RESEARCH BRIEF: BREAKFAST FOR LEARNING

Food Research & Action Center

Skipping Breakfast and Experiencing Hunger Impair Children's Ability to Learn

- Behavioral, emotional, mental health, and academic problems are more prevalent among children and adolescents struggling with hunger.[1,2,3,4]
- Children and adolescents experiencing hunger have lower math scores and poorer grades.[5,6]
- Children experiencing hunger are more likely to be hyperactive, absent, and tardy, in addition to having behavioral and attention problems more often than other children.[7]
- Teens experiencing hunger are more likely to have been suspended from school and have difficulty getting along with other children.[8]
- Children with hunger are more likely to have repeated a grade, received special education services, or received mental health counseling, than low-income children who do not experience hunger.[9]
- Students who are undernourished have poorer cognitive functioning when they miss breakfast.[10]
- Students who skip breakfast are less able to differentiate among visual images, show increased errors, and have slower memory recall.[11]

Eating Breakfast, Including at School, Helps Improve Student Academic Performance and Behavior

- Children who eat breakfast at school — closer to class and test-taking time — perform better on standardized tests than those who skip breakfast or eat breakfast at home.[12]
- Students who eat breakfast the morning of a standardized test have significantly higher scores in spelling, reading, and math, compared to those who do not eat breakfast.[13]
- Student academic achievement increases, especially for math, when schools offer the School Breakfast Program.[14]
- Students who participate in school breakfast show improved attendance, behavior, and academic performance as well as decreased tardiness.[15,16,17,18]
- Providing breakfast to students at school improves their concentration, alertness, comprehension, memory, and learning.[19,20,21]
- Children who eat breakfast show improved cognitive function, attention, and memory.[22]
- Consuming breakfast improves children's performance on mathematical tasks, vocabulary tests, demanding mental tasks, and reaction to frustration.[23,24,25]

Breakfast in the Classroom Programs* and Programs Offering Breakfast at no Cost to all Children† in the Cafeteria Yield Other Positive Results

- Children who increase their school breakfast participation as a result of a school breakfast program offered at no cost to all students show greater improvements in math scores, attendance, punctuality, depression, anxiety, and hyperactivity than children whose participation remains unchanged or decreases.[26]

*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 is picked up from carts in the hallways as students enter class. Typically this breakfast is offered at no cost to all students. Such programs boost school breakfast participation and remove the stigma associated with participation.

†Offering breakfast at no cost to all students 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.

- Providing students with breakfast in the classroom setting is associated with lower tardy rates, fewer disciplinary office referrals, and improved attendance rates.[27,28]
- Student math and reading achievement test scores improve when breakfast is moved out of the cafeteria and into the classroom.[29]
- Schools that offer breakfast at no cost to all students have higher breakfast participation, especially when breakfast is served in the classroom.[30,31,32,33,34,35]
- Breakfast in the classroom is associated with more students eating breakfast as well as better overall dietary quality.[36]
- Students attending schools that offer breakfast at no cost 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 program.[37]
- Schools that offer breakfast in the classroom programs at no cost to all students experience an increased sense of community and reduced stigma associated with eating breakfast at school.[38,39,40]

Beliefs About Breakfast Can Influence Participation in School Breakfast

- Adolescent girls often skip breakfast because they believe it might contribute to weight gain.[41,42]
- Adolescents who skip breakfast are significantly more likely to have fasted to lose weight.[43]
- Children report that they believe eating breakfast increases their energy and ability to pay attention in school.[44]

School Breakfast Decreases the Risk of Food Insecurity

- School breakfast offered at no cost to all students may eliminate disparities between food-secure and food-insecure children in terms of eating breakfast at all.[45]
- Students with improved nutrient intake as a result of a program that offers school breakfast at no cost to all students report decreases in symptoms of hunger.[46]
- Access to school breakfast decreases the risk of marginal food insecurity and breakfast skipping, especially for low-income children.[47,48,49]
- Rates of food insecurity among children are higher in the summer — a time when many do not have access to the good nutrition provided by the school meal programs available during the academic year.[50,51]

School Breakfast Can Improve Children's Dietary Intake and Protect Against Obesity and Other Negative Health Outcomes‡

- 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).[52,53,54]
- Children and adolescents who skip breakfast tend to have poorer nutrient intakes than those who eat breakfast. 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.[55,56,57]
- School breakfast participation is associated with a lower body mass index (BMI, an indicator of excess body fat), lower probability of being overweight, and lower probability of obesity.[58,59,60,61]
- 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, decreased risk of obesity) in the short term and long term than those who skip breakfast.[62,63,64,65,66,67,68,69,70,71]
- School breakfast, including breakfast offered at no cost to all students, has been linked with fewer visits to the school nurse, particularly in the morning.[72]

‡For more information, read FRAC's *Breakfast for Health* brief available at www.frac.org.

This brief was originally prepared in September 2011 and updated in the spring of 2014 by FRAC's Madeleine Levin, MPH, Senior Policy Analyst. This brief was updated again in October 2016 by FRAC's Heather Hartline-Grafton, DrPH, RD, Senior Nutrition Policy and Research Analyst.

Endnotes

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