



## **C.H.A.N.G.E!**

Connect **H**ealth, **A**cademics and **N**EEDS, **G**et **E**xcited!

### **Solutions and benefits—get excited now!**

Across the country, Healthy Kids Challenge is helping schools, youth programs, and communities find SOLUTIONS!

Healthy behavior and academic achievement go hand in hand. The studies referenced below demonstrate the effectiveness and benefits of recommended solutions.

### **Healthy Behaviors Affect School Attendance and Behaviors!**

Healthy, active, and well-nourished children and youths are more likely to attend school and are more prepared and motivated to learn. {1, 2}

Overweight can impair school performance in many ways, including health related absenteeism. {3} Among the medical conditions linked with overweight in school-aged children are asthma, joint problems, type 2 diabetes, depression and anxiety, and sleep apnea. {4} Social problems, such as being teased or bullied, loneliness or low self-esteem can also affect how well children do in school. {5}

Although the evidence that child obesity affects school performance is limited, nutrition clearly affects academic performance. Poor nutritional status and hunger interfere with cognitive function and are associated with lower academic achievement. Iron deficiency is linked to shortened attention span, irritability, fatigue, and difficulty with concentration. {6}

A recent review of studies of breakfast habits and nutritional status in children and adolescents found that breakfast consumption may improve cognitive function related to memory, test grades, and school attendance. {7} Studies have also found that children participating in the federal School Breakfast Program show increases in daily attendance, class participation and academic test scores, and decreases in tardiness. {3}

### **Breakfast Improves Grades**

Schools that offer breakfast programs see increases in students' grades and improvements in classroom behavior. {8, 9, 10} It is common practice for schools to encourage breakfast on the day of testing, why limit breakfast to test days? Just think how awesome student learning can be with breakfast EVERY Day!

### **Physical Activity Boosts Academic Performance {11}**

Increased levels of physical fitness are associated with higher achievement in both reading and mathematics. {12, 13}

Physical activity programs help develop social skills, improve mental health, and reduce risk-taking behaviors. {14} Evidence also suggests that short-term cognitive benefits of

physical activity during the school day adequately compensate for time spent away from other academic areas.

Academic achievement improves even when the physical education reduces the time for academics. A reduction of 240 minutes per week in class time for academics to enable increased physical activity led to consistently higher mathematics scores [11], [15].

A recent study has shown a correlation between the SAT-9 test results with the Fitnessgram indicating that the physical well-being of students has a direct impact on their ability to achieve academically. Students with the highest fitness scores also had the highest test scores {16}.

### **Physical Activity Through the Day – Energizers Help Keep Students on Task!**

In a Medicine and Science in Sports and Exercise published study of sixty-two 3<sup>rd</sup> and 4<sup>th</sup> graders, East Carolina University researchers found that children who participated in classroom energizers through the day were likely to be better focused and more on task than their sedentary peers.

Brain Gym originators, Dr. Paul Dennison and Gail E. Dennison have identified improvements in concentration, memory, reading, writing, organizing, listening, physical coordination, and more through education kinesiology (Edu-K), "learning through movement." {17} Classroom, teachers typically report improvements in attitude, attention, homework, behavior, and academic performance for the entire class.

### **Recess Before Lunch is a Winner!**

Schools that have switched to providing recess prior to lunch find that students will eat more of their lunch, waste less food, and return to class more ready to learn. {18}

{1} Center on Hunger, Poverty, and Nutrition Policy. "The Link Between Nutrition and Cognitive Development in Children, Policy Statement." Medford, MA: Tufts University School of Nutrition Science and Policy, 1994.

{2} Symons C. W., et.al. "Bridging Student Health Risks and Academic Achievement Through Comprehensive School Health Programs," *Journal of School Health*, Vol. 67 (1997), 220-227.

{3} Action for Healthy Kids. "The Learning Connection: The Value of Improving Nutrition and Physical Activity in our Schools, 2004."

{4} Must A, Spadano J, Coakley EH, Field AE, Colditz G. The Disease Burden Associated with Overweight and Obesity. *Journal of the American Medical Association* 282, No. 16(1999): 1523-29.

{5} Janssen I, et.al. Associations between Overweight and Obesity with Bullying Behaviors in School-Aged Children, *Pediatrics* 113, No. 5 (2004): 1187-94.

{6} Parker L. "The Relationship between Nutrition and Learning: A School Employee's Guide to Information and Action." (Washington: National Education Association, 1989).

{7} Rampersaud, et.al. "Breakfast Habits, Nutritional Status, Body Weight, and Academic Performance in Children and Adolescents." *Journal of the American Dietetic Association* 105, No. 5 (2005): 743-60.

{8} Powell, C.A., et.al. "Nutrition and Education: A Randomized Trial of the Effects of Breakfast in Rural Primary School Children." *American Journal of Clinical Nutrition*, Vol. 68 (1998), 73-79.

{9} Murphy, J.M., et.al. "The Relationship of School Breakfast to Psychosocial and Academic Functioning: Cross-sectional and Longitudinal Observations in an Inner-city School Sample." *Archives of Pediatrics & Adolescent Medicine*, Vol. 152 (1998), 8999-907.

{10} Myers, A. F., et.al. "School Breakfast Program and School Performance." *American Journal of Diseases of Children*, Vol. 143 (1989), 134-139.

{11} NASPE, Executive Summary, *Shape of the Nation 2001*;

{12} National Association for Sport and Physical Education (NASPE). "Benefits of Vigorous Physical Activity through Physical Education."

{13} California Department of Education, "State Study Proves Physically Fit Kids Perform Better Academically," Sacramento CA, 2002.

{14} Taras H, Physical Activity and Student Performance at School, *Journal of School Health* 75, No. 6 (2005): 214-18.

{15} Shephard, R.J., Volle, M., Lavalee, M., LaBarre, R., Jequier, J.C., Rajic, M. Required physical activity and academic grades: a controlled longitudinal study. In: Limarinen and Valimaki, editors. *Children and Sport*. Berlin: Springer Verlag; 1984. 58-63; National Association for Sport and Physical Education (NASPE). "New study supports physically fit kids perform better academically." 2002.

{16}. Shephard, R.J. "Curricular physical activity and academic performance." *Pediatric Exercise Science* 1997;9:113-126.

{17} Brain Gym International, [www.braingym.org](http://www.braingym.org) .

{18} Getlinger, M., et.al. "Food Waste Is Reduced When Elementary-school Children Have Recess Before Lunch." *Journal of the American Dietetic Association*, Vol. 96 (1996), 906-908.