

The following is an excerpt from

## Eating for Health and Academic Achievement

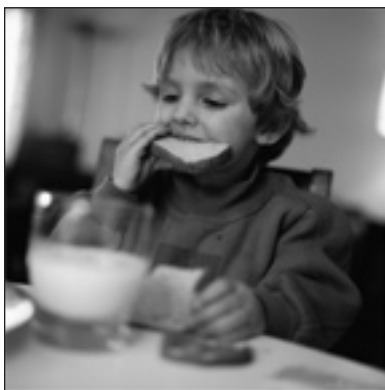
By Julie Allington, Nutrition Education Consultant, Wisconsin Department of Public Instruction.  
Article published in the Wisconsin School News, March 2001.

Promoting healthy behaviors among students is an important part of the fundamental mission of schools: to provide young people with the knowledge and skills they need to become healthy and productive adults. Improving student health can increase students' capacity to learn, reduce absenteeism, and improve physical fitness and mental alertness.

The quality of children's diets is declining, while at the same time the emphasis on test scores and the concern about disciplinary problems in schools are increasing. Can the quality of children's food intake affect their academic performance? Can it affect student behavior? Can commercialism in the school be detrimental to healthy eating? Would schools be prudent in creating a school environment that promotes healthy eating among students and staff?

### Trends and Implications

**Breakfast and Academic Achievement.** Many students start school with no breakfast or an inadequate breakfast. Qualitative surveys on breakfast consumption completed by Wisconsin students showed that approximately 10 percent of students at the elementary level, 25 percent in middle school, and 30 percent of high school students



started school without breakfast.<sup>1</sup> Many other students come to school with an inadequate breakfast. Studies show that omitting breakfast interferes with cognition and learning, an effect that is more pronounced in nutritionally at-risk children. A landmark study examined the effects of school

breakfast on academic performance among 1,023 low-income third through fifth grade students. Results showed that children who participated in the study had significantly greater gains in overall standardized test scores and showed improvements in math, reading, and vocabulary scores. In addition, rates of absence and tardiness were reduced among participants.<sup>2</sup>

**Hunger and Behavioral Problems.** An estimated four million American children experience prolonged periodic food insufficiency and hunger each year, representing 8 percent of the children under the age of 12 in this country.



The Community Childhood Hunger Identification Project (CCHIP) study examined the relationship between hunger and psychosocial functions among low-income, school-aged children. Analysis showed that virtually all behavioral, emotional, and academic problems were more prevalent in hungry children. Aggression and anxiety had the strongest degree of association with hunger.<sup>3</sup>

The three-year Universal School Breakfast Program pilot study in six Minnesota elementary schools showed a general increase in composite math and reading scores, improved student behavior, reduced morning trips to the nurse, and increased student attendance and test scores.<sup>4</sup>

**Obesity and Health Risks and Low Self-Esteem.** Childhood obesity is recognized as a national epidemic. The prevalence of overweight among young people ages 6–17 years in the United States has more than doubled in the past 20 years,<sup>5</sup> and that

trend is continuing. Over 4.7 million, or 11 percent of youths ages 6–17 years are seriously overweight.<sup>6</sup>

As many as 30,000 children have type 2 diabetes, a type of diabetes that was once almost entirely limited to adults.<sup>7</sup>

It is well-known that overweight in adults increases the risk for cardiovascular disease and premature death. A recent study in *Pediatrics* reported that more than one fourth of children, ages 5–10, had one or more adverse cardiovascular disease risk factors. That number rose to nearly 61 percent among overweight children of the same age. Twenty-seven percent of overweight children had two or more risk factors.<sup>8</sup>

The total costs of diseases associated with obesity have been estimated at almost \$100 billion per year, or approximately 8 percent of the national health care budget.<sup>9</sup>

**Calcium Intake and Osteoporosis and Health Care Costs.** Only 30 percent of school children consume the recommended milk group servings on any given day,<sup>10</sup> and only 19 percent of girls ages 9–19 meet the recommended intakes of calcium.<sup>11, 12</sup> Between 1989–91 and 1994–95, among children aged 2–17, the average consumption of milk and milk products dropped by 6.2 percent while the average consumption of soft drinks rose by 41 percent.

Osteoporosis is a growing concern. With almost half of an adult's bone mass being formed during the teen years,<sup>13</sup> the inadequate calcium intakes among children and adolescents is a serious trend. The focus of concern for children has been highlighted by a 1999

statement by the American Academy of Pediatrics Committee on Nutrition: "it is reasonable to conclude that low calcium intakes may be an important risk factor for fractures in adolescents."<sup>14</sup>



**Nutrient Intake and Health Risks.** Only 2 percent of children meet the recommendations of the Food Guide Pyramid. Less than 15 percent of school children eat the recommended servings of fruit.

**Physical Activity and Health Risks and Low Self-Esteem.** Nearly half of young people ages 12–21 do not engage in physical activity on regular basis. Physical activity among adolescents is consistently related to higher levels of self-esteem and lower levels of anxiety and stress.

You can find the complete document, *Eating for Health and Academic Achievement* (with references), at: <http://dpi.wi.gov/fscp/doc/tnarticle.doc>.

