

We also find that subsidized meals at school or day care are beneficial for children's weight status, and we argue that expanding access to subsidized meals may be the most effective tool to use in combating obesity in poor children. - Kimbro & Rigby, 2010

There is a large body of research on the strong links between school breakfast consumption and favorable dietary, health, and educational outcomes among children and adolescents.

School breakfast participation improves children's dietary intake.

- School breakfast participants are more likely to consume diets that are adequate or exceed standards for important vitamins and minerals (e.g., vitamin C, vitamin A, calcium, phosphorous).^{1,2,3}
- Children and adolescents who skip breakfast tend to have poorer nutrient intakes than those who eat breakfast.^{4,5,6} Eating breakfast regularly has been linked with greater intake of fiber, calcium, iron, vitamin C, and other vitamins and minerals, and lower intake of fat, cholesterol, and sodium.^{7,8}
- Children who participate in school breakfast are more likely to consume fruit and milk at breakfast.⁹
- Low-income children who eat school breakfast have better overall diet quality than those who eat breakfast elsewhere or skip breakfast.¹⁰ An improvement in dietary quality also may extend to the family members of children with access to the program.¹¹

School breakfast decreases the risk of food insecurity.

- School breakfast offered to all students for free* may eliminate disparities between food secure and food insecure children in terms of eating breakfast at all.¹²
- Students with improved nutrient intake as a result of a program of school breakfast offered free to all students report decreases in symptoms of hunger.¹³
- Access to school breakfast decreases the risk of marginal food insecurity and breakfast skipping, especially for low-income children.^{14,15}
- Children are more vulnerable to food insecurity during the summer – a time when many do not have access to the good nutrition provided by the regular year school meal programs.¹⁶

School breakfast may protect against childhood obesity.

- School breakfast participation is associated with a lower body mass index (BMI, an indicator of excess body fat), lower probability of overweight, and lower probability of obesity.^{17,18}
- Food insecure girls participating in the school lunch, school breakfast, or Supplemental Nutrition Assistance (SNAP, or food stamps) programs (or all three programs combined) have a lower risk of overweight compared to food insecure girls from non-participating households.¹⁹
- Participation in federally-funded meals in child care, preschool, school, or summer settings is associated with a lower BMI among young, low-income children.²⁰
- Children and adolescents who eat breakfast have more favorable weight-related outcomes (e.g., lower BMI, lower waist circumference, lesser likelihood of being chronically obese) in the short term and long term than those who skip breakfast.^{21,22,23,24,25,26,27}

* Offering breakfast to all students for free is sometimes referred to as "universal breakfast" or "universal-free breakfast." The program helps remove the stigma for low-income children of participation in school breakfast and thereby increases participation among students generally, but particularly low-income students.

- Increasing participation in the federal nutrition programs – including school breakfast – is a childhood obesity prevention strategy recommended by two recent Institute of Medicine (IOM) committees and the White House Task Force on Childhood Obesity.^{28,29,30}

School breakfast participation protects against other negative health outcomes.

- Breakfast skipping among children and adolescents is associated with a number of poor health outcomes and health-compromising behaviors, including higher blood cholesterol and insulin levels, smoking, alcohol use, physical inactivity, disordered eating, and unhealthy weight management practices.^{31,32,33,34}
- School breakfast, including breakfast offered free to all students, has been linked with fewer visits to the school nurse, particularly in the morning.³⁵
- School breakfast participation, especially breakfast offered free to all students, positively impacts children's mental health, including reductions in behavioral problems, anxiety, and depression.^{36,37}
- Food insecurity is associated with some of the most costly health problems in the U.S., including diabetes, heart disease, and depression.^{38,39,40,41} Children experiencing hunger are more likely to experience lower physical functioning, more frequent stomachaches and headaches, and mental health problems (e.g., depression and anxiety), and to be in poorer health.^{42,43,44,45}

School breakfast helps improve children's academic performance, whereas skipping breakfast and experiencing hunger impair development and learning.[†]

- Students who participate in school breakfast show improved attendance, behavior, and academic performance as well as decreased tardiness.⁴⁶
- Participating in school breakfast is associated with improved math grades, attendance, and punctuality.⁴⁷
- Children who are undernourished have poorer cognitive functioning when they miss breakfast.⁴⁸
- Behavioral, emotional, and academic problems are more prevalent among children with hunger.⁴⁹
- Children experiencing hunger have lower math scores and are more likely to repeat a grade.⁵⁰

Breakfast in the classroom programs[‡] and programs offering breakfast free to all children in the cafeteria yield other positive results for health and learning.

- Programs offering breakfast free to all students and breakfast in the classroom boost student breakfast participation.^{51,52,53}
- Students attending schools that offer a breakfast free to all students are more likely to consume a nutritionally substantive breakfast and to consume significantly more calcium, magnesium, phosphorus, fruit, and dairy products at breakfast, when compared to students from schools with a traditional means-tested school breakfast in the cafeteria program.⁵⁴
- Children who increase their school breakfast participation as a result of a school breakfast program offered free to all students show improvements in math scores, attendance, punctuality, depression, anxiety, and hyperactivity.⁵⁵

This brief was prepared by the Food Research and Action Center (FRAC): Heather Hartline-Grafton, DrPH, RD, Senior Nutrition Policy Analyst, with assistance from Madeleine Levin, MPH, Senior Policy Analyst and Lucienne Cross, Summer Intern.

[†] For more information, read FRAC's *Breakfast for Learning* brief available at www.frac.org.

[‡] Breakfast in the classroom programs are an increasingly popular alternative to traditional before-the-bell, cafeteria-based breakfast programs. Breakfast is brought in from the kitchen in containers that keep dishes at the right temperature, or picked up from carts in the hallways as students enter class. Typically this breakfast is offered free to all students. Such programs boost school breakfast participation and remove the stigma associated with participation.

Endnotes

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