Associations Between Antibullying Policies and Bullying in 25 States

Mark L. Hatzenbuehler, PhD,
Department of Sociomedical Sciences, Mailman School of Public Health, Columbia University, New York, New York

Laura Schwab-Reese, PhD,
Department of Community and Behavioral Health, College of Public Health, University of Iowa, Iowa City

Shabbar I. Ranapurwala, PhD,
Department of Occupational and Environmental Health, University of Iowa Injury Prevention Research Center, College of Public Health, University of Iowa, Iowa City

Marci F. Hertz, MS, and
Division of Analysis, Research, and Practice Integration, Centers for Disease Control and Prevention, Atlanta, Georgia.

Marizen R. Ramirez, PhD
Department of Occupational and Environmental Health, University of Iowa Injury Prevention Research Center, College of Public Health, University of Iowa, Iowa City

Abstract

IMPORTANCE—Bullying is the most widespread form of peer aggression in schools. In an effort to address school bullying, 49 states have passed antibullying statutes. Despite the ubiquity of these policies, there has been limited empirical examination of their effectiveness in reducing students' risk of being bullied.

OBJECTIVE—To evaluate the effectiveness of antibullying legislation in reducing students' risk of being bullied and cyberbullied, using data from 25 states in the United States.

DESIGN, SETTING, AND PARTICIPANTS—A cross-sectional observational study was conducted using a population-based survey of 63 635 adolescents in grades 9 to 12 from 25 states participating in the 2011 Youth Risk Behavior Surveillance System study (September 2010-December 2011). Data on antibullying legislation were obtained from the US Department of Education (DOE), which commissioned a systematic review of state laws in 2011. The report identified 16 key components that were divided into the following 4 broad categories: purpose and definition of the law, district policy development and review, school district policy components (eg, responsibilities for reporting bullying incidents), and additional components (eg, how policies are communicated). Policy variables from 25 states were linked to individual-level data from the Youth Risk Behavior Surveillance System on experiencing bullying and cyberbullying. Analyses were conducted between March 1, 2014, and December 1, 2014.

EXPOSURE—State antibullying legislation.

MAIN OUTCOMES AND MEASURES—Exposure to bullying and cyberbullying in the past 12 months.

RESULTS—There was substantial variation in the rates of bullying and cyberbullying across states. After controlling for relevant state-level confounders, students in states with at least 1 DOE legislative component in the antibullying law had a 24%(95%CI, 15%−32%) reduced odds of reporting bullying and 20%(95%CI, 9%−29%) reduced odds of reporting cyberbullying compared with students in states whose laws had no DOE legislative components. Three individual components of antibullying legislation were consistently associated with decreased odds of exposure to both bullying and cyberbullying: statement of scope, description of prohibited behaviors, and requirements for school districts to develop and implement local policies.

CONCLUSIONS AND RELEVANCE—Antibullying policies may represent effective intervention strategies for reducing students' risk of being bullied and cyberbullied in schools.

Substantial media attention on recent school shootings and suicides by students who have experienced bullying has increased public awareness of childhood bullying,[1] which is defined as peer-on-peer aggressive behavior that occurs repeatedly overtime.[2] Bullying is one of the most common forms of peer aggression in schools; data from the national 2013 Youth Risk Behavior Surveillance Survey (YRBSS) indicated that 20% of high school youth reported being bullied on school property in the last 12 months.[3] Being bullied and perpetrating bullying are associated with myriad adverse psychosocial outcomes, including social isolation, anxiety, depression, substance and alcohol use, self-harm, and suicide attempts.[4]

Given the widespread prevalence of bullying and the associated adverse outcomes, states are actively engaged in various primary prevention strategies for reducing bullying, including the implementation of antibullying policies. Between 1999 and 2010, antibullying policies proliferated, with more than 120 bills related to bullying passed by state legislatures.[5] Currently, 49 states have antibullying laws in place. Despite the ubiquity of these policies, there has been very little empirical examination of their effectiveness in reducing bullying.

In a 2003 review of the literature on antibullying laws and policies, Limber and Small noted that "the question of whether state laws can provide a useful vehicle for reducing bullying behavior among children remains unanswered."[6(p446)] This statement still holds true more than a decade after this review was published.

Existing research on antibullying legislation has focused almost exclusively on content analyses of antibullying laws.[6–10] To our knowledge, only 2 published studies have examined the effectiveness of antibullying policies. One study in Australia found that bullying prevalence was unchanged 4 years after an antibullying law was passed.[11] In contrast, another study found that lesbian and gay youths living in counties that had fewer school districts with inclusive antibullying policies (ie, policies in which sexual orientation was explicitly enumerated as a protected class) were 2.25 times more likely to have attempted suicide in the past year compared with those living in counties where more districts had inclusive policies.[12] In addition, reports of peer harassment among all youth were less frequent in counties with a greater proportion of school districts with inclusive antibullying policies. Although this study provided important initial information on the beneficial psychosocial consequences of antibullying policies, it did not include a specific measure of bullying behaviors and was restricted to 1 state, limiting generalizability of the findings. Thus, significant gaps remain in our understanding of the effectiveness of antibullying policies.

No evidence-based criterion standard of an antibullying law exists; however, the US Department of Education (DOE) established a recommended framework for antibullying laws for dissemination to schools across the country. In a 2011 report, the DOE reviewed the extent to which state antibullying laws adhered to these recommendations and found substantial heterogeneity across state policies in their adoption of recommended practices, including definitions, policy development and reviews, and training and communication about policies.[5] To our knowledge, no study has evaluated the effectiveness of this framework in reducing bullying experiences.

To address this gap, we examined the association between antibullying policies and being bullied, using population-based data from youth in 25 states. These data were linked to state-level antibullying policies obtained from the DOE report. We capitalized on the between-state variation in antibullying legislation to evaluate whether antibullying laws compliant with the DOE framework were effective in reducing high school students' risk of being bullied. Furthermore, we identified which specific legal components recommended in the DOE report were most effective in reducing bullying.

Methods

Sample

Student data were obtained from the YRBSS, a school-based survey focused on health-risk behaviors contributing to the leading causes of morbidity and mortality among US high school students. Additional detail of the YRBSS methods is available from the Centers for Disease Control and Prevention.[13] This analysis used 2011 data (September 2010-December 2011) from the 30 states with overall response rates of at least 60% and data-sharing

agreements with the Centers for Disease Control and Prevention. Five of these states (Arkansas, New Jersey, New York, North Dakota, and Utah) were excluded from this analysis because their legislation was passed or began enforcement during or after YRBSS data were collected in 2011.[5]

In the 25 states included in these analyses, 63 635 students in grades 9 to 12 in public and private schools in the United States completed surveys during 2011. Of these participants, 1944 (3.1%) were excluded from the analysis of bullying owing to missing information about bullying in school, yielding a sample size of 61 691. A total of 4163 participants (6.5%), including students from Delaware, where the cyberbullying question was not asked, were excluded from analysis of cyberbullying owing to missing data, resulting in a sample size of 59 472. Analyses were conducted between March 1, 2014, and December 1, 2014. The study was reviewed by the University of Iowa Institutional Review Board and was exempted because deidentified data were obtained from secondary data sources.

State Antibullying Laws

The DOE coded state statutory laws governing bullying in schools through April 30, 2011.[5] The report was composed of 16 items organized into the following 4 broad categories: definitions of the policy, district policy development and review, mandated procedures, and strategies for communication, training, and legal support (Table 1).

States were assigned compliance scores for each of these 16 items using the dichotomous categorization adopted in the DOE report (correcting an error for 1 state, Kentucky, which was confirmed with DOE staff), in which states were categorized as compliant with each recommended guideline if their legislation was at least partially compliant with the recommendation.[5] Component scores were summed to create 4 subscales and an overall scale regarding compliance scores. There was substantial heterogeneity across states with respect to compliance with the DOE guidelines (Table 1).

Bullying

In 2011, YRBSS participants were asked 1 question about bullying at school, "During the past 12 months, have you ever been bullied on school property?," and 1 question about cyberbullying, "During the past 12 months, have you ever been electronically bullied? (being bullied through email, chat rooms, instant messaging, websites, or texting)." Prior to the question, students were directed to define bullying as

> …when 1 or more students tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when 2 students of about the same strength or power argue or fight or tease each other in a friendly way.

Response options were dichotomous. Participants were categorized as being a target of bullying if they reported that they had been bullied on school property and being a target of cyberbullying if they reported being electronically bullied in the past year.

Covariates

A priori knowledge and directed acyclic graphs were used to identify potential confounding in the exposure-outcome association.[14,15] The minimal sufficient set of covariates to control for all noncausal pathways of association included 2 state-level variables: violent crime rates and "cultural tightness," a measure developed by Harrington and Gelfand[16] reflecting strength of punishment or permissiveness toward individual deviance. We controlled for the former because higher rates of violent crime may be indicative of a higher cultural acceptance of violence, including bullying, and the latter because states with greater cultural tightness were more likely to implement more stringent antibullying policies. The Uniform Crime Reporting Statistics system was used to estimate the violent crime rate (murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault) in each state in 2011.[17] Individual-level characteristics-race/ethnicity, school grade, and sex-were not considered potential confounders because they had no a priori association with the exposure (policy).

Statistical Analysis

Univariate statistics were used to describe the median and interquartile range for the overall compliance scores, subscale scores, the number and proportion of states meeting the compliance requirements, and the prevalence of bullying and cyberbullying by state. Logistic regression for weighted data was used to examine the association between characteristics of the state legislation and the odds of bullying. To account for the complex sampling framework of the YRBSS, survey procedures included clustering of observations within primary sampling units nested within states.[18] Sensitivity analyses were conducted with alternative approaches for handling clustered data (ie, generalized estimating equations and generalized linear mixed models), and produced similar results (ie, the direction and magnitude of the results remained unchanged). Unadjusted and adjusted odds ratios were calculated for the overall score, each of the subscale scores, and the individual items. Effect measure modification by demographic characteristics was assessed.[19] All analyses were conducted using SAS, version 9.4 (SAS Institute, Inc).

Results

In 2011, the violent crime rates in this sample ranged from 123.2 to 608.2 per 100 000 population, with a mean (SD) rate of 348 (138). Cultural tightness scores ranged from 34 to 79, with a mean (SD) of 53 (12), where higher scores indicate increased cultural tightness.

There was substantial variation across states in the rates of being bullied (Figure), ranging from 14.1% (Alabama) to 26.7% (South Dakota), with a mean of 19.8% (95% CI, 19.1% −20.5%). Rates of being cyberbullied ranged from 12.3% (Alabama) to 19.6% (South Dakota), with a mean of 15.5% (95% CI, 15.1%−16.1%).

Table 2 presents the associations of compliance with DOE recommendations with being bullied and cyberbullied. Controlling for relevant state-level covariates, students in states with antibullying policies that had at least 1 legislative component had a 24% (95% CI, 15% −32%) reduced odds of reporting bullying and a 20% (95% CI, 9%−29%) reduced odds of

reporting cyberbullying compared with students in states with policies that had no legislative components for bullying definitions. Across each of the 4 legislative components, increased compliance with DOE recommendations resulted in lower odds of bullying (adjusted odds ratios [AORs] range from 0.76 to 0.85) and cyberbullying (AORs range from 0.80 to 0.89), with the exception of district policy components for cyberbullying. Students' individual-level demographic characteristics did not consistently or substantially modify the association between antibullying policies and rates of being bullied or cyberbullied. There was no dose-response relationship between number of components and being bullied or cyberbullied (eTable in the Supplement); for example, having all 6 district policy components did not provide greater protection than having one of these components.

We also examined associations between bullying behaviors and each of the 16 individual components of antibullying legislation (Table 3). In the models adjusted for state-level confounders, one-fourth of the individual legislative components remained associated with reduced odds of reports of being bullied and cyberbullied. Three individual components of antibullying legislation were consistently associated with decreased odds of both being bullied and cyberbullied, including statement of scope (bullying: AOR, 0.85; 95% CI, 0.76–0.95; cyberbullying: AOR, 0.87; 95% CI, 0.77–0.98), description of prohibited behaviors (bullying: AOR, 0.83; 95% CI, 0.69–0.99; cyberbullying: AOR, 0.92; 95% CI, 0.87–0.98), and requirements for districts to develop and implement local policies (bullying: AOR, 0.76; 95% CI, 0.68–0.85; cyberbullying: AOR, 0.80; 95% CI, 0.71–0.91).

A sensitivity analysis was conducted to assess the extent to which missing data on bullying outcomes might affect results. Overall, there were few differences in missing data across states. However, Nebraska and Kentucky had substantially higher percentages (29.1% and 6.1%, respectively) of missing data compared with other states. Analyses comparing the results with and without these 2 states demonstrated minimal changes in point estimates and 95% CIs.

Discussion

Bullying affects one-fifth of all high school students in the United States.[3] Antibullying laws can have considerable effect on youth by potentially preventing bullying behaviors before they occur and by reducing the adverse health sequelae among those who are bullied. As a public health intervention strategy, antibullying laws are multifaceted, involve several types of interventions (eg, instituting a policy in schools, implementing training), and target multiple levels of the socioecological model (ie, individual, school, and community).[20] This approach, although theoretically sound, has not been thoroughly researched,[21] and prior evaluations of antibullying legislation have rarely examined bullying outcomes.

Our study begins to address this gap in the literature. To our knowledge, our study provides the largest and most comprehensive test to date of the efficacy of antibullying policies. We found evidence that compliance with DOE-recommended guidelines in antibullying laws was associated with lower rates of being bullied and cyberbullied. Moreover, 3 specific components were reliably associated with decreased odds of bullying and cyberbullying. First, a statement of scope describes where the legislation applies and the circumstances

under which the school has the authority to take action (eg, whether the law applies if students are off-campus but if the event is sponsored by the school). Second, a description of prohibited behaviors defines the behaviors that are considered bullying, in some cases differentiating it from what may be developmentally appropriate teasing and in others specifying that the behavior must be repeated. Third, requirements for districts to develop and implement local policies dictate the components that must be included in local policies and may set a timeline in which the local policy must be developed. These 3 components offer details, specificity, and clarity for school administrators and may therefore increase the likelihood that they feel empowered to act.

These results raise several important questions for future study. While we found that a variety of legislative components was associated with reduced bullying, we were unable to identify what combination of components was most effective. Our cross-sectional sample of 25 state laws is insufficient in size to analyze permutations of various legal components. Future studies that include a larger sample of laws identified from historical reviews of all 49 state antibullying laws are needed to address this critical research question. In addition, we found that having a policy that lists and clearly defines specific prohibited behaviors was associated with a reduced risk of bullying, but these results did not identify which specific behaviors were driving these associations. It is possible that more comprehensive policies, such as those that list all 4 types of bullying (ie, verbal, psychological or relational, physical, and cyber) as prohibited behaviors, are most effective; additional content analyses of these policies will help to answer this question. Although our study provides initial empirical support for the DOE framework, these results may not be generalizable to other antibullying law frameworks, such as the antibullying public health framework.[9] Future studies are needed to compare these frameworks and identify best practices for state legislators, schools, and their constituents.

In addition to exploring whether these policies are effective, research on mediating mechanisms is needed to uncover why antibullying policies are effective in reducing bullying. According to research on the expressive function of laws and policies,[22,23] social norms are influenced by the presence or absence of laws; it is therefore possible that antibullying policies alter social norms regarding the acceptability of bullying on school grounds. Studies that incorporate measures of social norms would afford the opportunity to evaluate this hypothesis. In addition, research into moderating factors can provide critical information on youths for whom antibullying policies are most effective and, conversely, youths for whom these policies are less effective. In particular, it will be important to determine whether antibullying policies reduce bullying among groups that are disproportionately at risk, including sexual minorities, youths who are overweight or obese, and individuals with disabilities.[24–26] In addition, existing literature on policy implementation emphasizes the need to describe not only the program effects but also the implementation activities.[27] Consequently, the field requires more research into how antibullying policies are actually implemented in schools, including the identification of barriers and facilitators to this implementation. Finally, the YRBSS is a sample of high school youth. Because there is a higher prevalence of being bullied in middle school than in high school,[28] it will be important in future research to determine whether antibullying policies are similarly effective in reducing being bullied among middle school youth.

This study has several limitations. Data from the YRBSS are cross-sectional; thus, we infer about but cannot test causal associations between antibullying policies and rates of being bullied. To reduce temporal ambiguity, we only included states where antibullying legislation was passed or had begun enforcement prior to assessment of bullying behaviors, thereby ensuring temporality of the association between antibullying policies and bullying behaviors (ie, reports of bullying did not precede the passage or enactment of antibullying legislation). Future research should nevertheless use other methods, including quasi-experimental designs, to examine whether bullying is reduced following the implementation of antibullying policies. In addition, although we controlled for potential confounders at the state level, an unmeasured common factor may be responsible for the observed association. For instance, states likely differ with respect to historic bullying rates, which in turn could influence the current prevalence of bullying. In subsequent analyses, we were able to control for historic bullying rates in a subset of 20 states with available data for this variable, and the direction and magnitude of the results remained unchanged. Still, future studies should test other potential alternative explanations for these results. Furthermore, bullying behaviors were collected by self-report and thus may be subject to reporting bias. Finally, although these data are generalizable to the 25 states that were included in the study, it will be important to include the remaining states in future studies to determine the consistency of these results across the United States.

Despite these limitations, this study has many methodological strengths. Data come from a large, geographically diverse, population-based sample of youth, which bolsters the external validity of the study findings. We used an existing measure of state bullying policies determined through expert consensus by the DOE, and these state measures were linked to individual-level measures of being bullied and cyberbullied. This approach overcomes the ecological fallacy,[29] which can occur when inferences about the effect of ecological influences (ie, antibullying policies) rely solely on aggregated reports of the outcome (ie, bullying behaviors).

Conclusions

Researchers have long acknowledged the need for data on antibullying policies that can be used by lawmakers to address bullying behaviors in schools.[30] Although more research is needed, our findings begin to identify the most effective laws that protect youth against bullying behaviors. This research therefore has significant practical implications for both schools and policymakers. Ultimately, this study and others like it can contribute to a body of work that is necessary to guide several constituencies, including schools, that carry out provisions of the law; state and local departments of education that provide guidance and may assess accountability for implementing the law; and policymakers who may amend or create similar legislation in the future. Bullying is a multifaceted phenomenon that requires a multipronged approach. Although antibullying policies by themselves cannot completely eradicate bullying, these data suggest that such policies represent an important part of a comprehensive strategy for preventing bullying among youth.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

REFERENCES

1. Juvonen J, Graham S. Bullying in schools: the power of bullies and the plight of victims. Annu Rev Psychol. 2014;65:159–185. [PubMed: 23937767]

2. Olweus D Aggression in the Schools: Bullies and Whipping Boys. Washington, DC: Hemisphere; 1978.

3. Kann L, Kinchen S, Shanklin SL, et al.; Centers for Disease Control and Prevention (CDC). Youth risk behavior surveillance—United States, 2013. MMWR Surveill Summ. 2014;63(suppl 4):1–168.

4. Arseneault L, Bowes L, Shakoor S. Bullying victimization in youths and mental health problems: 'much ado about nothing'? Psychol Med. 2010;40(5): 717–729. [PubMed: 19785920]

5. Stuart-Cassel V, Bell A, Springer F. Analysis of State Bullying Laws and Policies. Washington, DC: US Dept of Education; 2011.

6. Limber SP, Small MA. State laws and policies to address bullying in schools. School Psych Rev. 2003; 32(3):445–455.

7. Cornell D, Limber SP. Law and policy on the concept of bullying at school. Am Psychol. 2015;70 (4):333–343. [PubMed: 25961314]

8. Bowllan NM. Implementation and evaluation of a comprehensive, school-wide bullying prevention program in an urban/suburban middle school. J Sch Health. 2011;81(4):167–173. [PubMed: 21392008]

9. Srabstein JC, Berkman BE, Pyntikova E. Antibullying legislation: a public health perspective. J Adolesc Health. 2008;42(1):11–20. [PubMed: 18155025]

10. Furlong MJ, Morrison GM, Greif JL. Reaching an American consensus: reactions to the special issue on school bullying. School Psychol Rev. 2003;32(3): 456–470.

11. Cross D, Epstein M, Hearn L, Slee P, Shaw T, Monks H. National Safe Schools Framework: policy and practice to reduce bullying in Australian schools. Int J Behav Dev. 2011;35(5):398–404.

12. Hatzenbuehler ML, Keyes KM. Inclusive anti-bullying policies and reduced risk of suicide attempts in lesbian and gay youth. J Adolesc Health. 2013;53(1)(suppl):S21–S26. [PubMed: 23790196]

13. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance System (YRBSS). http://www.cdc.gov/healthyyouth/data/yrbs/index.htm. Updated May 15, 2015. Accessed July 3, 2015.

14. Greenland S, Pearl J, Robins JM. Causal diagrams for epidemiologic research. Epidemiology. 1999;10(1):37–48. [PubMed: 9888278]

15. Glymour MM, Greenland S. Causal diagrams In: Rothman KJ, Greenland S, Lash TL, eds. Modern Epidemiology 3rd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2008:183–209.

16. Harrington JR, Gelfand MJ. Tightness-looseness across the 50 united states. Proc Natl Acad Sci U S A. 2014;111(22):7990–7995. [PubMed: 24843116]

17. US Department of Justice, Federal Bureau of Investigation. Uniform crime reporting statistics: reported crime by locality (city, county), state, and nation. http://www.ucrdatatool.gov/Search/Crime/Crime.cfm. Updated March 29, 2010. Accessed July 3, 2015.

18. Eaton DK, Kann L, Kinchen S, et al.; Centers for Disease Control and Prevention (CDC). Youth risk behavior surveillance—United States, 2011. MMWR Surveill Summ. 2012;61(4):1–162.

19. Fairchild AJ, MacKinnon DP. A general model for testing mediation and moderation effects. Prev Sci. 2009;10(2):87–99. [PubMed: 19003535]

20. Simon P, Olson S. Building Capacity to Reduce Bullying: Workshop Summary. Washington, DC: National Academies Press; 2014.

21. Dresler-Hawke E, Whitehead D. The behavioral ecological model as a framework for school-based anti-bullying health promotion interventions. J Sch Nurs. 2009;25(3):195–204. [PubMed: 19363105]

22. Berkowitz L, Walker N. Laws and moral judgments. Sociometry. 1967;30(4):410–422. doi: 10.2307/2786186.

23. Suchman MC. On beyond interest: Rational, normative and cognitive perspectives in the social scientific study of law. Wis L Rev. 1997;3:475–501.

24. Puhl RM, Latner JD. Stigma, obesity, and the health of the nation's children. Psychol Bull. 2007; 133(4):557–580. [PubMed: 17592956]

25. Rose CA, Monda-Amaya LE, Espelage DL. Bullying perpetration and victimization in special education: a review of the literature. Remedial Spec Educ. 2011;32(2):114–130. doi: 10.1177/0741932510361247.

26. Berlan ED, Corliss HL, Field AE, Goodman E, Austin SB. Sexual orientation and bullying among adolescents in the growing up today study. J Adolesc Health. 2010;46(4):366–371. [PubMed: 20307826]

27. Burris S, Wagenaar AC, Swanson J, Ibrahim JK, Wood J, Mello MM. Making the case for laws that improve health: a framework for public health law research. Milbank Q. 2010;88(2):169–210. [PubMed: 20579282]

28. Finkelhor D, Turner H, Ormrod R, Hamby SL. Violence, abuse, and crime exposure in a national sample of children and youth. Pediatrics. 2009;124 (5):1411–1423. [PubMed: 19805459]

29. Schwartz S The fallacy of the ecological fallacy: the potential misuse of a concept and the consequences. Am J Public Health. 1994;84(5):819–824. [PubMed: 8179055]

30. Brank EM, Hoetger LA, Hazen KP. Bullying. Annu Rev Law Soc Sci. 2012;8:213–230. doi: 10.1146/annurev-lawsocsci-102811-173820.

At a Glance

- To our knowledge, our study is the largest and most comprehensive evaluation of the effectiveness of antibullying policies in reducing students' risk of being bullied.

- Compliance with Department of Education (DOE)-recommended guidelines in antibullying laws was associated with lower rates of being bullied and cyberbullied among high school students from 25 states in the United States.

- Specifically, students living in states with at least 1 DOE-recommended legislative component in their antibullying laws had a 24% (95% CI, 15%−32%) reduced odds of reporting bullying and a 20% (95% CI, 9%−29%) reduced odds of reporting cyberbullying.

- Three DOE recommendations were reliably associated with decreased odds of bullying and cyberbullying: having a statement of scope, having a description of prohibited behaviors, and having requirements for school districts to develop and implement local policies.

- These results suggest that antibullying policies are an important part of a comprehensive strategy for preventing bullying among youth.
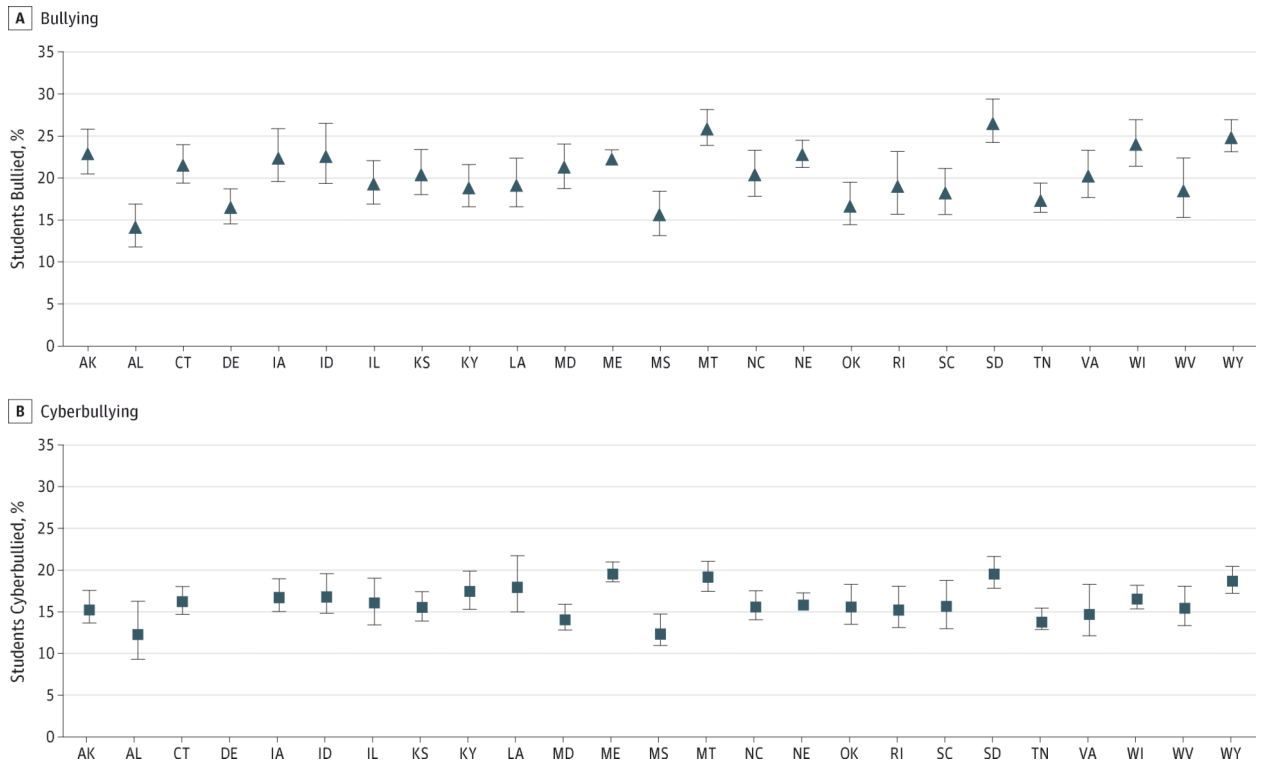
Figure.
Estimated Percentages of Students Who Reported Bullying and Cyberbullying, by State
Bars indicate the 95%CI. A and B, Triangles and squares indicate the estimated percentages.

Table 1.

Characteristics of State Antibullying Legislation

Summary Measure	Value[a]
Overall score, median (IQR) (range, 0–16)[b]	11 (4)
Definition of the policy, median (IQR) (range, 0–4)	3 (1)
District policy development and review, median (IQR) (range, 0–2)	1 (1)
District policy components and mandated procedures, median (IQR) (range, 0–6)	4 (4)
Additional components, median (IQR) (range, 0–4)	3 (2)
States with individual components	
Definition subscale	
Purpose of the antibullying law	21 (84)
Scope of school jurisdiction for regulating bullying	22 (88)
Prohibited behaviors defined as bullying	22 (88)
Enumerated groups protected under the law	7 (28)
District policy development and review	
Requirements for districts to develop and implement local policies	23 (92)
Regular review of policies regarding extent of compliance	9 (36)
District policy components and mandated procedures	
Definitions of bullying specified in the policy are consistent with state law	12 (48)
Reporting procedures, anonymous and without retaliation	17 (68)
Procedures for investigating bullying incidents	16 (64)
Written records of incidents and their resolution	6 (24)
Consequences for bullying, detailed in increasing order of severity	21 (84)
Mental health referrals for those who experience bullying, perpetrators, and others affected	6 (24)
Additional components	
Procedures for communicating the policy to students, parents, and school staff	21 (84)
Training and prevention for school staff	18 (72)
Provisions for ensuring transparency and monitoring of reporting of bullying incidents	10 (40)
Assurances that those who experience bullying are permitted to pursue legal remedies	9 (36)

Abbreviation: IQR, interquartile range.

[a] Data are presented as number (percentage) unless otherwise indicated.

[b] Scores indicate the number of best practice recommendations met by the state legislation in the US Department of Education report. The IQR is the difference between the first and third quartiles.

Table 2.

Associations of Compliance With DOE Recommendations With Bullying and Cyberbullying

| Characteristic | Bullying, Odds Ratio (95% CI) | | Cyberbullying, Odds Ratio (95% CI) | |
	Unadjusted	Adjusted[a]	Unadjusted	Adjusted[a]
Overall score				
1 Components	0.69 (0.61–0.76)	0.76 (0.68–0.85)	0.76 (0.68–0.86)	0.80 (0.71–0.91)
0 Components	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
Definition				
1 Components	0.69 (0.61–0.76)	0.76 (0.68–0.85)	0.76 (0.68–0.86)	0.80 (0.71–0.91)
0 Components	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
District policy development and review				
1 Components	0.69 (0.61–0.76)	0.76 (0.68–0.85)	0.76 (0.68–0.86)	0.80 (0.71–0.91)
0 Components	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
District policy components				
1 Components	0.83 (0.73–0.95)	0.85 (0.75–0.96)	0.90 (0.81–1.01)	0.91 (0.82–1.01)
0 Components	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
Additional components				
1 Components	0.74 (0.66–0.83)	0.82 (0.73–0.92)	0.85 (0.77–0.93)	0.89 (0.81–0.98)
0 Components	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]

Abbreviation: DOE, US Department of Education.

[a] Adjusted for state cultural tightness and violent crime rate.

Table 3.

Associations of Individual Legislation Components With Bullying and Cyberbullying

Component	Bullying, Odds Ratio (95% CI)		Cyberbullying, Odds Ratio (95% CI)	
	Unadjusted	Adjusted[a]	Unadjusted	Adjusted[a]
Definition[b]				
1. Purpose	0.81 (0.75–0.87)	0.96 (0.87–1.05)	0.90 (0.84–0.95)	0.97 (0.90–1.05)
2.Scope	0.75 (0.67–0.83)	0.85 (0.76–0.95)	0.82 (0.73–0.93)	0.87 (0.77–0.98)
3. Prohibited behavior	0.74 (0.61–0.89)	0.83 (0.69–0.99)	0.87 (0.83–0.93)	0.92 (0.87–0.98)
4. Enumerated groups	0.99 (0.91–1.08)	0.94 (0.86–1.03)	0.95 (0.88–1.03)	0.93 (0.86–0.99)
District policy development and review				
5. District policy	0.69 (0.61–0.76)	0.76 (0.68–0.85)	0.76 (0.67–0.86)	0.80 (0.71–0.91)
6. District policy review	0.95 (0.87–1.04)	0.93 (0.82–1.06)	0.97 (0.89–1.04)	0.95 (0.67–1.03)
District policy components				
7. Definitions	1.01 (0.94–1.10)	1.04 (0.96–1.12)	0.93 (0.86–0.99)	0.94 (0.87–1.01)
8. Reporting	0.97 (0.90–1.05)	1.02 (0.95–1.11)	0.97 (0.91–1.04)	1.00 (0.94–1.06)
9. Investigations	0.93 (0.87–1.00)	1.03 (0.96–1.12)	0.97 (0.91–1.04)	1.03 (0.96–1.10)
10. Written records	0.94 (0.86–1.04)	0.95 (0.86–1.05)	0.95 (0.85–1.06)	0.95 (0.85–1.06)
11. Consequences	0.86 (0.76–0.97)	0.90 (0.80–1.01)	0.92 (0.83–1.02)	0.94 (0.85–1.03)
12. Mental health referrals	0.91 (0.82–1.00)	0.91 (0.83–1.01)	0.82 (0.83–1.03)	0.93 (0.83–1.03)
Additional components				
13. Communications	0.83 (0.75–0.92)	0.86 (0.77–0.96)	0.92 (0.84–1.01)	0.93 (0.86–1.02)
14. Training and prevention	0.84 (0.73–0.96)	0.89 (0.79–1.00)	0.96 (0.89–1.04)	1.00 (0.93–1.06)

Component	Bullying, Odds Ratio (95% CI)		Cyberbullying, Odds Ratio (95% CI)	
	Unadjusted	Adjusted[a]	Unadjusted	Adjusted[a]
15. Transparency and monitoring	0.98 (0.90–1.06)	0.96 (0.88–1.04)	0.97 (0.90–1.05)	0.96 (0.89–1.05)
16. Legal remedies	1.04 (0.95–1.13)	0.98 (0.89–1.07)	0.99 (0.92–1.06)	0.95 (0.89–1.01)

[a] Adjusted for state cultural tightness and violent crime rate.

[b] Numbers refer to the 16 components described in the Methods section.