

Staffing and Facilities Characteristics are Associated with Physical Activity and Physical Education Practices in Elementary Schools

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Abstract

Providing quality opportunities for students to be physically active while at school is a key aspect of obesity prevention and health promotion efforts. The current study examined physical activity (PA) practices in nationally-representative samples of US public elementary schools during the 2008-11 school year, as well as associations between PA practices and school staffing, and adequacy of indoor recreation facilities. Schools with adequate gymnasium facilities were more likely to conduct physical fitness testing, as well as testing of students' physical education (PE) knowledge and skills. Having PE staff such as a full-time PE teacher and a PE coordinator was associated with greater likelihood of conducting fitness and knowledge testing, and requiring PE staff to receive continuing education training was associated with fitness and skills testing, and with offering additional PA opportunities outside of PE class and recess.

Introduction

As school districts across the nation seek to balance budgets, some districts have reduced physical education (PE) staffing and programming. However, given the continued prevalence of childhood obesity and the importance of physical activity for health and academic outcomes, maintaining high-quality PE in schools is essential. High-quality PE involves not only providing adequate time in moderate-to-vigorous activity, but also teaching children skills to ensure lifelong physical activity (PA). Staffing and training are likely to be a key aspect of providing this knowledge. The current study examines the association between school PE staffing—as well as requirements for staff training—and PA/PE practices such as the use of fitness testing and knowledge assessments, and teaching non-traditional activities in PE class. Also examined are the associations between PE outcomes and facilities, and the duration of PE class time.

Methods

Each school year during 2008-09 to 2010-11, researchers sent surveys to nationally-representative samples of US public elementary schools. Surveys were completed by administrators at a total of 1919 schools (average response rate = 61.2%). Data were weighted to provide inference to schools nationwide.

	% schools
<i>PA/PE practices</i>	
Offers intramural team sports	28.9
Offers extramural team sports	21.9
School-sponsored after-school physical activities	45.8
Organized PA outside of PE and recess	44.9
Participates in President's Challenge Physical Activity & Fitness Awards	55.1
Fitness testing for all students annually	44.0
PE knowledge and skills assessed for all students annually	56.4
<i>Facilities</i>	
Administrator perceives gymnasium facilities as adequate	77.1
<i>Staffing</i>	
PE teacher full-time at school	69.7
PE coordinator: full-time, part-time, or shared among schools in district	19.2
<i>Staff Training Requirements</i>	
PE teachers required to have undergraduate or graduate training in PE	89.2
PE teachers required to be certified, licensed, or endorsed by the state	89.0
PE teachers required to earn continuing education credits on PE topics	72.3

Results

None of the practices in Table 1 changed significantly across the three-year period (all p s > .01). Regression models showed that sports opportunities were not associated with facilities, staffing, or training requirements; however, other PA practices were associated with these characteristics (Table 2). Adequacy of facilities was associated with testing of fitness and PE knowledge and skills. Staffing was also associated with these practices. Required undergraduate training and continuing education were both positively associated with PA practices. However, PE certification was not associated with any of these outcomes.

Conclusion

Practices such as fitness testing and assessment of skills and knowledge are a useful part of a high-quality physical education program, and offering PA opportunities outside of PE class and recess can contribute to the recommended 60 minutes of daily physical activity. School staffing was associated with several PA/PE practices, and specific training requirements for PE staff were associated with students' PA opportunities in schools.

Implications for Practice: As school districts make decisions about the allocation of limited budget resources, it is essential to consider the importance of having sufficient staff—and well-trained staff—for providing quality PE programming.

Table 2: Summary Results from Multivariate Logistic Regressions to Predict School Physical Activity Practices

	Organized physical activity outside of PE class		Participates in President's Physical Fitness Test		Physical fitness tested annually for all students		PE knowledge and skills tested annually for all students	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Adequate gymnasium facilities	1.27	0.93, 1.73	1.02	0.72, 1.45	1.45	1.03, 2.04 *	1.44	1.04, 2.02 *
Full-time PE teacher	1.05	0.78, 1.41	1.39	0.99, 1.94	2.00	1.39, 2.89 ***	1.76	1.26, 2.45 **
Any physical education coordinator	1.32	0.97, 1.80	1.22	0.89, 1.69	1.37	1.00, 1.88	1.67	1.20, 2.32 **
Undergraduate training required for PE staff	0.68	0.40, 1.16	1.84	1.07, 3.19 *	1.47	0.79, 2.73	1.80	1.03, 3.13 *
PE certification required for staff	1.24	0.73, 2.11	1.02	0.54, 1.90	0.91	0.51, 1.61	0.82	0.44, 1.53
Continuing education required for PE staff	1.38	1.03, 1.82 *	1.19	0.89, 1.61	1.52	1.12, 2.08 **	1.56	1.16, 2.09 **

Models controlled for: year; school size; locale; race/ethnicity; percent free/reduced-price lunch eligibility; region; and PE \geq 150 mins/week.

* $p < .05$, ** $p < .01$, *** $p < .001$

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