

What the Data Tells Us

American Dietetic Association. (2008). Position of the American Dietetic Association: Nutrition guidance for healthy children ages 2 to 11 years. *Journal of the American Dietetic Association*, 108(6), 1038-1047.

The rising levels of overweight and obesity in U.S. children, and subsequent increasing risk of chronic disease, has resulted in an expanded focus of the dietary guidance to address issues of over consumption and decreased activity levels. A number of factors contribute to these problems, including poor diet quality and changing eating patterns (e.g., more restaurant eating, larger portion sizes, increased soft drink consumption and increased snacking). To address these issues, the ADA stresses the need for children's diets to be more in line with the Dietary Guidelines for Americans 2005. Specific recommendations include providing and strengthening nutrition education in schools to enable children to make better dietary choices, as well as educating parents and caregivers on healthy eating.

American Dietetic Association. (2006). Position of the American Dietetic Association: Child and Adolescent Food and Nutrition Programs. *Journal of the American Dietetic Association*, 106(9), 1467-1475.

The health of children and adolescents is dependent upon food intake that provides sufficient, but not excessive, energy and nutrients to promote optimal physical, social, and cognitive growth. Children and adolescents that do not consume the appropriate amounts of energy and nutrients are at risk for a variety of poor outcomes. These include but are not limited to growth retardation or obesity, poor academic performance, development of psychosocial difficulties, and an increased likelihood of developing chronic diseases such as cardiovascular disease, osteoporosis, and some types of cancers during adulthood. ADA believes that food and nutrition programs provide a safety net for American children at risk for poor nutritional intake. Participation in federally funded food and nutrition programs, along with the associated nutrition education components, has been shown to improve children and adolescents' intakes of select nutrients and calories levels along with the knowledge level of nutrition related topics to parents of infants, children and adolescents at risk for poor nutritional status.

California Department of Education. (2005). A study of the relationship between physical fitness and academic achievement in California using 2004 test results.

This study examined the relationship between physical fitness and academic achievement using 2004 physical fitness test scores and California Standards Test (CST) scores in fifth, seventh and ninth graders. Results indicated a statistically significant, positive relationship between physical fitness and academic achievement for math and English-language arts, especially with

female students. Researchers found that as the students' physical fitness test score improved, so did the mean scale score on the CST.

Coe, D. P., Pivarnik, J. M., Womack, C. J., Reeves, M. J., & Malina, R. M. (2006). Effect of physical education and activity levels on academic achievement in children. *Medicine & Science in Sports and Exercise*, 38(8), 1515-1519.

The focus of this study was to examine the effect of physical education and physical activity on academic achievement in middle school children. Results showed a significant relationship between vigorous physical activity and academic achievement. The researchers found that students having activity levels that met or exceeded the Healthy People 2010 guidelines achieved higher academic scores when compared to those students who participated in little or no vigorous activity.

Jyoti, D. F., Frongillo, E. A., & Jones, S. J. (2005). Food insecurity affects school children's academic performance, weight gain, and social skills 1-3. *The Journal of Nutrition*, 135(12), 2831-2839.

Food insecurity exists within 11% of all households, and in 16% of households with children; in other words 16 out of 100 children in your building likely experience food insecurity and this number will increase during times of economic downturns. Food insecurity is the inability to obtain nutritious or safe food due to resource constraints. This study examined the effects of food insecurity on children's academic performance, weight and BMI, and social skills. Results from the study showed that food insecurity in early elementary years was associated with lower math and reading scores, greater weight gain and BMI, and decreased social skills.

Mahar, M. T., Murphy, S. K., Rowe, D. A., Golden, J., Shields, A. T., & Raedeke, T. D. (2006). Effects of a classroom-based program on physical activity and on-task behavior. *Medicine & Science in Sports and Exercise*, 38(12), 2086-2094.

This study showed the effects of using a classroom-based physical activity program on 1) the amount of physical activity elementary children obtained throughout the school day, and 2) on children's on-task behavior during academic instruction after having participated in the physical activity. The classroom-based physical activity included short, 10-minute activities led by the classroom teacher once a day for 12 weeks. Results showed students who received the classroom-based physical activity were more physically active throughout the school day than those students who did not receive it. Furthermore, the classroom-based physical activity served to improve on-task behavior for all students' by 8%, and it improved on-task behavior in low on-task students (i.e., students who are on task less than 50% of the time) by 20%.

Murray, N. G., Low, B. J., Hollis, C., Cross, A. W., & Davis, S. M. (2007). Coordinated school health programs and academic achievement: a systematic review of the literature. *Journal of School Health, 77*(9), 589-600.

More and more, schools are experiencing great pressure to improve students' test scores. As a result, it becomes increasingly difficult to justify the implementation of programs such as coordinated school health without showing how it impacts students' academic performance. This article is an examination of the research that confirms the positive impact Coordinated School Health Programs have on students' academic performance. Seventeen different research reports substantiating improved academic outcomes as a result of school health programming were summarized. The article's authors concluded that based on these reports, coordinated school health programs do enhance student academic performance and suggest that school health programs continue to be evaluated for their effect on academic performance in order to further build upon this research.

Pate, R. (2006). Physical activities guidelines for youth. *Proceedings of the NASBE Conference on the Role of Education in Promoting Healthy Living, 79-84.*

In this article, the author emphasizes that diet alone will not solve the obesity crisis. It is not only important to insure children are receiving proper and balanced nutrition; it is also critical that they engage in increased physical activity. While a number of professional organizations agree that children should participate in an average of 60 minutes at least moderate physical activity daily, the author stresses the need for the activity to be developmentally appropriate, varied and fun for children in order to increase the likelihood it will become a part of their daily life experience. Because of the length of time children attend school, it is reasonable to expect them to receive at least half of the 60 minutes of activity during school hours. Changing schools from primarily sedentary places to ones with opportunities for regular, daily physical activity is recommended.

Taras, H. (2005). Nutrition and student performance at school. *Journal of School Health, 75*(6), 199-213.

This article is a review of the research on the association between students' health and academic performance. Among the studies included in the review, results showed the following: when iron supplements were given to iron deficient children, academic performance improved; food insufficiency (the limited availability of nutrition and safe food) was associated with decreased school attendance and lower academic performance; and the presence of a school breakfast program resulted in lower absentee rates and decreased tardiness. Studies also showed that eating breakfast had a positive, short-term effect on students' cognitive skills. This review of the literature supports the

overall importance of proper nutrition and the positive contribution of a healthful diet to academic performance.

Taras, H. (2005). Physical activity and student performance at school. *Journal of School Health*, 75(6), 214-218.

This article is a review of research results on the relationship between physical activity and academic outcomes in school children. Among the various studies performed, results showed students had improved concentration levels after physical activity, as well as an improved rate of learning. Low-achieving students improved their academic performance significantly when engaging in aerobic activity during the school day, and students' self-concept also improved after having participated in aerobic activity.

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