PACE

COMMENTARY

How Can Schools Help Youth Increase Physical Activity?

An Economic Analysis Comparing School-based Programs

AUTHORS

Susan H. Babey | University of California, Los Angeles

Shinyi Wu | University of Southern California

Deborah A. Cohen | Kaiser Permanente

PUBLISHED: December 16, 2014

The U.S. Department of Health and Human Services *Physical Activity Guidelines for Americans* recommends that youth engage in at least 60 minutes of physical activity as an integral and routine part of daily life. Regular physical activity in childhood influences health outcomes in adulthood, reducing risk for various chronic illnesses and poor health status. Research also suggests that school-based physical activity is positively associated with academic benefits including better academic achievement, better performance in math, reading and English, and improved attention and concentration. Despite these benefits, few youth meet physical activity recommendations. According to the 2006 National Health and Nutrition Examination Survey (NHANES), which measured physical activity with accelerometers, fewer than 9% of adolescents and 42% of children met physical activity guidelines.

Youth spend a significant amount of time at school yet rarely achieve the recommended 60 minutes of moderate and vigorous physical activity in physical education (PE) classes or recess. This study assessed the following types of school-based opportunities to improve physical activity for youth:

1. After-school program, typically from 3 to 6 PM. The option includes programs that are either fee-based or subsidized and either on-site or off-site. Such programs can include a variety of activities that vary with the age of participants including arts and crafts, recreational opportunities, field trips, computer labs, homework assistance, informal sports, interscholastic sports, and clubs.
2. Extended school day (40 to 60 minutes longer) with increased time for PE class, mandatory for all students, using evidence-based PE curricula that optimizes moderate and vigorous physical activity. This option would require a trained PE teacher competent in implementing evidence-based curricula.
3. In-class activity consisting of two 10-minute breaks of structured physical activities, implemented by playing exercise videos (such as Instant Recess® or Take10!®). This option does not require extra personnel such as PE teachers. Research suggests that these physical activity breaks can provide significant increases in physical activity. They could be incorporated into the existing school day, or the school day could be lengthened slightly (by 20 minutes) to allow the breaks to be incorporated without displacing other planned classroom activities.
4. Before-school activity program, although no published research has examined such a program, it was hypothetically assumed to be operated with volunteer and professional supervision available 30 minutes before school during regular school days for students to participate in physical activities, informal sports, or interscholastic sports.

An economic analysis conducted in 2013 compared the above school-based approaches to increasing physical activity. Analysis factors included costs, reach, effects on physical activity gains, cost-effectiveness, and other potentially augmenting benefits. The results show two programs were significantly superior in terms of reach and cost per student: (1) extending the school day with 100% mandatory PE participation at $264 per school year per child and (2) offering short (10-minute) physical activity breaks during regular classroom hours with 100% mandatory participation at less than $5 per school year per child. After-school program costs per student are high, at $2,867 per school year per child, and the programs have a smaller reach, but they offer benefits (such as childcare) that may justify their higher costs. Before-school programs did not appear feasible.

The most important driver of program cost is program length (e.g., 3 hours for after-school program, and 20 minutes for 2 physical activity breaks) followed by teacher-to-student ratio (e.g., after-school program for older elementary school children is 1:6; PE class for middle and high school students is 1:30). However, physical activity effectiveness in terms of MET-hours gained was similar across program types. As a result, program cost is the strongest determinant of cost-effectiveness.

Incorporating short physical activity breaks into the existing school day would be a cost-effective way to increase school-based activity. This type of program is inexpensive and potentially has a broad reach. Inserting activity breaks throughout the day is appropriate, especially when youth are otherwise largely sedentary.

The full study can be found in Babey, Susan H., Shinyi Wu, Deborah Cohen, "How can schools help youth increase physical activity? An economic analysis comparing school-based programs, Preventive Medicine, Volume 69, December 2014 p.S55-S60.

Suggested citation

Babey, S. H., Wu, S., & Cohen, D. (2014, December) *How can schools help youth increase physical activity? An economic analysis comparing school-based programs* [Commentary]. Policy Analysis for California Education. https://edpolicyinca.org/newsroom/how-can-schools-help-youth-increase-physical-activity

PACE
Policy Analysis for California Education

Stanford Graduate School of Education
520 Galvez Mall, Suite 444
Stanford, CA 94305
Phone: 650.576.8484

edpolicyinca.org