Resilience Measure, ¹⁴ which is grounded in the Minority Stress Model.

Many of the Gender Minority Stress and Resilience Measure's constructs are parallel to the constructs from the Minority Stress Model (e.g., internalized transphobia, discrimination, etc.) with one important addition—nonaffirmation of gender identity. Instances of nonaffirmation can range from using a transgender/nonbinary person's former name instead of their chosen name (also known as deadnaming)¹⁵ to preventing access to bathrooms or locker rooms that align with their gender identity.¹⁶

Stressors experienced by lesbian, gay, bisexual, transgender, and queer (LGBTQ) populations stem from multiple layers of discrimination and stigma, which is a salient theme in Testa's measure. Structural stigma is broadly defined as stigmas that are perpetuated by "institutional policies, cultural norms, and organizational practices." Perhaps the most prominent setting of structural stigma for transgender adolescents is on school grounds. As per the 2019 National School Climate Survey, legical only 11% of LGBTQ youth reported that their school had specific protections for sexual and gender minority students. It should come as no surprise then that over 70% of survey participants avoided school functions and activities because they felt unsafe or uncomfortable attending them.

This pattern of avoidance carries over into the classroom as well. Several studies have found that sexual orientation and/or gender identity (SOGI)-based victimization, which can stem from structural barriers at school, can lead to lower grade point averages in LGBTQ youth. ^{19–22} Some students who feel particularly unsafe may avoid attending class altogether ^{23,24}; those who do attend may not feel motivated to perform their best in the absence of school-based support. ²⁵

In line with the Gender Minority Stress and Resilience Measure, studies involving transgender youth have linked low levels of social support^{26–28} and SOGI-based victimization²⁹ to adverse mental health outcomes. Addressing structural stigma at school has been shown to have a positive effect on the wellbeing of LGBTQ students. When LGBTQ students feel a sense of belonging at school, they are less likely to drink alcohol, ³⁰ use illicit drugs, ³¹ and suffer from anxiety and posttraumatic stress disorder symptoms. ³² At the administrative level, antiharassment policies are associated with lower odds of victimization and suicidality. ³³

Few studies have examined how LGBTQ-specific policies affect the wellbeing of transgender adolescents at school, 34,35 and even fewer have used state-level legislation to do so. 36 While findings linking school-based support systems and policies to health benefits among LGBTQ youth are encouraging, it is important to note that district and school-level policies often must follow or be modeled after guidance from state-level legislation. Using the 2019 Youth Risk Behavior Survey (YRBS), we sought to determine if four types of state-level, LGBTQ-specific policies were associated with six outcomes—depression status, suicidal ideation, academic achievement, perceptions of safety, cigarette use, and binge drinking—in a sample of transgender adolescents. We hypothesized that the presence of affirming laws would lower the likelihood of adverse outcomes.

Methods

The YRBS has been administered every other year by the Centers for Disease Control and Prevention (CDC) since 1991 and encompasses national, state, and territorial data, along with data from selected school districts.³⁷ The YRBS survey is drawn from a cross-sectional sample. Further details regarding sampling methods and data collection are described elsewhere.³⁸ Because our study used deidentified, publicly available data, it did not require the approval of an Institutional Review Board.

In 2017, the CDC piloted a question in the YRBS about gender identity in 10 states and nine school districts.³⁹ Starting in 2019, the item was listed as an Optional Question for states and localities to include in their surveys.⁴⁰ The question asks: "Some people describe themselves as transgender when their sex at birth does not match the way they think or feel about their gender. Are you transgender?" Students are asked to choose from four answers: "No," "Yes, I am transgender," "I am not sure if I am transgender," and "I do not know what this question is asking."

For the current study, we used YRBS data from 2019 (n=182,491). Our analytic sample excluded respondents who did not answer yes or no to the gender identity question or whose states did not opt into sharing information for the gender identity question (n=74,933). This left participants from 14 states: Colorado, Florida, Hawaii, Maine, Maryland, Michigan, New Jersey, New York, Nevada, Pennsylvania, Rhode Island, Vermont, Virginia, and Wisconsin. The final number of participants in our analytic sample was n=107,558.

Independent variables

We created binary variables for four LGBTQ-specific policies using information from two websites: The Movement Advancement Project (MAP)⁴¹ and TransAthlete.⁴² A breakdown of how each state in our study implements these policies is displayed in Supplementary Table S1. MAP was founded in 2006 and conducts policy research in two distinct areas: voting rights and LGBTQ equality.

MAP has color-coded maps for each topic and subgroups within them that provide an overview of which states and territories have implemented supportive policies or laws and which have not. We chose the topic area of "Safe Schools: Anti-Bullying, School Non-Discrimination" as the basis for three of our independent policy variables.

Antibullying laws. As per MAP, half of U.S. states have antibullying laws that protect LGBTQ students in place, and half do not have any protections in place, including two states having laws that specifically prohibit localities from implementing LGBTQ-based antibullying laws. States were assigned a 1 if they had any antibullying laws based on SOGI in place and a 0 if they did not.

Antidiscrimination laws. Similar to antibullying laws, around half of U.S. states list SOGI as a protected characteristic in their school antidiscrimination laws, whereas the other states do not.⁴³ States were assigned a 1 if they had any SOGI-based nondiscrimination laws in place and a 0 if they did not.

Guidance regarding transgender students. On their map of school antidiscrimination laws, MAP marks a state with the letter T if their laws include best practices for the treatment and inclusion of transgender students. States were assigned a 1 if they had guidance in place and 0 points if they did not.

Transgender athlete guidance. For our remaining exposure variable, we used information from TransAthlete .com ⁴⁴ We used a resource from this website that outlines the policies for transgender athlete participation endorsed by each state's high school athletics association. States were assigned a 1 if their high school athletics association's policies had inclusive language regarding transgender athletes (phrased as "friendly" guidance) or had no language present and a 0 if they had restrictions in place.

Outcome variables

Mental health. We chose depression status and suicidality to represent mental health. In the 2019 YRBS, depression status was assessed as follows: "During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?" Students were asked this in the form of a Yes/No question, and their answers were coded into a binary variable. We used the same operationalization for our analysis, in which students were assigned a 1 if they reported "Yes" and a 0 otherwise.

The YRBS assessed four indicators of suicidality: ideation, plans, attempts, and attempts requiring medical attention. For the sake of parsimony, we elected to include suicidal ideation as an outcome variable over the other suicide-related variables as there was more missing data for the other variables, and we did not want to further reduce statistical power. Students were asked whether they had seriously considered attempting suicide within the past year. Answer choices ranged from "0 times" to "6 or more times." Students were assigned a 1 if they reported any frequency other than 0 days and a 0 otherwise. Similar to the depression status variable, we used the same operationalization for our analysis.

School climate and environment. We used perceived safety traveling to and/or from school or at school and academic grades in school to represent student-reported school climate. In the YRBS, perceived safety was measured using absenteeism. Students were asked how many days within the past 30 days they missed school because they felt unsafe traveling to and/or from school or at school, with a range of "0 days" to "6 or more days." Students were assigned a 1 if they reported any frequency other than 0 days and a 0 otherwise. We used the same operationalization for the variable we created.

For academic grades, students were asked to describe their overall grades by letter grades, with responses ranging from "mostly As" to "mostly Fs." We collapsed this variable into a binary variable, where students who reported they received mostly Cs, Ds, or Fs were assigned a 1 and a 0 otherwise.

Substance use. For our study, we used binge drinking and nonelectronic cigarette use to characterize participants'

substance use. We chose these variables since their prevalence is higher among adolescents than other substances that are asked about in the YRBS (e.g., cocaine, inhalants, etc.). ⁴⁵ For each variable, students characterized how frequently they engaged in binge drinking or cigarette use in the past 30 days, with response options ranging from "0 days" to "20 or more days" for binge drinking and "0 days" to "all 30 days" for cigarette smoking. The YRBS created separate indicator variables based on these questions such that students were assigned a 1 if they engaged in any amount of substance use and a 0 if they did not. We mirrored this operationalization for both variables.

Demographic variables

We chose age, race/ethnicity, sex, and sexual orientation as demographic variables to describe our sample and account for possible confounding. Sex was categorized as a binary variable (Male/Female) and sexual orientation was categorized as Heterosexual, Gay/Lesbian, Bisexual, and Unsure. We kept operationalization the same as the YRBS for both variables.

Race and ethnicity were asked in the 2019 YRBS in a manner that allowed students to select multiple answers to describe themselves. A summary variable was created by the YRBS that incorporated all of the answers students gave. This includes Hispanic/Latino, American Indian/Alaskan Native, Asian, Black/African American, Native Hawaiian/Other Pacific Islander, White, Multiracial (Non-Hispanic), and Multiracial (Hispanic/Latino). Due to low cell sizes, we collapsed the Native Hawaiian/Other Pacific Islander category into the American Indian/Alaskan Native category and the Multiracial (Hispanic/Latino) category into the Hispanic/Latino category.

Age was a categorical variable that had responses ranging from "12 years old and younger" to "18 years old or older," with responses in between representing individual ages from 13 to 17 years old. We collapsed this variable into three categories: 14 years old and under, 15–16 years old, and 17 years old and over.

Statistical analyses

STATA Version 17 was used for all analyses. We first examined the frequencies of our outcome variables and the distribution of demographic variables by gender identity across our analytic sample. Chi-square tests were performed to distinguish significant differences for each outcome by transgender versus cisgender status. Following this, we ran a series of unadjusted logistic regression models to examine associations between each independent variable and each outcome. If a bivariate model reached $p \le 0.10$, its independent policy variable was included in a multivariable model that was adjusted for age, sex, sexual orientation, and race/ethnicity. In our multivariable models, we considered statistical significance to be reached if p values calculated were ≤ 0.05 and the 95% confidence interval did not contain an odds ratio of 1.00.

Results

In our analytic sample, 1.7% of respondents identified as transgender (Table 1). Differences in the distribution of age and sexual orientation were statistically significant. Transgender respondents were slightly more likely to be

Table 1. Sample Characteristics of United States Adolescents by Gender Identity, 2019 Youth Risk Behavior Survey (N=107,558)

	"No, I am not transgender" n=105,768 98.3% (weighted)	"Yes, I am transgender" n=1790 1.7% (weighted)	Chi-square ^a
·	Join to (Weighted)	11.7 to (weighted)	
Age	10 177 (12 90)	440 (19 40)	p < 0.001
14 years old and under 15–16 years old	19,177 (13.8%) 55,798 (50%)	440 (18.4%) 767 (39.6%)	
17 years old and over	30,615 (36.2%)	570 (42%)	
•	30,013 (30.2 %)	370 (42 %)	0.50
Sex Female	52 507 (40 201)	756 (17 60)	p = 0.59
Male	53,507 (49.3%) 51,643 (50.7%)	756 (47.6%) 845 (52.4%)	
	31,043 (30.7%)	643 (32.4%)	0.06
Race/ethnicity	55 510 (50 59)	707 (51 10)	p = 0.06
White	55,518 (52.5%)	787 (51.1%)	
Black/African American	14,449 (15.6%)	140 (13%)	
Hispanic/Latino	17,094 (21.2%)	437 (25.8%)	
American Indian/	3365 (1.4%)	90 (1.9%)	
Alaskan Native/Native Hawaiian	6261 (5.4%)	83 (3.9%)	
Asian Multiracial	6444 (3.9%)	109 (4.3%)	
	0444 (3.9%)	109 (4.5%)	0.004
Sexual orientation	00.106 (04.49)	400 (219)	p < 0.001
Heterosexual	88,106 (84.4%)	420 (31%)	
Gay or lesbian	2542 (2.6%)	476 (24.9%)	
Bisexual	9100 (8.4%)	588 (33.2%)	
Unsure	4998 (4.6%)	246 (10.9%)	
Depression status, past year	50.450 (66.0%)	(10 (00 (0))	p < 0.001
No	70,472 (66.3%)	612 (38.6%)	
Yes	34,020 (33.7%)	1019 (61.4%)	
Considered suicide, past year			p < 0.001
No	71,316 (83.7%)	637 (55.4%)	
Yes	14,833 (16.3%)	665 (44.6%)	
Felt unsafe at or traveling to/			p < 0.001
from school, past 30 days			•
No	96,286 (91%)	1139 (64.5%)	
Yes	8949 (9%)	594 (35.5%)	
Grades in school			p < 0.001
A or B average	70,672 (80.1%)	904 (61%)	P . 0.002
C, D, or F average	15,051 (19.9%)	418 (39%)	
Cigarette use, past 30 days	-, (,	- (· /	p < 0.001
No	98,393 (95.3%)	1203 (81.8%)	p < 0.001
Yes	5324 (4.7%)	301 (18.2%)	
	332 (1.770)	301 (10.270)	n < 0.001
Binge drinking, past 30 days No	70 182 (87 6%)	1014 (75.2%)	p < 0.001
Yes	79,182 (87.6%) 12,039 (12.4%)	1014 (75.2%) 361 (24.8%)	
168	12,039 (12.4%)	301 (24.6%)	

Counts may not add up to full analytic sample due to missing data points but percentages total 100%. All percentages are weighted. ^aBold *p*-values indicate significance at $p \le 0.05$.

14 years old and under and 17 years old and over. Although $\sim 84\%$ of cisgender respondents identified as heterosexual, only 31% of transgender adolescents did so, with the majority identifying as either gay, lesbian, or bisexual.

Regarding sex, both transgender and cisgender adolescents had similar distributions of males and females. Slightly over 50% of both cisgender and transgender adolescents identified as White. Transgender adolescents were significantly more likely than their cisgender peers to endorse all outcomes at p < 0.001.

Regression analyses

Mental health. Transgender adolescents who lived in a state that had explicit transgender student guidance in their antidiscrimination laws were less likely to report depressive symptoms (Table 2). This relationship remained statistically significant after adjusting for demographic variables.

Regarding suicidal ideation, transgender adolescents who lived in a state that included SOGI-based protections in their antibullying laws were less likely to have considered suicide in the past year. This association approached significance in our multivariable model.

School climate and environment. Transgender adolescents were more likely to report feeling unsafe at school or traveling to and/or from school if they lived in a state that included SOGI-based protections in their antibullying laws or in a state that contained explicit transgender student

Table 2. Bivariate and Multivariable Logistic Regression of Health Outcomes in United States Transgender Adolescents, 2019 Youth Risk Behavior Survey (n=1790)

	Ď	epression st	Depression status, past year		C_0	msidered sui	Considered suicide, past year	
	Bivariate OR (95% CI) ^a	d	Multivariable model no. 1 AOR (95% CI) ^{b.c}	d	Bivariate OR (95% CI) ^a	d	Multivariable model no. 2 AOR (95% CI) ^{b,c}	d
Antibullying law Antidiscrimination law Explicit transgender student guidance Positive or neutral athlete guidance	0.74 (0.49–1.11) 0.72 (0.42–1.23) 0.56 (0.34–0.92) 0.90 (0.57–1.41)	p = 0.15 p = 0.22 p = 0.02 p = 0.04	0.50 (0.29-0.87)		0.65 (0.43–0.99) 0.96 (0.56–1.68) 0.68 (0.40–1.14) 0.90 (0.57–1.43)	$ \begin{array}{l} p = 0.05 \\ p = 0.90 \\ p = 0.14 \\ p = 0.14 \\ p = 0.66 \end{array} $	0.62 (0.38–1.01)	p = 0.05
	Felt unsaf	e at school	Felt unsafe at school and/orpast 30 days	S	Grades	in school –	Grades in school – C, D, or F average	
	Bivariate OR (95% CI) ^a	d	Multivariable model no. 3 AOR (95% CI) ^{b,c}	d	Bivariate OR $(95\% CI)^a$	d	Multivariable model no. 4 AOR (95% CI) ^{b.c}	d
Antibullying law Antidiscrimination law Explicit transgender student guidance Positive or neutral athlete guidance	1.60 (1.03-2.49) 0.80 (0.46-1.37) 1.59 (0.98-2.58) 1.01 (0.64-1.59)	p = 0.04 p = 0.41 p = 0.06 p = 0.96	1.22 (0.61–2.45) 1.14 (0.58–2.26)	p = 0.57 $p = 0.70$	0.65 (0.38–1.12) 0.43 (0.24–0.76) 0.54 (0.33–0.89) 0.59 (0.34–0.99)	p = 0.12 p = 0.004 p = 0.02 p = 0.05	0.50 (0.19–1.30) 0.97 (0.45–2.11) 0.56 (0.29–1.10)	$ \begin{array}{c} $
	3	igarette use	Cigarette use, past 30 days		Bi	nge drinking	Binge drinking, past 30 days	
	Bivariate OR $(95\% \ CI)^a$	d	Multivariable model no. 5 AOR (95% CI) ^{b,c}	d	Bivariate OR $(95\% \ CI)^a$	d	Multivariable model no. 6 AOR (95% CI) ^{b.c}	d
Antibullying law Antidiscrimination law Explicit transgender student guidance Positive or neutral athlete guidance	0.85 (0.49–1.48) 0.56 (0.29–1.11) 0.95 (0.54–1.70) 0.59 (0.35–1.01)	p = 0.57 p = 0.10 p = 0.87 p = 0.05	1.12 (0.46–2.74) 0.45 (0.23–0.88)	p = 0.80 $p = 0.02$	1.44 (0.85–2.45) 0.57 (0.30–1.10) 1.06 (0.57–2.00) 0.59 (0.34–1.01)	p = 0.18 $p = 0.09$ $p = 0.85$ $p = 0.85$ $p = 0.05$	0.90 (0.40–2.00)	p = 0.79 $p = 0.12$

^aBold odds ratios and their respective *p*-values indicate significance at $p \le 0.10$.

^bBold adjusted odds ratios and their respective *p*-values indicate significance at $p \le 0.05$ and 95% CI not including OR 1.00.

^cMultivariable models were adjusted for age, sex, sexual orientation, and race/ethnicity; independent variables were included if bivariate models reached $p \le 0.10$.

AOR, adjusted odds ratio; CI, confidence interval; OR, odds ratio.

guidance in their antidiscrimination laws. These associations did not retain significance when we included them in our multivariable models.

In terms of grades in school, transgender adolescents who lived in states that included SOGI-based protections in their antidiscrimination laws, contained explicit transgender student guidance in those laws, or had positive or neutral athlete guidance were less likely to earn below a C-average in their classes. These relationships did not retain significance when we included them in our multivariable models, although the association between positive or neutral athlete guidance and grades in school approached statistical significance.

Substance use. Transgender adolescents who lived in states that included SOGI-based protections in their antidiscrimination laws or had positive or neutral athlete guidance were marginally less likely to report binge drinking in the past 12 months of completing the YRBS. These relationships did not retain significance when we included them in our multivariable models.

Regarding cigarette use, transgender adolescents who lived in states that included SOGI-based protections in their antidiscrimination laws or had positive or neutral athlete guidance were less likely to report cigarette use in the past 30 days of completing the YRBS. In our multivariable model, positive or neutral athlete guidance did show a protective effect on cigarette use, but having SOGI-based protections in antidiscrimination laws did not.

Discussion

Our study is one of the first to use a quantitative lens to explore how transgender-specific, state-level policies benefit the health of transgender adolescents. We included several policies that have been scarcely used in the literature, such as athletic participation guidelines and explicit transgender student guidance within antidiscrimination laws. Consistent with our hypothesis, we found that selected policies were positively and significantly associated with outcomes such as depression status and cigarette use. Findings suggest that structural support plays an important role in reducing health disparities for transgender adolescents.

As we found, the presence of explicit transgender guidance in school antidiscrimination laws has the potential to lower an already disproportionate prevalence of depressive symptoms in transgender adolescents. The presence of explicit guidance serves as an important and relatively new indicator of structural support in LGBTQ youth. To our knowledge, there are no studies that have measured mental health outcomes against the presence of explicit transgender guidance. There are, however, multiple studies that have found positive associations between other LGBTQ-specific protections and school climate. For example, numerous studies have found that LGBTQ students who report that their school has a positive climate are less likely to report depressive symptoms. 22,48,49 Our study serves as a call to investigate other possible benefits of explicit guidance.

In addition, we found that positive or neutral athlete guidance may protect against cigarette use in transgender adolescents. Of note, our study did not differentiate between those who participated in school sports and those who did not. Thus, our findings indicate that the absence of harmful participation restrictions in athletic policies could benefit athletes and nonathletes alike.

There are few if any studies that have examined any possible associations between inclusivity in sports and risk behaviors like cigarette use in transgender youth, apart from some legal analyses. Despite this, it can be argued that policies that do not explicitly prohibit participation or allow for full participation signal to transgender adolescents that they can take advantage of an activity that is well known to protect against cigarette use for all adolescents. ^{52–54}

There is a dearth of research regarding inclusive athletic policies for transgender adolescents; it is especially missing the perspectives of athletes themselves. Our research paves the way to solicit insight from transgender adolescent athletes about how participation guidelines affect them.

Besides the aforementioned results, some associations that approached significance in our multivariable models may have important implications for future research. These include the association between SOGI-based antibullying laws and suicidal ideation and between positive or neutral athlete guidance and grades in school. It is plausible that a comprehensive approach to reducing suicidality has a larger effect than policy implementation alone. Several studies of LGBTQ youth have shown that more enumerated policies can lead to reduced odds of suicidality. 55-57

Also, much like we found with athletic guidance and cigarette use, the literature lacks information regarding the possible association between athletic guidance and grades in school in LGBTQ adolescents. Most of what is known has to do with participation and not policy outright. Further research is warranted given that gender-diverse youth experience barriers to participation stemming from policies that cisgender youth do not.

Limitations

The generalizability of our findings is hindered by several limitations. We found that most of the laws and policies that our independent variables were based on were implemented by the time data collection for the 2019 YRBS began. However, it is possible that some laws were not fully enacted by that time, which may have contributed temporality issues to our analyses.

Furthermore, we used a standard model building process in which we examined associations between four independent variables and six outcomes of interest. Although a number of comparisons were explored, we did not adjust the *p*-values for multiple comparisons as this was an observational study intended to be exploratory and, therefore, such adjustment is not required. ^{59–61} In light of these methods, results should be interpreted with caution and must not be conflated with causality. Further testing should be carried out in future studies with similar hypotheses to confirm the true validity of these findings.

Moreover, our analysis was confined to states in the 2019 YRBS that opted to use the gender identity variable in their surveys and shared their data with the national dataset. Most of the states included have a track record of implementing policies that are affirming of the LGBTQ community compared with the states that were also in the 2019 YRBS but opted out of using the gender identity variable. 62

Several other states were not included that used the gender identity variable but did not share their data with the national YRBS dataset that we obtained from the CDC, such as Massachusetts and California. In future iterations of the YRBS, we hope to see more states share their data and opt-in to using the gender identity variable regardless of their policy stance. By doing so, the field can advance vital research similar to ours that better represents the country in a way that is easily accessible.

Finally, regarding our academic achievement variable, we acknowledge that it is not explicitly a health outcome and that it is a more distal proxy for school climate than other, more proximal indicators (e.g., peer support, adult leadership). However, since this is a secondary analysis, we were limited to the variables that were assessed or otherwise publicly available. Given the formative nature of this research, we included academic achievement as an indicator of school climate. Future confirmatory studies are warranted to examine possible relationships between LGBTQ-specific policies and academic performance as well as more proximal indicators of school climate.

Conclusion

Support of LGBTQ students on secondary school campuses has typically been defined by initiatives such as having Gender–Sexuality Alliances on campus and hanging pride flags in classrooms. ^{33,64,65} Our study expands that definition by including higher-level policies into the fold. Findings from this study suggest that school climate policies may shape the health of transgender youth. In light of the influx of adverse proposed ^{66,67} and implemented ^{68,69} laws targeting transgender adolescents in the past 2 years, findings from this study underscore the importance of implementing legislation that promotes health among transgender youth as well as the need to block or overturn laws that may be harmful to the health and wellbeing of this population.

Authors' Contributions

C.M.-J.: conceptualization, methodology, formal analysis, writing—original draft, writing—review and editing. D.O.: conceptualization, writing—review and editing, supervision. J.M.W.H.: writing—review and editing.

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Supplementary Material

Supplementary Table S1

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Address correspondence to:

Cameron Miller-Jacobs
School of Public Health
Brown University
121 South Main Street, Box G-S121-3
Providence, RI 02912
USA

E-mail: cameron_miller-jacobs@brown.edu