HHS Public Access

Author manuscript

Transl J Am Coll Sports Med. Author manuscript; available in PMC 2023 June 21.

Published in final edited form as:

Transl J Am Coll Sports Med. 2021 ; 6(2): . doi:10.1249/tjx.0000000000000161.

"Waiving" Goodbye to PE: State Law and School Exemption and Substitution Practices in the United States

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Abstract

Purpose: The importance of schools providing physical education (PE) and promoting physical activity (PA) and the benefits of PA for children are well documented. However, a majority of students do not get the nationally recommended 60 min of daily PA. Many states grant waivers, substitutions, or exemptions from PE despite national recommendations. This study examined the association between state laws allowing for the use of PE substitutions and exemptions and school-level substitution and exemption practices.

Methods: School-level PE exemption and substitution data from the 2014 School Health Policies and Practices Study were linked to state law data from the National Wellness Policy Study and the National Cancer Institute's 2013 Classification of Laws Associated with School Students. The analytic sample included 320 schools located in 42 states. Separate multivariable logistic

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An earlier version of this article was presented at the 2017 Active Living Research Conference in Clearwater Beach, Florida. Funding for this study was provided by the National Cancer Institute to the Institute for Health Research and Policy at the University of Illinois Chicago through a subcontract from Westat, Inc. (subcontract numbers 6048-S05 and 66302.01.S04) and from a cooperative agreement grant to the Institute for Health Research and Policy/ University of Illinois Chicago from the U.S. Department of Agriculture (grant number FNS-OPS-SWP-15-IL-01). The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention, the National Institutes of Health, the National Cancer Institute, the U.S. Department of Agriculture, or the authors' employers.

No authors have any financial or nonfinancial conflicts of interest to declare. The results of this study do not constitute any endorsement by the American College of Sports Medicine.

regression models linked five types of school PE exemptions/substitutions to corresponding state laws, controlling for school characteristics.

Results: Overall, 24 of the 42 states had laws addressing PE waivers, exemptions, or substitutions. Schools had higher odds of allowing PE substitutions for school sports (adjusted odds ratio (AOR), 3.59; 95% confidence interval (CI), 1.33–9.68), other school activities (AOR, 8.52; 95% CI, 2.90–25.03), and community sports (AOR, 4.30; 95% CI, 1.43–12.96) and allowing exemptions for fitness test scores (AOR, 4.67; 95% CI, 1.49–14.62) or vocational training (AOR, 5.92; 95% CI, 1.04–33.68) if state law allowed it, compared with schools in states that did not allow such practices.

Conclusions: Given the connection between PA and beneficial outcomes for children, decision makers, school administrators, practitioners, advocates, and researchers should consider and further examine how PE waiver, exemption, and substitution policies and practices may affect students' PA and related outcomes.

INTRODUCTION

It is well established that children benefit from physical education (PE) and physical activity (PA). Studies have shown that active and fit students consistently outperform less active students academically, including demonstrating better classroom behavior, greater ability to focus, and lower rates of absenteeism (1,2). The role of schools in providing and promoting PE and PA has been emphasized consistently, as children and adolescents from all backgrounds spend more than half their waking hours in school (3). PE is a key evidence-based strategy for providing and promoting PA during the school day (4,5). One of the objectives of *Healthy People 2020* was to increase the proportion of the nation's public and private schools that require daily PE for all students(6).(*Healthy People 2030* did not include school-level PE objectives.) Daily PE is important given that less than 30% of high school students get the nationally recommended 60 min of daily PA (7–9). Thus, PE opportunities during the day may be the only opportunity or exposure to PA for children and adolescents (4).

Given that PE is one of the primary opportunities for children to obtain PA during the school day and that it is the foundation of a Comprehensive School Physical Activity Program (10), concerns have been raised by government agencies, PE practitioners, advocates, and researchers about granting waivers or exemptions from PE (11–14). The Society of Health and Physical Educators (SHAPE America) recommends that all K-12 students take all required PE courses and that no substitutions, waivers, or exemptions should be permitted, as classes and activities that provide PA (e.g., marching band, cheerleading, and school and community sports) have important but distinctly different goals than PE (15). "Waivers" are typically granted from the state to school districts or schools. Upon receiving a waiver from the state, the given district/ school no longer has to comply with the state-mandated PE class time or credit requirements (15). "Exemptions" are granted by a school district and/or a school to a student to be excused from PE class time or credits when participating in other academic courses or activities or sometimes because of medical illness or disability (15). "Substitutions" occur when school districts or schools allow students to "substitute" other activities, typically Junior Reserve Officers' Training Corps (JROTC), interscholastic sports,

community sports, marching band, cheerleading, and other activity-related undertakings (15).

Although physical and sport educators recommend against such practices (11,12), data from the *2016 Shape of the Nation Report* indicate that granting or allowing waivers, substitutions, and exemptions is common. According to the report, 15 states allow school districts to apply for a waiver from the state PE requirements, up to 31 states allow other activities as substitutions for PE credit, and 30 states have policies that allow student exemptions from PE class time or credit (16). Data from the Centers for Disease Control and Prevention indicate that, although more than 75% of schools prohibited substitution of other activities (e.g., marching band and sports) for PE, only 24% of schools prohibited exemptions for PE in school year 2014 (the last year that such data were collected by the agency) (17).

Currently, there is a paucity of empirical evidence on the effect of state policies that allow districts/schools to issue exemptions or substitutions for PE (3,18,19). Furthermore, to our knowledge, there are no published studies examining the association between state policies that allow for the use of PE substitutions and exemptions and school-level substitution and exemption practices; that is the purpose of this study. Given the importance of PE and the concerns surrounding the use of exemptions and substitutions, this study could inform decision makers at all levels.

METHODS

Participants and Instruments

School-level data on PE exemptions and substitutions were obtained from the Centers for Disease Control and Prevention's 2014 School Health Policies and Practices Study (SHPPS), conducted between February and June 2014. The 2014 SHPPS provides the most recent national data on PE substitutions and exemptions at the school level. Detailed information on the SHPPS methods has been published elsewhere (20). The SHPPS was reviewed and determined to be exempt under federal regulation 45 CFR 46.101(b).

The SHPPS has been periodically conducted at the state, district, school, and classroom levels since 1994. In 2014, data were collected at the school and classroom levels from a nationally representative sample of public, private, and state-administered K-12 schools drawn using a two-stage sample design with probability proportional to size. Trained interviewers completed each questionnaire module with the most knowledgeable respondent, as determined by the principal or other school contact, using computer-assisted personal interviews.

The analyses presented herein used data from the general PE module of the PE and activity questionnaire (21), for which the participation rate (percentage of eligible schools that participated in the study and completed at least some questions in the module) was 70%. About 8 in 10 (81%) of respondents were PE teachers. Respondents were asked, "Must students attending your school take any PE as a requirement for graduation or promotion to the next grade level or school level?" If they answered yes, they were asked to indicate if

students could be exempted for one grading period or longer from taking required PE for any of 10 reasons. These analyses examined seven of these reasons: 1) achievement of positive, passing, or high physical fitness test scores; 2) participation in school activities other than sports, such as band or chorus (or JROTC, for high school students); 3) participation in community sports activities; 4) participation in community service activities; 5) enrolment in other courses, such as math or science; 6) participation in school sports; and 7) participation in vocational training. Item 2 used slightly different wording at the elementary/middle and high school levels but was treated as a single item for purposes of these analyses. The last three items were only asked at the middle and high school levels. Exemptions for religious reasons, long-term physical or medical disability, and cognitive disability were not analyzed, as they are not governed by the activity-related state exemption or substitution laws. Finally, although the SHPPS questionnaire specifically asked whether students could be "exempted" from PE, a number of the reasons given as response options in the survey include what would typically be exemptions (e.g., enrollment in other courses, such as math or science) as well as those that would typically be considered a "substitute" (e.g., JROTC or school sports). Thus, for this analysis, we refer to the school practices as being either exemptions or substitutions.

Procedure

School-level data on PE exemptions and substitutions were linked to state law data on PE waivers, exemptions, and substitutions. The state laws were compiled through a two-step process. First, state laws that allowed for PE waivers, exemptions, or substitutions (of any kind) were identified from the National Wellness Policy Study and from the National Cancer Institute's Classification of Laws Associated with School Students (CLASS; https://class.cancer.gov/) (22,23). Second, these initial laws were reviewed using commercial legal databases, Lexis and Westlaw (24,25), by two study authors (who are licensed attorneys) to code them for the types of activities or school practices that the given PE waiver, exemption, and/or substitution applied to and, in addition, to code whether the activity was "allowed" or was "prohibited or discouraged" for each school level. State laws that "allowed" for waivers, exemptions, and/or substitutions explicitly permitted them at the district or school levels. State laws that "prohibited or discouraged" these practices either did not allow them outright (prohibited) or discouraged districts or schools from allowing them. Laws were deemed relevant if in effect as of December 31, 2013, to correspond to the timing of SHPPS 2014 data collection. A table providing examples of the type of language included in the state laws is provided in the Supplemental Content, http://links.lww.com/TJACSM/A131.

School characteristics were included as control variables. School level (elementary, middle, or high school) was taken from the SHPPS data, and region was derived from state location, based on Census classifications (26). Data on the racial/ethnic distribution of enrolled students, free/reduced-price lunch eligibility, number of students, and locale were obtained from Market Data Retrieval (27) and were linked to the SHPPS data sets. Student race/ethnicity was summarized by a categorical variable historically used to classify school-level proportions of student racial and ethnic groups (28): ≥66% non-Hispanic White, ≥50% non-Hispanic Black, ≥50% Hispanic, and other. The percentage of students eligible for free or reduced-price lunch was used as a proxy for socioeconomic status (SES) (29) and was

categorized in three levels: ≤40%, >40–<75%, and ≥75%. The 40% cutoff aligned with the school-level Title I threshold (30), whereas the 75% cutoff has been used by the National Center for Education Statistics to identify high-poverty schools (31). Student enrollment was categorized as small, medium, and large, with different cutoffs for elementary and middle schools as opposed to high schools to maintain similar numbers of schools in each category across school levels. For elementary and middle schools, enrollment was categorized as ≤300, 301–500, and >500. For high schools, enrollment was categorized as ≤350, 351–800, and >800. Locale was coded as urban, suburban, town, and rural based on metrocentric locale codes, which were collapsed from eight to four levels.

Because the state laws applied to public schools and school districts specifically, analyses excluded private and state-administered schools such as those of the Bureau of Indian Education and schools located on military bases. This reduced the sample from 574 to 458 schools. Analyses were restricted to schools that required PE for graduation or promotion to the next grade/school level, which further reduced the sample to 359 schools. Missing data on school characteristics reduced the sample to 321 schools, whereas item-specific missing data on school PE waivers reduced the final analytical sample to between 309 and 315 schools, or between 222 and 225 schools for those analyses limited to middle and high schools. The analytic sample was statistically comparable to the full sample except for school size, with the full sample comprising more smaller schools (original, 58.5%; analytic, 30.5%) and the analytic sample comprising more medium (original, 17.9%; analytic, 28.2%) and larger schools (original, 23.7%; analytic, 41.4%).The analytical sample was located in 42 states, only excluding Alaska, Delaware, the District of Columbia, Hawaii, New Hampshire, New Mexico, Oregon, South Carolina, and Vermont (Oklahoma was also excluded in some analyses limited to middle and high schools, as no middle or high schools in Oklahoma were included in the sample after the aforementioned exclusions).

Data Analysis

SHPPS and state law data were linked on state name and school level. Survey-weighted descriptive statistics were computed separately by school level. Separate multivariable logistic regression models linked five of the seven school PE exemptions or substitutions to the corresponding state law variable, controlling for school characteristics. We were unable to provide the results of regression analyses for two SHPPS outcomes: 1) state laws did not address community service as a PE substitution or exemption, and 2) the estimates for the analysis linking state law to enrollment in other courses were imprecise. All other models shown herein passed link tests of model specification. In addition, because only one state allowed for fitness tests as an exemption, it was not possible to assess the association between state law for this exemption and schools allowing it; instead, we assessed whether there was an association between state law allowing “any exemptions” and schools allowing an exemption for fitness test results. Adjusted prevalence estimates were computed from the models showing the average predicted probability of having each type of exemption or substitution if all schools were in states that did versus did not allow the given exemption or substitution in state law. For instance, if the adjusted prevalence of a substitution for participating in school sports is 26% when state law allows this substitution, this suggests that if all states allowed this substitution, then 26% of schools nationwide would allow such

an exemption. Analyses were carried out in Stata using *svy* commands to account for the complex survey design (32).

RESULTS

Sample Characteristics

Table 1 presents the survey-weighted characteristics of the analytic sample and the school-level prevalence of the various exemptions and substitutions. A higher percentage of middle and high schools reported providing PE exemptions or substitutions than elementary schools. Across all school levels (including elementary), PE exemptions or substitutions for students participating in school activities other than sports (11.2% at the elementary, 14.2% at the middle school, and 32.5% at the high school levels) were the most commonly reported practice. Notably, at the high school level, more than one-quarter of schools reported that students were granted PE exemptions or substitutions for participating in school sports, and at the middle school level, more than 1 in 9 schools (11.6%) reported granting PE exemptions or substitutions for enrollment in non–activity-related courses such as math or science. Overall, approximately one half of schools had ≥66% non-Hispanic White enrollment, and schools were dispersed across types of locales, SES, school size, and region of the country.

Variation in State Laws for the Analytic Sample of States

As of December 2013 (the year of the state laws included in this study), laws in 24 of the 42 states included in the analysis addressed PE exemptions, substitutions, or waivers. (Two additional states (Delaware and South Carolina) had relevant laws but were not included in the analysis because no SHPPS data were available for the state. The Supplemental Content, http://links.lww.com/TJACSM/A132 provides details on all states with relevant laws as of December 31, 2013.)

Table 2 summarizes the extent to which state laws allowed waivers for PE or addressed (i.e., allowed or prohibited/discouraged) each of the seven types of exemptions or substitutions addressed in the SHPPS survey. Overall, states included in the analysis were more likely to allow rather than prohibit/discourage each of the provisions. Substitutions were more commonly addressed than exemptions, and they were both more common for high school rather than middle or elementary school levels. The most commonly addressed provisions were substitutions for school sports, other school activities, and community sports.

Association between School Practices and State Laws

Results of the multivariable analyses examining the association between the school-level exemptions and substitutions and state laws allowing for the given exemption or substitution are presented in Table 3. In each of the five school practices modeled, schools had significantly higher odds of granting PE exemptions or substitutions in states with laws allowing exemptions or substitutions as compared with schools located in states that did not allow such practices (Table 3). The wide confidence intervals for some of the analyses (in particular, participation in school activities other than sports and participation in vocational training) should be noted. We speculate that this is due to somewhat limited prevalence

of the given school-level substitutions/exemptions and relevant state laws for certain grade levels.

We also assessed whether state laws that prohibited/discouraged the given exemptions or substitutions were associated with school practices and whether state PE waiver provisions were associated with school practices. None of these models was significant.

DISCUSSION

To our knowledge, this was the first study to examine the prevalence of school PE substitution or exemption practices in states with laws allowing for exemptions or substitutions from PE. Overall, we found that school-level PE exemptions and substitutions are more common (but not universal) in states with laws that explicitly permit exemptions and substitutions, although there are some schools that allow for these practices in the absence of state law in this area. In addition, although authoritative organizations recommend against granting students waivers from PE, codified laws in three states allowed for such waivers at the time of this study. The fact that school-reported practices are not fully aligned with or compliant with state laws is an area for further study. Understanding how PE exemptions, substitutions, and waivers are implemented in practice and situations that would warrant a variation from compliance with state law would be useful, particularly because state-level reports of policies and practices included in the most recent edition of the *Shape of the Nation Report* suggest that noncodified policies and practices at the state level are even more common than the codified laws (16).

Given that children and adolescents' rates of daily PA fall well below the 2018 Physical Activity Guidelines for Americans' recommendations (9,33), it is necessary to identify opportunities to increase PA throughout the day, including at school where children spend the vast majority of their waking day for, on average, 180 $d \cdot y^{-1}$. Somewhat surprisingly, although the practice of PE exemptions and substitutions is somewhat common in schools, very few studies have examined this issue beyond reports of prevalence (19,20,34,35). To our knowledge, only one study by Mears (18) has examined the effect of high school PE substitutions or waivers (along with other PE standards) on PA levels of young adults who were granted PE substitutions or exemptions (along with being exposed to other PE standards) and found no difference in activity levels among those granted substitutions or waivers (term used by the authors) compared with those who were not. One consideration with Mears's study for the current discussion was that it focused on several state policy provisions that contribute to quality PE including teacher certification, curriculum standards, and required PE credits for graduation in addition to state allowances for exemptions or substitutions. Thus, it is not possible to determine from that study whether waivers or substitutions were or were not the reason for no difference in young adult PA levels (18).

In addition, Lounsbery and colleagues (3) examined student engagement in moderate-to-vigorous PA in PE as compared with JROTC, which is among the types of activities for which schools grant substitutions (Table 2). They found that students participating in PE were engaged in significantly more moderate-to-vigorous PA during PE than during JROTC sessions and that they were significantly less sedentary. Although the current study did not

examine the association between state PE exemption or substitution laws and students' PA time either in or out of school, it does contribute to the limited literature on PE exemptions and substitutions by showing how they are more prevalent in schools located in states that explicitly allow such practices. Future studies should examine the effect of PE exemptions or substitutions on students' activity levels both in- and out-of-school.

The findings in this study should be considered with the following limitations in mind. First, this was a cross-sectional analysis examining the association between state laws and school practices; thus, it is not possible to conclude whether state laws caused or led to the school practices. Second, this study was limited to only 1 yr of data. Because of the school-level data collection cycle for the SHPPS, we were unable to include data beyond school practices for 2014; the 2016 SHPPS data (last year of collection) only includes district-level policies and practices. Ideally, future research will examine whether the associations found herein continue over time. A review of the relevant state laws identified only three new substitutions and two substitution repeals as of 2019; thus, we expect the results would be fairly consistent if more current school-level data were available. Third, this study was unable to examine how the state laws are implemented by school districts and schools in practice; this is an area for future study. Fourth, because of the relatively small sample sizes by school level and the fact that not all exemptions or substitutions applied to each school level, we did not have the power to adequately test for school-level moderators, which would be another area for further exploration. Finally, and as noted previously, this study did not examine the association or effect of the state laws on students' PA time, which is clearly warranted. Although physical and sport educators recommend against PE waivers, exemptions, and substitutions (11,12), data are clearly needed to document the actual effect of such policies and practices on students' PA and related health outcomes.

In summary, this was a novel study to examine the extent to which schools report providing students with PE exemptions and substitutions in states that allow for them. We found both state law and school PE exemption and substitution practices to be most common at the high school level. Given the connection between PA and academic outcomes (1,2,16,36) and the importance of academic achievement for students' future educational and health-related outcomes, decision makers, school administrators, practitioners, advocates, and researchers should further examine PE waiver, exemption, and substitution policies and practices and their effect on students' PA and related outcomes.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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TABLE 1.

Survey-Weighted Characteristics of a Nationally Representative Sample of 320 Schools from the 2014 SHPPS.

	% of Schools by School Level		
Variable	**Elementary (*n* = 92)[a], %**	**Middle (*n* = 89)[a], %**	**High (*n* = 139)[a], %**
School-level PE exemption or substitution granted for…			
Positive/passing/high physical fitness test scores	8.1	10.3	8.8
Participation in school activities other than sports such as band or chorus (or JROTC at the high school level)	11.2	14.2	32.5
Participation in community sports activities	8.6	10.2	5.0
Participation in community service activities	9.1	3.1	2.2
Enrollment in other courses, such as math or science[b]	—	11.6	8.6
Participation in school sports[b]	—	7.9	27.9
Participation in vocational training[b]	—	2.8	9.5
Majority race			
≥66% Non-Hispanic White	48.0	54.8	58.2
≥50% Non-Hispanic Black	13.9	12.9	11.1
≥50% Hispanic	15.7	15.7	14.7
Other	22.3	16.6	16.1
School locale			
Urban	32.8	27.5	16.9
Suburban	36.3	29.9	33.1
Town	11.3	9.6	9.9
Rural	19.6	33.0	40.1
School-level SES (based on free/reduced-price lunch eligibility percentage)			
High (≤40%)	38.2	48.2	51.2
Medium (>40–<75%)	36.9	37.0	38.0
Low (≥75%)	24.9	14.8	10.8
School-level student enrollment			
Large (elementary/middle, >500; high, >800)	40.9	42.7	41.0
Medium (elementary/middle, 301–500; high, 351–800)	30.5	25.5	26.6
Small (elementary/middle, ≤300; high, ≤350)	28.6	31.8	32.4
Region of the country where school is located			

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Variable	% of Schools by School Level		
	Elementary (n = 92)[a], %	Middle (n = 89)[a], %	High (n = 139)[a], %
West	18.3	18.9	21.6
Midwest	31.0	26.0	31.9
South	36.5	31.6	32.1
Northeast	14.2	23.5	14.4

[a]Because of item-specific missing data, sample size ranges were n = 85–92 (elementary), n = 87–89 (middle), and n = 133–139 (high).

[b]These questions were not asked at the elementary school level.

TABLE 2.

Number of States in the Analysis Addressing PE Waivers, Substitutions, or Exemptions by School Level of Applicability.

State Law Focus	School Level			No. States in the Analysis with Relevant Laws That Allow (A) Given Provision
	Elementary	Middle	High	
Waivers				
Allows districts to apply for a waiver from state-level PE requirements (e.g., daily PE)	3 (A)	3 (A)	3 (A)	3
Substitutions				
Participation in school sports/athletics	3 (A) 2 (P)	6 (A) 2 (P)	17 (A) 3 (P)	17
Participation in school activities other than sports (e.g., JROTC, marching band, cheerleading)	0 (A) 1 (P)	1 (A) 1 (P)	12 (A) 2 (P)	12
Participation in community sports activities	1 (A) 1 (P)	2 (A) 0 (P)	7 (A) 0 (P)	8
Participation in community service activities	0	0	0	0
Exemptions				
Fitness/physical performance test results	0 (A) 1 (P)	0 (A) 0 (P)	1 (A) 0 (P)	1
Enrollment in other courses, such as math or science	1 (A) 1 (P)	1 (A) 0 (P)	3 (A) 0 (P)	4
Participation in vocational training	0 (A) 1 (P)	0 (A) 0 (P)	3 (A) 0 (P)	3

This table illustrates the number of states (out of 42 included in the analysis) that allow (A) or prohibit/discourage (P) PE-related waivers, substitutions, or exemptions in their state law by school level of applicability. Data are based on state laws effective as of December 31, 2013.

TABLE 3.

Adjusted Association between State Laws Allowing Exemptions or Substitutions and Selected[a] School Practices, 2014.

School-Level Substitution or Exemption[b] (No. Schools in Analysis)	AOR	95% CI	Adjusted Prevalence of School Activity if State Law…	
			Allows Substitution/Exemption, %	Prohibits or Does Not Address Substitution/ Exemption, %
Substitution activities				
Participation in school sports (n = 225)	3.59 *	1.33–9.68	26.0	10.8
Participation in school activities other than sports (e.g., JROTC, band; n = 314)	8.52 ***	2.90–25.03	52.3	13.8
Participation in community sports activities (n = 311)[c]	4.30 *	1.43–12.96	18.6	5.9
Exemption activities				
Positive/passing/high physical fitness test scores (n = 315)[d]	4.67 **	1.49–14.62	20.7	6.5
Participation in vocational training (n = 222)[e]	5.92 *	1.04–33.68	19.5	4.7

Each row corresponds to a separate multivariable logistic regression model to examine the association between the school-level PE substitution or exemption practices and the corresponding state law allowing such practices. A significant association with an AOR greater than 1 means that schools in states with a given substitution or exemption law are significantly more likely to engage in the given substitution or exemption practice. Models controlled for school level, majority race, locale, free/reduced-price lunch eligibility, enrollment, and region, as categorized in Table 1. Adjusted prevalences were computed from these models showing the average predicted probability of having each exemption or substitution if all schools were in states that did versus did not allow the given PE substitution or exemption.

[a]Two school practices were not included in this analysis: 1) state laws did not address community service as a PE substitution/exemption, and 2) the estimates of the analysis linking state law to enrollment in other courses were imprecise.

[b]The grouping of school practices by substitution/exemption is based on how the state laws refer to each practice as being either a substitution for PE or an exemption from PE (Table 2 and Appendix).

[c]Because no schools in the analytical sample in the Northeast allowed this substitution, this model did not control for region.

[d]Because only one state allowed fitness tests as an exemption, this model was run with “any exemptions” allowed for the state law predictor rather than the fitness test exemption specifically.

[e]This model did not control for free/reduced-price lunch eligibility or region, as these were both perfect predictors.

*$P < 0.05$.

**$P < 0.01$.

***$P < 0.001$.

AOR, adjusted odds ratio; CI, confidence interval.