

SOCIETY *of* BEHAVIORAL MEDICINE

Better Health Through Behavior Change

School-based Physical Activity: Essential for Children's Health

(Approved January 6, 2012)

The Society of Behavioral Medicine* encourages and supports legislation and policies that increase school-based physical activity for youth. Strong evidence demonstrates that such activity helps prevent childhood obesity and keeps children healthy.

THE PROBLEM

Childhood obesity is one of the most pressing health problems facing our nation. This nation's children are in jeopardy. If we fail to act, the life expectancy of U.S. children will be lower than the life expectancy of their parents.¹

- The rate of obesity has tripled in the last 40 years in children and adolescents²
- Nearly one-third of all children are overweight or obese² and the rates are higher among Black, Hispanic, and lower-income children.

Obesity contributes to serious health and social problems. Some problems last a lifetime.

- Obese youth have higher rates of insulin resistance, type 2 diabetes, hypertension, obstructive sleep apnea, poor self-esteem, lower health-related quality of life, higher rates of depression, and are more likely to be bullied than their normal weight peers.³⁻⁹
- The majority (80%) of obese children become obese adults.¹⁰

Physical Inactivity is the Main Contributor to Obesity. Physical Activity is Crucial.

Experts recommend that to stay fit children and adolescents need 60 minutes of physical activity per day.¹¹

- Less than half of all U.S. children and only 18% of high school students meet that guideline.^{11,12}
- One estimate shows that less than 7% of schools provide daily physical activity.¹³
- Children used to get exercise by walking or biking to school—not anymore. Only 13% of children walked to school in 2009.^{14,15}

THE SOLUTIONS

Regular Physical Activity Keeps Children Healthy!

- Regular physical activity helps build and maintain healthy bones and muscles and reduces the risk of developing obesity, cardiovascular disease and Type II diabetes¹⁶
- Physical activity reduces feelings of depression and anxiety and promotes psychological well-being.¹⁷ It may help improve children's attention and focus, leading to higher grades and academic achievement

Schools Can – and Do – Help

Schools can do much to increase physical activity in children. They can integrate physical activity into the classroom, provide and improve physical education, provide recess, and encourage children to walk or ride bikes to school. The research programs described below shows these strategies to be both effective and practical.

- **When Classrooms Incorporate Physical Activity - Students Benefit.** Children enrolled in a classroom-based physical activity intervention in Kansas elementary schools were more physically active in school *and* out of school compared with children in classrooms not part of the intervention, and they showed greater improvements in academic achievement. The program consisted of a series of teacher-led 10-minute in-classroom physical activities. The exercises added up to 90-minutes of moderate to vigorous physical activity in a given week.¹⁸

When elementary school teachers in a North Carolina school engaged their students in a 10-minute classroom-based physical activity once a day for 12 weeks, the students were more active overall as well as more “on task” than students in regular classrooms. The 135 students in the “Energizers” program took 752 more steps per day and were on-task in the classroom 8% more of the time. What’s more, the least on-task Energizer students improved their on-task behavior by 20% after participating in Energizers activities.¹⁹

- **Enhancing Physical Education, By Increasing Active Time and Decreasing Down Time, Can Sustain Healthy Habits**
Several thousand 3rd through 5th grade students randomly assigned to a year-long enhanced physical education intervention in 96 schools in San Diego, CA; New Orleans, LA; Minneapolis, MN; and Austin, TX showed improvements in diet and activity three years later. The Child and Adolescent Trial for Cardiovascular Health (CATCH) led to decreased daily energy intake from fat and ten more minutes per day of daily vigorous physical activity.^{20,21}

Thanks to Project SPARK, 995 fourth- and fifth-grade students in seven California schools benefited from enhanced physical education classes. Students in the SPARK physical education program engaged in twice as many minutes of physical activity than did those in a traditional physical education program: 33-40 minutes compared to 18 minutes. After two years, girls in the SPARK project had significantly greater abdominal strength and endurance than girls in the traditional classes.²²

Follow up on a large study of 2744 racially/ethnically mixed 8th and 9th grade girls across 24 South Carolina high schools showed that enhanced physical education resulted in more girls (45%) engaging in vigorous physical activity during one or more 30-minute

time blocks per day than their counterparts in the schools with regular physical education, 36% of whom reported engaging in such activity. The Lifestyle Education for Activity Program (LEAP) provided intervention schools with a six-part program that included enhanced physical education, school environment, health education, and school health services, plus faculty/staff health promotion, and family/community involvement.²³ Four years after the original intervention, the girls in the intervention schools that most fully implemented and maintained the intervention were more likely than girls in the other schools to participate in an average of one or more blocks of vigorous physical activity per day.²⁴

- **School + After-School Physical Activity = Better Results than School Activity Alone**
Middle-school African American Girls from low-income Oakland, California, families benefitted from participating in an after-school dance program called GEMS (Girls' Health Enrichment Multi-site Studies). Benefits included reductions in cholesterol levels, pre-diabetes symptoms, and depressive symptoms.²⁵

When a local high school in a low income urban, community in Honolulu, Hawaii, opened its recreational facilities to reach more students, staff, and community residents, the response was strong. The In-Motion Project, entailing a Joint Use Agreement between the Honolulu Department of Parks and Recreation and the Honolulu Department of Education, drew more than 1,000 participants. The project offered recreational programming during and after school and participants reported high levels of satisfaction as well as increases in physical activity.²⁶

- **Well-designed Playgrounds and School Environment Improvements Can Increase Children's Physical Activity Levels**
Permanent improvements to the school environment (such as basketball hoops, tennis courts, and baseball diamonds) lead to increases in physical activity among youths in 24 California public middle schools. When permanent improvements were coupled with attentive adult supervision, girls were four times more likely to be active and boys were five more times as likely to be active.²⁷

The Learning Landscapes program in Denver renovated school playgrounds in low-income neighborhoods. Children in those neighborhoods moved more and expended more energy than children playing in non renovated playgrounds.²⁸

One way to get children moving is to “ban the bus” and help them walk to school. In the “Walking School Bus” program, fourth graders at four elementary schools in Houston, Texas, walked to school – in groups and with parents. Children at four other schools continued to ride in a car or school bus to school. The study looked at changes in physical activity while commuting to school, including all time spent getting from one place to another (for example, walking from the house to car and the car to school). Over the five week study, the children who walked to school increased their active commuting time by 30%. In contrast, the children relying on car or bus transportation reduced their active commuting time by 8%.²⁹

Research supports the following conclusions and recommendations:

Children's health is best served when schools:

- Provide physical education classes that minimize down or inactive time and ensure that class activities engage students' interest.
- Incorporate physical activity into the classroom. Teachers can be successfully trained to lead these programs.
- Provide after school programs such as dance or sports.
- Ensure that school yards include well-marked basketball courts as well as jump ropes and attentive adult supervision.
- Renovate school playgrounds and explore ways to safely open school yards for after school and community use.
- Provide comprehensive, physical education programs that engage both students and their families and incorporate family members into the school environment. Encourage active commuting to school.

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¹² CDC. Youth Risk Behavior Surveillance—United States, 2009. *MMWR* 2010;59(SS-5):1-142.

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¹⁴ US Department of Transportation; Federal Highway Administration. National Personal Transportation Survey: Transportation Characteristics of School Children. Washington, DC: US Department of Transportation; 1972

¹⁵ National Center for Safe Routes to School. US Travel Data Show Decline in Walking and Bicycling to School Has Stabilized. Chapel Hill, NC: National Center for Safe Routes to School; 2010

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**The Society of Behavioral Medicine is a multidisciplinary organization of clinicians, educators, and scientists dedicated to promoting the study of the interactions of behavior with biology and the environment and the application of that knowledge to improve the health and well being of individuals, families, communities, and populations. This research report was written by several Society members.*