

# Active Living Research

Building Evidence to Prevent Childhood Obesity  
and Support Active Communities

## FACT SHEET

November 2011

## Supporting Physical Activity in School

Regular physical activity promotes important health benefits, reduces risk for obesity and is linked with enhanced academic performance.<sup>1,2</sup> The Centers for Disease Control and Prevention and other leading public health organizations have issued guidelines and recommendations for promoting physical activity in schools.<sup>3,4,5</sup> Yet changes are needed to help schools implement policies and practices that are consistent with national recommendations for physical activity.

This fact sheet highlights evidence-based strategies for increasing physical activity during the school day. It summarizes findings from studies that show how physical education (PE), recess and activity breaks can help children be more active at school.

### Children who attend regularly scheduled PE classes get significantly more physical activity.

- High school students who were required to take PE participated in 31 additional minutes of physical activity per week compared with students who were not required to take PE.<sup>6</sup>
- Among eighth-, ninth- and twelfth-grade girls, those who were enrolled in PE classes spent up to 32 percent more time in moderate-to-vigorous physical activity and up to 60 percent more time in vigorous physical activity than those who were not enrolled in PE.<sup>7</sup>

### Quality PE programs result in more physically active children.

- Students at elementary schools that participated in the Sports, Play, and Active Recreation for Kids (SPARK) program spent about 13 more hours in moderate-to-vigorous physical activity during a single school year than students in control schools.<sup>8</sup> The SPARK program provided an organized curriculum with defined health-fitness and skill-fitness units, active classes, and training for teachers.
- Similar results were found among students at schools that participated in the Child and Adolescent Trial for Cardiovascular Health (CATCH) program and other enhanced PE programs.<sup>9,10</sup>



## Training for PE specialists and classroom teachers increases students' levels of physical activity.

- Classroom teachers and PE specialists who participated in the Child and Adolescent Trial for Cardiovascular Health (CATCH) program increased the amount of physical activity in their classes by more than 30 percent. Students taught by trained PE specialists engaged in even more moderate-to-vigorous physical activity than those taught by trained classroom teachers.<sup>11</sup>

## Children are more active when schools provide supervised recess and designated play spaces.

- A large study of lower-income elementary schools with predominately Latino students found that children who had supervised recess engaged in active play for more than 60 percent of the recess period.<sup>12</sup>
- Elementary school students who were supervised, had access to portable or loose equipment, and/or had outdoor spaces with colorful playground markings were more active than those at schools without such enhancements.<sup>13</sup>
- A review of 18 studies concluded that recess contributed up to one-third of the moderate-to vigorous physical activity recommended for children each day.<sup>14</sup>

## In-class activity breaks increase physical activity and enhance academic achievement.

- Elementary school students who had active classroom breaks improved their ability to stay on task during academic work by 20 percent, but inactive classroom breaks had no effect.<sup>15</sup>
- Third- and fourth-grade students who participated in *Energizers*, a program that included in-class physical activity breaks, took nearly 1,000 more steps during the school day than children who were not in the program. Students in the program also paid better attention during academic instruction following those breaks.<sup>16</sup>

## State policies can help promote regular physical activity at school.

- Following implementation of a state law that required public elementary school students in Texas to engage in 30 minutes of daily physical activity, a study found that students across the state participated in about 30 percent more physical activity than the minimum requirement.<sup>17</sup> Middle school students in Texas participated in PE four days per week following implementation, up from only two days per week



before implementation.<sup>18</sup> Similar success was observed in North Carolina after the state implemented physical activity standards for K–8 schools.<sup>19</sup>

## Summary

Evidence-based strategies for enhancing physical education, recess and in-class activity breaks help children be more active during the school day. In addition, providing students with activity breaks during academic classes improves their academic performance, focus on academic tasks and classroom behavior. Policymakers at all levels, school administrators, community leaders and parents should advocate for policies and programs that align with evidence-based guidelines for physical education and physical activity to help schools provide more opportunities for students to be active.

This fact sheet highlights findings from the research synthesis, *School Policies on Physical Education and Physical Activity*. More information is available at [www.activelivingresearch.org/files/Synthesis\\_Ward\\_SchoolPolicies\\_Oct2011.pdf](http://www.activelivingresearch.org/files/Synthesis_Ward_SchoolPolicies_Oct2011.pdf).

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<sup>1</sup> The Surgeon General's Call to Action to Decrease Overweight and Obesity 2001. Rockville, MD: United States Department of Health and Human Services, Public Health Service, Office of the Surgeon General, 2001.

<sup>2</sup> Trost SG. *Active Education: Physical Education, Physical Activity and Academic Performance. A Research Brief*. Princeton, NJ: Robert Wood Johnson Foundation, 2009.

<sup>3</sup> CDC. "Guidelines for school and community programs to promote lifelong physical activity among young people." *Morbidity and Mortality Weekly Report*, 46: 1–36, 1997.

<sup>4</sup> Council on *Sports Medicine* and Fitness and Council on School Health. "Active healthy living: Prevention of childhood obesity through increased physical activity." *Pediatrics*, 117: 1834–1842, 2006.

<sup>5</sup> Pate RR, Davis MG, Robinson TN, Stone, EJ, McKenzie TL, Young JC. "Promoting physical activity in children and youth: A leadership role for schools: A leadership role for schools: A scientific statement from the American Heart Association Council on Nutrition, Physical Activity, and Metabolism (Physical Activity Committee) in collaboration with the Councils on Cardiovascular Disease in the Young and Cardiovascular Nursing." *Circulation*, 114: 1214–1224, 2006.

<sup>6</sup> Cawley J, Meyerhoefer C and Newhouse D. "The correlation of youth physical activity with state policies." *Contemporary Economic Policy*, 16(12): 1287–1301, 2007.

<sup>7</sup> Pate RR, Ward DS, O'Neill JR, et al. "Enrollment in physical education is associated with overall physical activity in adolescent girls." *Research Quarterly Exercise and Sport*. 78(4): 265–70, 2007

<sup>8</sup> Sallis JF, McKenzie TL, Alcaraz JE, Koldy B, Faucette, N, Hovell MF. "The effects of a 2-year physical education program (SPARK) on physical activity and fitness in elementary schools students." *American Journal of Public Health*, 87: 1328–1334, 1997.

<sup>9</sup> McKenzie TL, Nader PR, Strikmiller K, Yang M, Stone EJ, Perry, CL, et al. "School physical education: Effect of the child and Adolescent Trial for Cardiovascular Health." *Preventive Medicine*, 25: 423–431, 1996.

<sup>10</sup> Young RD, Phillips JA, Yu T, Haythornthwaite JA. "Effects of a life skills intervention for increasing physical activity in adolescents girls." *Archives of Pediatric and Adolescent Medicine*. 160: 1255–61, 2006.



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<sup>11</sup> McKenzie TL, Stone EJ, Feldman HA, Epping JN, Yang M, Strikmiller PK, Lytle LA, Parcel GS. "Effects of the CATCH physical education intervention: teacher type and lesson location." *American Journal of Preventive Medicine*. 21(2): 101–9, 2001.

<sup>12</sup> Mc Kenzie TL, Crespo NC, Baquero B, Elder JP. "Leisure-time physical activity in elementary schools: Analysis of contextual conditions." *Journal of School Health*. 80(10)470-477: 2010.

<sup>13</sup> Willenberg LJ, Ashbolt R, Holland D, Gibbs L, MacDougall C, Garrard J, et al. "Increasing school playground physical activity: A mixed methods study combining environmental measures and children's perspectives." *Journal of Science and Medicine in Sport*. 13: 210–216; 2010.

<sup>14</sup> Ridgers ND, Stratton G, Fairclough SJ, Twisk JWR. "Long-term effects of a playground markings and physical structures on children's recess physical activity levels." *Preventive Medicine*, 44: 393–397; 2007.

<sup>15</sup> Mahar MT, Murphy SK, Rowe DA, Golden J, Shields AT, Raedeke TD. "Effects of a classroom-based program on physical activity and on-task behavior." *Medicine and Science in Sports and Exercise*, 38(12): 2086–94, 2006.

<sup>16</sup> Mahar MT, Murphy SK, Rowe DA, Golden J, Shields AT, Raedeke TD. "Effects of a classroom-based program on physical activity and on-task behavior." *Medicine and Science in Sports and Exercise*, 38(12): 2086–94, 2006.

<sup>17</sup> Kelder SH, Sringer AS, Barroso CS, Smith CL, Sanchez E, Ranjit N, Hoelscher DM. "Implementation of Texas Senate Bill 19 to increase physical activity in elementary school." *Journal of Public Health Policy*, 30: S221–S247; 2009.

<sup>18</sup> Barroso CS, Kelder SH, Springer AE, Smith CL, Ranjit N, Ledingham C et al. "Senate Bill 42: Implementation and impact on physical activity in middle schools." *Journal of Adolescent Health*. 45: S82–S90; 2009.

<sup>19</sup> Evenson ER, Ballard K, Lee G, Ammerman A. "Implementation of a school-based state policy to increase physical activity." *Journal of School Health*. 79: 231–238; 2009.