Ten-Year Trends in Bullying and Related Attitudes Among 4th- to 12th-Graders

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abstract

BACKGROUND AND OBJECTIVES: Bullying is a significant public health concern, and it has received considerable attention from the media and policymakers over the past decade, which has led some to believe that it is increasing. However, there are limited surveillance data on bullying to inform our understanding of such trends over the course of multiple years. The current study examined the prevalence of bullying and related behaviors between 2005 and 2014 and explored whether any such changes varied across schools or as a function of school-level covariates.

METHODS: Youth self-reports of 13 indicators of bullying and related behaviors were collected from 246 306 students in 109 Maryland schools across 10 years. The data were weighted to reflect the school populations and were analyzed by using longitudinal hierarchical linear modeling to examine changes over time.

RESULTS: The covariate-adjusted models indicated a significant improvement over bullying and related concerns in 10 out of 13 indicators (including a decrease in bullying and victimization) for in-person forms (ie, physical, verbal, relational) and cyberbullying. Results also showed an increase in the perceptions that adults do enough to stop bullying and students' feelings of safety and belonging at school.

CONCLUSIONS: Prevalence of bullying and related behaviors generally decreased over this 10-year period with the most recent years showing the greatest improvements in school climate and reductions in bullying. Additional research is needed to identify factors that contributed to this declining trend.

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WHAT'S KNOWN ON THIS SUBJECT: Bullying is a significant public health concern receiving considerable attention from media and policymakers, leading some to believe that the rates are increasing. However, there are limited surveillance data on bullying available to understand such trends over multiple years.

WHAT THIS STUDY ADDS: The current study included 13 indicators assessed over a 10-year period, including separate forms of bullying (relational, verbal, cyber) and school climate (safety and belonging). Results show significant improvements on bullying and related concerns especially in the most recent years.

ARTICLE

Bullying has received considerable media attention over the past decade and has led some people to believe that bullying is on the rise.[1] Research has also documented the negative impacts of bullying on mental health and behavioral, academic, and health outcomes,[2,3] and all states have now adopted laws that address bullying.[4] Yet, there are limited surveillance data on bullying to examine trends over multiple years. The current study examined the prevalence of bullying and related behaviors and attitudes over 10 years (2005–2014) using a population-based sample of students in grades 4 to 12. The extent to which any such changes varied as a function of school-level covariates was also examined.

Bullying is the form of victimization most frequently experienced by school-aged children.[5–8] Since a landmark, large-scale surveillance study documented that 30% of youth are involved in bullying,[6] there has been a significant increase in the research on various aspects of bullying, including prevalence, risk factors, and correlates.[1,9–12] Multiple studies have documented both short- and long-term problematic effects and correlates of bullying, thereby demonstrating its significance as a public health concern.[1,6,9,11,12] However, few studies have examined prevalence over multiple years; moreover, virtually none of the large, population-based studies have included longitudinal data or an in-depth examination of the prevalence across several indicators and characteristics of bullying.[1] Despite these and other limitations regarding the availability of surveillance data on bullying,[1,13] there have been some efforts to formulate conclusions regarding trends over time.[1] For example, Finkelhor summarized bullying trends from 5 US national surveys by suggesting that bullying has decreased since the 1990s with less decline since 2007.[14] The annual

report of the *Indicators of School Crime and Safety*[8] indicated that in 2013, 22% of youth ages 12 to 18 had been bullied, which was down from 28% in 2012.

Nevertheless, there are a number of limitations associated with the extant population-based data sources. For example, several studies have used measures of "bullying," which was not well defined on the survey or did not meet the Centers for Disease Control and Prevention's[13] definition of bullying (ie, intentional aggressive behavior that occurs in the context of a power differential and is repeated or has the potential to be repeated). Moreover, previous studies have focused almost exclusively on victimization with limited exploration of perpetration,[14] multiple forms of bullying (eg, physical, verbal, indirect, electronic), witnessing, or other bullying-related behaviors or attitudes (eg, beliefs about aggressive retaliation).[8] Another limitation is the historical focus on a narrow age range, typically middle and/or early high school, with a lack of trend data spanning elementary through high school.[8] This has precluded the field from formulating strong conclusions regarding potential developmental differences in bullying trends.[7,8,14–16] Most exploration of trends in rates of bullying has been based upon *t* tests comparing the current rates to a single, earlier time point.[8] Finally, few population-based studies have adjusted for school-level covariates despite research suggesting that school factors are potential risk factors for bullying.[6,17,18] In summary, although much of the extant population-based survey research examining trends in bullying over time suggests a decline, there are several limitations caused by the previous studies' large focus on secondary-school students and reliance on a relatively narrow band of indicators across just a few sequential years of data.[8]

The overarching goal of this study was to address the above-mentioned gaps in bullying research by examining trends in 13 indicators of bullying and related attitudes and behaviors in a population-based sample of youth in grades 4 to 12 across a decade. The timing of this study (2005–2014) is also important given the unprecedented increase in attention to this public health issue in recent years.[1] Consistent with extant studies,[1,8,14,16] slight reductions in the rates of bullying over time were expected (with the possible exception of cyberbullying, which smaller-scale studies suggest may be increasing[19] due in part to greater availability of smartphones).[20] We also explored whether the variation in bullying prevalence was functionally associated with school-level covariates[21] such as school size, urbanicity, and school level (eg, secondary versus elementary schools).[5,6,8,15]

METHODS

Sample

Participants were enrolled in grades 4 to 12 within a large public school district in Maryland; 109 schools were included in this analysis, of which 78 were elementary, 19 were middle, and 12 were high schools (see Tables 1 and 2). Alternative and special education settings were excluded because of small sample sizes and differences in the school structures and student populations.

Across the 10 years, there were a total of 246 306 respondents; see Tables 1 and 2 for year-specific data and Table 3 for student demographic characteristics. Student self-report surveys were completed anonymously and therefore could not be linked over time (see weighting procedure below). The student participation rate was ~74% across all schools. For additional information on the data collection, see ref 5.

TABLE 1 Number of Student Responses per Year

Survey Year	No. Schools With Data	Total Students
2005	121	25 249
2006	118	24 606
2007	121	21 146
2008	123	19 756
2009	118	21 120
2010	121	27 894
2011	116	24 086
2012	104	18 412
2013	115	27 270
2014	105	36 767

School demographic data are included for the 109 schools within the analyzed sample. A maximum of 16 schools per year were excluded based on their nongeneral education status and relatively low number of student respondents.

Bullying Measure

An online survey system was developed by researchers at the Johns Hopkins Center for the Prevention of Youth Violence in collaboration with school-based partners (see refs 5,22,23). The content for the survey was based on the Olweus Bully/Victim Questionnaire[24] and the World Health Organization's bullying survey.[6]

Participants in grades 4 and 5 completed an abbreviated version of the full survey to reduce the time and reading comprehension burdens on the younger children. Otherwise, the items completed by fourth- and fifth-graders and sixth- to twelfth-graders were identical. The survey included a definition of bullying that was consistent with the World Health Organization[6] and the Centers for Disease Control and Prevention[13]: "A person is bullied when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other persons. Bullying often occurs in situations where there is a power or status difference. Bullying includes actions like threatening, teasing, name-calling, ignoring, rumor spreading, sending hurtful emails and text messages, and leaving someone out on purpose."[25,26] For additional information regarding the validity and reliability of self-reported measures of bullying using this approach, see refs 13,24.

Prevalence and Forms of Bullying

The primary indicators of interest included whether a student had been a frequent victim of bullying and had frequently perpetrated bullying (ie, 2 or more experiences) in the past month.[24,25] A multiresponse item asked respondents to indicate whether they had experienced as a victim (yes/no) specific forms of bullying within the past month[5,22,26] including 2 forms of physical bullying (pushing and slapping), 1 form of verbal bullying (threats), 1 form of relational bullying (spreading rumors), and cyberbullying (e-mail and blogs[6,24]). Participants were also asked, "During the past 30 days (month), how often have you seen someone else being bullied" (recoded to seen 1 or more times [1] and not seen [0]; witnessed bullying).

Bullying-Related Attitudes

Attitudes toward aggressive retaliation ("It is okay to hit others if they hit me first"[27]), the overall perception of bullying as a problem ("Bullying is a problem at this school"), and the perceived role of adults in preventing bullying ("Adults are doing enough to prevent or stop bullying") were also assessed. Participants responded on a 4-point Likert scale from strongly disagree to strongly agree. For the current analysis, these items were dichotomized into strongly disagree/disagree (0) and agree/strongly agree (1).

Perceptions of School Climate

A final set of items assessed students' perceptions of belonging[28] ("I feel like I belong at this school") and safety ("I feel safe at this school"). Participants used the same 4-point Likert scale as above, which was also dichotomized, with (1) indicating a more favorable perception of the school.

School-Level Covariates

School-level covariates from 2004 to 2005 (ie, the year preceding data collection) were publicly available data collected from the Maryland State Department of Education and included the school enrollment (ie, number of students), student-teacher ratio, attendance rate (ie, percent of students present in the school for at least half of the average school day during the school year), mobility rate (ie, number of entrants and withdrawals divided by the total enrollment), and the percent of students receiving free and

TABLE 2 Baseline School Demographics by School Level (2005)

School Demographics[a]	Elementary (n = 78)	Middle (n = 19)	High (n = 12)	All Schools (n = 109)
School enrollment	436.21 (137.65)	910.11 (269.48)	1918.33 (360.19)	681.98 (511.32)
Student-teacher ratio	23.79 (3.54)	19.27 (1.66)	22.18 (1.25)	22.83 (3.54)
Attendance rate	95.52 (0.77)	94.21 (1.28)	92.54 (1.58)	94.96 (1.39)
Mobility	21.5 (15.54)	18.59 (8.82)	19.31 (7.75)	20.75 (13.88)
FARMs rate	24.51 (20.46)	23.13 (15.49)	10.18 (7.21)	22.69 (19.07)

[a] Numbers represent mean and SD in parentheses. FARMs, free and reduced-price means.

TABLE 3 Unweighted Student Demographics Across All Years (2005–2014)

	No. Students ($N = 246\,306$)	Percent of Students
Sex[a]		
Male	123 840	50.3
Female	122 170	49.7
Race/ethnicity[a]		
Native American	23 203	9.4
Asian/Pacific Islander	14 501	5.9
African American	45 132	18.4
White	146 768	59.7
Hispanic	16 332	6.6
Grade[a]		
4	37 574	15.3
5	39 902	16.2
6	36 756	14.9
7	36 606	14.9
8	35 742	14.5
9	19 802	8.1
10	18 263	7.4
11	12 304	5.0
12	9 072	3.7

This table summarizes the data across all students, at all time points, and in all surveyed schools.

[a] Does not add to total N because of missing data.

reduced-priced meals (FARMs). The school level (ie, elementary, high) was also included.

Procedure

Each year, the school district administered the online survey over the course of a 3- to 4-week window by using a passive parental-consent process. School staff (ie, teachers, guidance counselors, or school psychologists) administered the survey to students after a written procedure. Language arts classrooms were selected at random after a written procedure developed by the researchers to survey students in grades 4 to 12; the school staff members identified to administer the survey read aloud the instructions and bullying definition and emphasized the anonymous nature of the survey. Data were anonymously self-reported through a password-protected Web site on school computers that was only accessible during school hours. Limited participant demographic information was collected to ensure anonymity. The district provided the nonidentifiable data to the researchers for analysis. This study was approved by the researchers'

institutional review board (for additional detail on methods, see refs 5,17,22,23).

Analyses

Weighting Procedures

The data from years and schools were weighted[29] to reflect the school populations by using grade, sex, and race/ethnicity data provided by students. Specifically, at each time point, survey weights were calculated for each student within his or her school using a raking ratio estimation procedure.[30] The purpose of the weights was to reduce noncoverage biases.[30] The weighted data were then aggregated to the school level at each time point to examine school-level changes in prevalence of the 13 bullying-related indicators over time. Percentages were calculated using the weighted count of students who endorsed each item divided by the total student weights in the school.

Hierarchical Linear Modeling

Repeated measures, 2-level growth models in hierarchical linear modeling (HLM) version 7[31] were fit

for each of the 13 bullying indicators. Level 1 represented the 10 years of repeated observations for each of the school-level percentages, and Level 2 represented the school.

Fully unconditional (ie, unadjusted) models, with only a variable representing time as the predicting covariate, were fit for each outcome, allowing for an examination of the initial between-school variability as well as the unadjusted intercept (ie, prevalence) and slope (ie, growth) estimates. Covariate-adjusted models included school type (elementary, high), enrollment, attendance, student mobility, student-teacher ratio, and percentage of students receiving FARMs to predict the intercept and slope of time at Level 2. Grand-mean centering was employed for all continuous covariates whereas the dichotomous school-type variables were uncentered.[32] Intraclass correlation coefficients (ICCs) and Cohen's d effect size estimates were calculated as indicators of the change across time.

RESULTS

Weighted Descriptive Findings

See Table 4 for the weighted average responses and effect size of the changes across time for each of the 13 indicators. The rates of self-reported, frequent-bullying victimization ranged from 13.4% to 28.8% across the decade. With regard to bullying perpetration, the rates ranged from 7.0% to 21.3%. See Table 4 for ranges for the other indicators.

Covariate-Adjusted HLM Models

See Table 5 for both unadjusted and covariate-adjusted models.

Trend Analysis

There were 10 statistically significant slope effects in the unadjusted models, thereby indicating

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TABLE 4 Weighted Percent of Students Endorsing Each Item Regarding Bullying

Item	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Cohen's d
Victimized	28.5	28.2	28.8	28.2	25.5	23.5	22.7	19.4	17.7	13.4	−0.33
Victimized by											
Push, shove	29.7	27.4	28.3	28	23.5	19.9	18.4	14.9	12.2	5.9	−0.52
Hit, kick, slap	21.8	21.8	21.3	21.2	17.7	14.8	13.2	10.3	8.8	4.5	−0.42
Threats	19.1	21.9	21.5	21.8	18.7	16.3	15.6	12.3	11.4	6.7	−0.32
Cyber	6.0	6.9	6.3	8.5	7.8	7.8	7.3	6.2	7.1	3.6	−0.10
Rumors	33.9	30.9	30.5	28.6	25.3	22.6	21.9	18.9	17.7	9.0	−0.53
Perpetrated bullying	21.3	15.9	13.7	11.8	10.2	9.8	8.3	7.0	7.1	7.1	−0.35
Witnessed bullying	66.4	65.7	62.8	61.9	59.2	56.9	54.5	50.2	47.9	42.7	−0.50
Aggressive retaliation	50.2	52.0	46.5	46.4	47.1	50.4	48.8	47.7	58.4	52.1	0.04
"Bullying is a problem"	50.1	45.5	41.6	43.5	44.7	49.1	48.9	48.4	45.0	48.0	−0.04
"Adults do enough"	38.8	40.8	44	42.4	41.2	45.4	58.4	54.8	51.3	71.3	0.67
Safety	78.6	76.4	78.5	78.9	80	80.2	81.2	83.5	81.1	88.5	0.24
Belonging	81.8	80.4	81.6	82.6	82.8	80.3	81.4	81.7	76.8	79.1	−0.07

Cohen's d was calculated as the difference between the 2005 and 2014 prevalence rates divided by the SD of prevalence rates in 2005. It serves as an effect size estimate.

statistically significant changes over time. Specifically, being victimized (overall, β = −.02, P < .001), as well as being victimized by being pushed (β = −.03, P < .001), hit (β = −.03, P < .001), threatened (β = −.02, P < .001), cyberbullied (β = −.01, P < .001), and having rumors spread (β = −.02, P < .001) all decreased significantly over the 10 years. In addition, the prevalence of perpetrating bullying decreased significantly (β = −.02, P < .001); the same was true for witnessing bullying (β = −.04, P < .001). In terms of attitudes, significantly fewer students reported aggressive retaliatory attitudes over the 10 years (β = −.01, P < .001). Although perceptions that adults do enough to stop bullying showed significant improvement in the unadjusted models, it was no longer significant in the covariate-adjusted model. Finally, a statistically greater proportion of students reported feeling safe at school over time (β = .02, P < .001).

Associations With Covariates

The most consistently significant school-level covariate associated with the outcomes was school level. With regard to the intercept, elementary schools reported fewer bullying concerns compared with middle and high schools. With regard to the slope, elementary schools showed significantly less decline

in reports of witnessing bullying over time compared with middle schools (β = .015, P < .01). Reports of feeling safe in elementary schools had significantly less improvement over time compared with middle schools (β = −.014, P < .01) whereas high schoolers reported significantly greater improvement in feelings of safety compared with middle schoolers (β = .02, P < .01). High schoolers demonstrated greater declines in witnessing bullying across time compared with middle schoolers (β = −.02, P < .05). See Table 5 for additional associations with covariates and the ICCs illustrating the extent of correlation among each variable over time.

DISCUSSION

This study examined the prevalence rates of 13 bullying-related indicators in a population-based sample over 10 years. Survey data from nearly one-quarter of a million students indicated that bullying has remained a prevalent, although declining, experience for school-aged youth. Specifically, 13.4% to 28.8% of students reported experiencing bullying in the past month, and approximately half of the students reported witnessing bullying. These estimates are consistent with recent bullying-prevalence reports,[8] and they add to the current literature

with the inclusion of a younger sample of youth. Despite these fairly high prevalence rates, the covariate-adjusted results for 10 of the 13 indicators suggested things may be getting better, as indicated by a reduction in bullying prevalence and related attitudes. The effect sizes of the change were in the small-to-moderate range (ranged 0.04–0.67) when comparing the first and last years' data.

Some forms of victimization were commonly and consistently experienced across years (eg, relational). The prevalence of cyberbullying was consistently <10% and is comparable to the National Center for Education Statistics and the Bureau of Justice Statistics[8] data. Based on previous research,[19] it was hypothesized that cyberbullying might increase, but consistent with the other forms of bullying, cyberbullying also decreased. However, given the rapid change of technology and new social media platforms used by youth and increasingly at younger ages, the nature and quality of cyberbullying may change; therefore, future studies should examine cyberbullying in greater detail (eg, broader definitions).[33] Physical, verbal, and relational bullying experiences dropped ~2% each year to below 10% in the most recent year. Rates of perpetration reduced by 1% to

TABLE 5 Weighted Fully Unadjusted and Full (Covariate-Adjusted) HLM Model Results

		Unadjusted		Full Model		Full Model Effects on the Intercept							Full Model Effects on the Slope						
Item	ICC	Intercept	Slope	Intercept	Slope	ES	HS	Ratio	Enroll	Attend	Mobility	FARM	ES	HS	Ratio	Enroll	Attend	Mobility	FARMs
Victimized	0.08	0.33[a]	−0.017[a]	0.32[a]	−0.018[a]	0.008	0.063	−0.001	0.000	−0.013	0.001	−0.001	0.004	−0.016	0.000	0.000	0.002	0.000	0.000
Victimized by																			
Push, shove	0.05	0.35[a]	−0.025[a]	0.34[a]	−0.027[a]	0.341	0.011	−0.013	0.001	0.000	−0.014	0.001	0.004	−0.007	0.000	0.000	0.002	0.000	0.000
Hit, kick, slap	0.11	0.27[a]	−0.021[a]	0.29[a]	−0.025[a]	−0.040	0.043	0.004[a]	0.000	−0.013	0.002	0.001	0.007[a]	−0.013	−0.001[a]	0.000	0.001	0.000	0.000
Threats	0.11	0.24[a]	−0.014[a]	0.26[a]	−0.017[a]	−0.027	0.044	0.001	0.000	−0.004	0.002	0.002[a]	0.005	−0.007	0.000	0.000	0.001	0.000	0.000
Cyber	0.07	0.08[a]	−0.002[a]	0.10[a]	−0.005[a]	−0.048[a]	0.090[a]	−0.001	0.000	0.001	0.002	0.000	0.004[a]	−0.006	0.000	0.000	0.000	0.000	0.000
Rumors	0.08	0.37[a]	−0.024[a]	0.38[a]	−0.024[a]	−0.021	0.036	0.005	0.000	0.005	0.001	0.002[a]	0.000	−0.008	−0.001	0.000	−0.001	0.000	0.000
Perpetrated bullying	0.03	0.16[a]	−0.014[a]	0.18[a]	−0.015[a]	−0.062[a]	0.085[a]	−0.003	0.000	−0.017	0.000	0.001[a]	0.006[a]	−0.010	0.000	0.000	0.002	0.000	0.000
Witnessed bullying	0.12	0.68[a]	−0.026[a]	0.80[a]	−0.036[a]	−0.191[a]	0.135[a]	0.008[a]	0.000	0.017	0.001	0.002[a]	0.015[a]	−0.016[a]	−0.001	0.000	−0.002	0.000	0.000
Aggressive retaliation	0.16	0.44[a]	−0.010[a]	0.65[a]	−0.011[a]	−0.307[a]	0.130[a]	−0.003	0.000	−0.013	0.002	0.003[a]	0.001	−0.006	0.001	0.000	−0.001	0.000	0.000
"Bullying is a problem"	0.05	0.49[a]	−0.004[a]	0.50[a]	−0.004	—	−0.032	0.007	0.000	−0.019	0.002	0.002	—	−0.002	−0.004[a]	0.000	0.000	0.001	−0.001
"Adults do enough"	0.13	0.35[a]	0.023[a]	0.36	0.006	—	−0.034	0.000	0.000	0.001	−0.006	0.002	—	0.001	−0.004	0.000	0.001	0.001	−0.001
Safety	0.09	0.77[a]	0.008[a]	0.68[a]	0.016[a]	0.151[a]	−0.111[a]	−0.008[a]	0.000	0.017	0.000	−0.003[a]	−0.014[a]	0.020[a]	0.001[a]	0.000[a]	−0.002	0.000[a]	0.000[a]
Belonging	0.12	0.83[a]	−0.002	0.77	0.003	0.096[a]	−0.054	−0.001	0.000	0.004	0.000	−0.002[a]	−0.006	−0.006	0.000	0.000	0.000	0.000	0.000

ES is not modeled for "bullying is a problem" or "adults do enough" because the items were not asked in elementary schools. Attend, attendance rate; Enroll, school enrollment; ES, elementary school; HS, high school; Ratio, student-teacher ratio; —, not applicable.
[a] Significant effect.

2% per year and dropped below 10% in recent years. Furthermore, witnessing bullying also decreased significantly across the decade.

Approximately 80% of students reported feeling safe and like they belong at school across the decade. Interestingly, ratings of safety, but not belonging, improved significantly over time. There were clear differences regarding bullying and climate across school levels. For example, high schools showed the most improvement across time; although this is promising, bullying peaks during middle school,[5] so additional supports may be necessary during these school years. Although the yearly changes for all of the outcomes were small, some of these changes were fairly substantial across 10 years, as indicated by the effect size estimates comparing the first and last years (average $d = 0.325$). Notably, the most recent years evinced the greatest improvements in school climate and reductions in bullying. This could be due to the increase in bullying policies[4] over the past decade as well as the simultaneous increase in effective evidence-based programming aimed at reducing school-based bullying.[2,34] These factors could be associated with further decreases in bullying in years to come,[34] so it will be important to continue to surveil these indicators over time.

The significant associations between school-level covariates and the change in bullying indicators were limited and not consistent across outcomes. Given the small magnitude of the covariate estimates and the large number of outcomes examined, readers should be cautious in the interpretation of the trends regarding school-level covariates.

Although this study possesses strengths such as the population-level sampling, the large sample size,

the broad age range surveyed, and the longitudinal nature of the data, some limitations should be noted. For example, student data across years were not linked, given the anonymous nature of the survey, which limited the analyses that could be conducted. The anonymity was, however, an essential part of maximizing response rates and may have contributed to students being more candid in their responses; given the sensitive nature of the data collected, anonymity decreases the chances of response bias related to social desirability, which could otherwise be a threat to validity. Although the data collection and sampling procedures were consistent across the 10 waves of data collection, the district leadership has placed greater emphasis on the collection of data in recent years; this may have contributed to a slight uptick in the number of students participating in the survey in the last year of the data collection. However, the weighting procedure allows for generalizability of the sample to the full population of students within these schools. The use of sampling weights was a strength of this study, although we were somewhat limited in the number of variables we had to use as weights; therefore, we relied largely on basic demographic information that was available at both the student and school levels. This is a common approach in large-scale survey research.[30]

Although this study addresses the prevalence of bullying-related indicators over a decade, it does not shed light on what accounts for these changes. Information related to particular school efforts, programs, or initiatives to which reductions in bullying or related attitudes could be attributed was not assessed and, therefore, could not be examined. Future research is needed to systematically examine the implementation of antibullying programs and policies and the impact of these efforts.

CONCLUSIONS

The current findings suggest that there have been some improvements in the rates of bullying between 2005 and 2014. Although promising, it is important to emphasize that a large proportion of youth are still experiencing bullying, and the current prevalence rates continue to be of great concern.[1] Nevertheless, these findings do contradict the public's (mis)perception that bullying is increasing.[1,35] With greater attention given to bullying in recent years, it is encouraging to see that there may be some improvements.

ABBREVIATIONS

FARM: free and reduced-priced meal
HLM: hierarchical linear modeling
ICC: intraclass correlation coefficient

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