

Proven Impacts of School Breakfast



Research shows why breakfast is the most important meal of the day. While it is intuitive that students need food to fuel their brains, recent research has helped quantify the true impact of school breakfast. The results corroborate what we have always known: breakfast is the most important meal of the day.

SKIPPING BREAKFAST AND EXPERIENCING HUNGER IMPAIR A CHILD'S ABILITY TO LEARN

- Hunger increases impulsivity, hyperactivity, irritability, aggression, and anxiety. ¹
- Children experiencing hunger are more likely to have behavioral problems, difficulty with pro-social behavior, and overall poorer school functioning. ²
- Skipping breakfast has been associated with weight gain and reduction in overall nutritional intake ^{11, 12}
- Children who skip breakfast have lower intakes of whole fruits, whole grains, milk, and essential vitamins and minerals ¹³

EATING BREAKFAST AT SCHOOL HELPS IMPROVE CHILDREN'S ACADEMIC PERFORMANCE

- Providing breakfast to students at school improves their concentration, alertness, comprehension, memory, and learning. ^{3,4,5}
- School breakfast programs can increase math standardized test scores and academic achievement in some science and English classes. ^{14,15}
- Children who eat breakfast have superior performance on attention and memory tests ¹¹
- Breakfast positively impacts on-task behavior and class participation while reducing out of seat and hyperactive behavior ¹⁵

SCHOOL BREAKFAST ACCESS YIELDS POSITIVE RESULTS FOR HEALTH AND LEARNING

- Students who participate in school breakfast show improved attendance, behavior, and standardized achievement test scores as well as decreased tardiness. ⁶
- Children report that they believe eating breakfast increases their energy and ability to pay attention in school. ⁸

INCREASING BREAKFAST IMPACTS ATTENDANCE AND NUTRITION

- Attendance rates are higher for schools that serve school breakfast, particularly for those that serve breakfast in the classroom ^{15, 16}
- Increased availability of school breakfast increases student achievement by increasing their overall nutritional intake ¹⁴

SCHOOL BREAKFAST CAN IMPROVE CHILDREN'S NUTRITION AND PROTECT AGAINST OBESITY

- Kids who eat breakfast have higher dietary fiber, carbohydrate, and whole grain intake, and lower total fat and cholesterol intake than those who do not eat breakfast ^{13, 17}
- School breakfast participants have significantly lower intakes of cholesterol, unhealthy beverages, and total fat than those who do not participate in the school breakfast program ^{14,17}
- 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. ^{9,10}

SCHOOL BREAKFAST DECREASES THE RISK OF FOOD INSECURITY AND PROVIDES NUTRITION TO STUDENTS

- Access to school breakfast programs reduces the likelihood of food insecurity by over 15% for elementary school children ¹⁸
- Children who eat school breakfast get 20% of their daily energy intake from school breakfast program. ¹⁹
- Children who eat both school breakfast and lunch get almost half of their daily energy intake from school meals, as well as over half their fruit taken, 40% veggie intake, half their grains, and 70% of their milk intake ¹⁹

Adapted from Food Research and Action Center's Breakfast for Learning: scientific research on the link between children's nutrition and academic performance. 2011.



- 1 Nettle, D. (2017). Does Hunger Contribute to Socioeconomic Gradients in Behavior? *Frontiers in Psychology*, 8, 358.
- 2 Hannum, & Hu. (2017). Chronic undernutrition, short-term hunger, and student functioning in rural northwest China. *International Journal of Educational Development*, 54, 26-38.
- 3 Grantham-McGregor S, Chang S, Walker S. "Evaluation of School Feeding Programs: Some Jamaican Examples." *American Journal of Clinical Nutrition* 1998; 67(4) 785S–789S.
- 4 Brown JL, Beardslee WH, Prothrow-Stith D. "Impact of School Breakfast on Children's Health and Learning." Sodexo Foundation. November 2008
- 5 Morris CT, Courtney A, Bryant CA, McDermott RJ. "Grab 'N' Go Breakfast at School: Observation from a Pilot Program." *Journal of Nutrition Education and Behavior* 2010 42(3): 208–209.
- 6 Murphy JM. "Breakfast and Learning: An Updated Review." *Journal of Current Nutrition and Food Science* 2007; 3(1): 3–36.
- 7 Murphy, J. M., Pagano, M., Nachmani, J., Sperling, P., Kane, S., & Kleinman, R. (1998). (see endnote #9)
- 8 Murphy JM, Drake JE, Weineke KM. "Academics & Breakfast Connection Pilot: Final Report on New York's Classroom Breakfast Project." *Nutrition Consortium of New York State*. Albany, New York. July 2005.
- 9 Gleason, P. M. & Dodd, A. H. (2009). School breakfast program but not school lunch program participation is associated with lower body mass index. *Journal of the American Dietetic Association*, 109(2 Supplement 1), S118–S128.
- 10 Millimet, D. L., Tchemis, R., & Husain, M. (2009). School nutrition programs and the incidence of childhood obesity. *Journal of Human Resources*, 45(3), 640–654.
- 11 Wesnes KA, Pincock C, Scholey A. Breakfast is associated with enhanced cognitive functioning in schoolchildren. An internet based study. *Appetite*. 2012; 59(3):646-649
- 12 Wang, S., Schwartz, M., Shebl, F., Read, M., Henderson, K., & Ickovics, J. (2017). School breakfast and body mass index: A longitudinal observational study of middle school students. *Pediatric Obesity*, 12(3), 213-220.
- 13 Deshmukh-Taskar PR, Radcliffe JD, Liu Y, Nicklas TA. Do breakfast skipping and breakfast type affect energy intake, nutrient intake, nutrient adequacy, and diet quality in young adults? NHANES 1999-2002. *J Am Coll Nutr*. 2010;29(4):407-418
- 14 Frisvold, D. (2015). Nutrition and cognitive achievement an evaluation of the School Breakfast Program. *Journal of Public Economics*, 91-104.
- 15 Adolphus K, Lawton CL, Dye L. The effects of breakfast on behavior and academic performance in children and adolescents. *Front Hum Neurosci*. 2013;7:425. doi:10.3389/fnhum.2013.00425.
- 16 Anzman-Frasca, S., Djang, H., Halmo, M., Dolan, P., & Economos, C. (2015). Estimating impacts of a breakfast in the classroom program on school outcomes. *JAMA Pediatrics*, 169(1), 71-7.
- 17 Affenito, S., Thompson, D., Dorazio, A., Albertson, A., Loew, A., & Holschuh, N. (2013). Ready-to-Eat Cereal Consumption and the School Breakfast Program: Relationship to Nutrient Intake and Weight. *Journal of School Health*, 83(1), 28-35.
- 18 Fletcher, J., & Frisvold, D. (2017). The Relationship between the School Breakfast Program and Food Insecurity. *Journal of Consumer Affairs*, 51(3), 481-500
- 19 Cullen, K., & Chen, T. (2017). The contribution of the USDA school breakfast and lunch program meals to student daily dietary intake. *Preventive Medicine Reports*, 5, 82-85.