

Salud America!

The Robert Wood Johnson Foundation Research Network to Prevent Obesity Among Latino Children

RESEARCH BRIEF

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School District Compliance with P.E. Policies Matters for Physical Fitness among Latino/Hispanic Children

Introduction

In response to the U.S. childhood obesity epidemic, many stakeholders are calling for environmental and policy changes that will help children maintain a healthy body weight, be more active and become physically fit.^{1,2,3,4} Such programs and policies are particularly critical for Latino/Hispanic children, who represent one of the fastest-growing population groups,⁵ have the highest obesity rates⁶ and have a greater likelihood of being physically unfit compared with other groups.^{7,8} Given its potential to reach millions of schoolchildren, there has been increased attention on physical education (P.E.) policies in schools as a means of promoting regular physical activity and physical fitness.^{9,10} Regular physical activity and increased physical fitness have numerous benefits for students' bodies and minds. However, school or school district compliance with P.E. policies and their influence on physical fitness have received little attention. This brief examines links between P.E. and physical fitness among Latino/Hispanic schoolchildren in California.

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PEER REVIEW

Peer review for this research brief was conducted by *Salud America!* National Advisory Committee Member Robin Hamre, M.P.H., R.D., director of the Nutrition and Physical Activity Program to Prevent Obesity and Other Chronic Diseases at the U.S. Centers for Disease Control and Prevention.

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¹ Nanney MS, Nelson T, Wall M, et al. "State school nutrition and physical activity policy environments and youth obesity." *American Journal of Preventive Medicine*. 38(1): 9-16, 2010.

² Sallis J, Glanz K. "Physical Activity and Food Environments: Solutions to the Obesity Epidemic." *Milbank Quarterly*. 87(1): 123-154, 2009.

³ Story M, Nanney MS and Schwartz MB. "Schools and obesity prevention: creating school environments and policies to promote healthy eating and physical activity." *Milbank Quarterly*. 87(1): 71-100, 2009.

⁴ Koplan J, Liverman C, Kraak V. Committee on the Prevention of Obesity in Children and Youth. "Preventing Childhood Obesity: Health in the Balance." Washington, DC: The National Academy Press, 2004. Available at: http://books.nap.edu/openbook.php?record_id=11015.

⁵ Saenz R. "Latinos in the United States 2010." *Population's Bulletin*, 2010. Available at: <http://www.prb.org/Publications/PopulationBulletins/2010/latinosupdate1.aspx#>.

⁶ Ogden CL, Carroll MD and Flegal KM. "High Body Mass Index for Age Among US Children and Adolescents, 2003-2006." *Journal of the American Medical Association*. 299(20): 2401-2405, 2008.

⁷ Lee NE, De AK and Simon PA. "School-based physical fitness testing identifies large disparities in childhood overweight in Los Angeles." *Journal of the American Dietetic Association*. 106(1): 118-121, 2006.

⁸ Shaibi GQ, Ball GD and Goran MI. "Aerobic fitness among Caucasian, African-American, and Latino youth." *Ethnicity and Disease*. 16(1): 120-125, 2006.

⁹ Brownson RC, Chiqui JF, Burgeson CR, et al. "Translating epidemiology into policy to prevent childhood obesity: the case for promoting physical activity in school settings." *Annals of Epidemiology*. 20(6):436-444, 2010.

¹⁰ Siedentop DL. "National plan for physical activity: education sector." *Journal of Physical Activity and Health*. 6(S2): S168-180, 2006.



The state offers an exceptional opportunity to evaluate such associations because schools in the state collect annual fitness data for students in 5th, 7th and 9th grades. The state also requires elementary schools to provide students with P.E. for a minimum of 200 minutes every 10 days and requires the Department of Education to monitor compliance.¹¹

PRELIMINARY RESEARCH RESULTS

Our Salud America! pilot research project, “Informing Latino Childhood Obesity Prevention: The Role of Physical Education Policies in California,” uses existing data to investigate whether school district compliance with California physical education (P.E.) requirements influences fitness among the state’s Latino/Hispanic children. We combined four sources of data: school district compliance with P.E. policies, children’s data from Fitnessgram for the school years 2004–06, California Department of Education data on district and school characteristics, and U.S. Census data. Our sample included 60,817 5th grade Latino/Hispanic students across 55 school districts.

We examined the characteristics of children by comparing children that attended schools in districts that complied with California P.E. requirements to children that attended schools in districts that did not comply with the policies. We then conducted analyses to determine whether compliance with P.E. policies influenced Latino/Hispanic children’s fitness levels, after taking into account individual, school and district factors which might influence links between district-level policy compliance and fitness. Preliminary results are summarized in Table 1 and include:

- **Latino/Hispanic students were physically unfit and overweight and obese.** Of the 60,817 Latino/Hispanic students included in our study, 41 percent were classified as physically unfit, while 57 percent were overweight or obese.
- **The vast majority of Latino/Hispanic students attended school in districts that did not comply with P.E. policies.** Of the 60,817 Latino/Hispanic students in our study, only 15.7 percent attended school in districts that complied with P.E. policies.
- **Compared with Latino/Hispanic children in non-policy compliant districts, those in districts that complied with P.E. policies were significantly less likely to be overweight or obese.**

¹¹ Brownson, et al., 2010.

■ **School district compliance with P.E. policies matters for physical fitness.**

Compared with children in districts that did not comply with the P.E. policies, Latino/Hispanic children who attended school in a district that complied with P.E. policies were 38 percent more likely to be physically fit, even after controlling for age, gender, district factors and school characteristics, including school size, proportion of children participating in free or reduced-price meals, as well as neighborhood socioeconomic resources of the schools.

Table 1

Characteristics of Latino/Hispanic Children in 5th Grade According to School District Compliance^a with Education Policies

Student Characteristics	Was School District in Compliance with Physical Education Policies?	
	Yes (N = 9,579) Mean (Std) or %	No (N = 51,238) Mean (Std) or %
Fitness Levels^{***}		
Needs improvement	42	44
Within healthy fitness zone	58	56
Body Weight		
BMI z score ^{***}	1.01 (1.06)	1.07 (1.07)
Overweight	20.8	21.1
Overweight or obese ^{***}	54.4	57.4
Age^{***}		
10	52.9	51.5
11	42.3	43.0
12 +	4.7	5.4
Gender		
Male	49.5	50.5
Female	50.5	49.4

^a Compliance defined as providing the minimum requirement for elementary-school students of 200 minutes of physical education every 10 days.

^{***} Denotes p-value < .001 and ^{**} denotes p-value < .01 for comparisons between children in school districts that complied and those in districts that did not comply with the P.E. policies. Otherwise differences were not statistically significant.

Source: Authors' analysis of Fitnessgram data for 5th grade students in academic years 2004-06, data from the Census 2000 Summary File 3 and from the CBEDS School Information Form and California School Free or Reduced Price Meal Program (both publicly available on the California Department of Education website): <http://www.cde.ca.gov/ds/sd/sd/> and <http://www.cde.ca.gov/ds/sh/cw/filesafdc.asp>.

Conclusion and Policy Implications

Our results suggest that school district compliance with P.E. policies may be an important determinant of Latino/Hispanic children's fitness status. These findings imply that population-level approaches including policy mandates for P.E. in schools may contribute to overall improvements and reduced disparities in children's physical activity and fitness levels. However, the success of these approaches is likely to depend on adequate funding to ensure that policies can be fully implemented and that compliance can be monitored in every school.

Although reasons for noncompliance with P.E. policies remain largely unclear, a recent report by the National Association for Sport and Physical Education (NASPE) suggests that funding may be a factor. According to NASPE, 61 percent of P.E. teachers report an annual budget of less than \$1,000, and the median school budget for physical education is only \$764 per school year (\$460 for elementary, \$900 for middle and \$1,370 for high schools).¹² This implies that P.E. funding is predominantly localized.

Latino/Hispanic children are more likely to attend schools in low-income neighborhoods and schools with the fewest socioeconomic resources may be the least able to offer or require recommended levels of P.E. Given the magnitude of the obesity epidemic among Latino/Hispanic children,^{13,14} it is especially important for policymakers to support P.E. in schools with a predominately Latino/Hispanic population. Policymakers should create, fund and maintain mechanisms for policy compliance to foster children's physical fitness, prevent childhood obesity and improve the health of our nation's children in years to come.

Additional research is needed to improve our understanding of compliance with P.E. policies and children's activity and fitness. Our study contributes to this nascent literature by highlighting the links between P.E. policies, activity and fitness, as well as the importance of compliance-monitoring mechanisms for P.E. This field will continue to benefit from research in additional states, larger-sample longitudinal studies and more detailed compliance data for schools and P.E. quality.

¹² National Association for Sport and Physical Education, American Heart Association. *Shape of the Nation Report: Status of physical education in the United States*. Reston, VA: National Association for Sport and Physical Education, 2010.

¹³ Ogden, et al., 2008.

¹⁴ Madsen K, Weedn A, Crawford P. "Disparities in peaks, plateaus, and declines in prevalence of high BMI among adolescents." *Pediatrics*. 126(3): 434-442, 2010.