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Impacts of Breakfast on Cognitive Function, and Children's Performance: A Review Study

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Abstract:

Breakfast, usually eaten after a night of fasting or an extensive time without eating, is frequently regarded as the day's most important meal. Eating in the morning has been shown to improve memory recall, children's academic performance, mood, workplace productivity, cognitive abilities, women's health issues like irregular menstrual cycles, and obesity reduction, as well as body mass index, according to numerous health surveys and cross-sectional studies. However, people worldwide often skip breakfast for various reasons, such as lack of morning hunger, family dynamics, single-parent families, scheduling restrictions, or fallacies like the idea that skipping breakfast causes weight gain. Skipping breakfast might have detrimental effects on one's health. In light of the growing global trend of skipping breakfast, this review looks at how breakfast affects children's cognitive abilities and performance. It also hopes to inspire researchers to develop quick, wholesome breakfast options and increase awareness of the value of eating breakfast.

Keywords: Effect, Breakfast, Cognitive, Performance of children

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Introduction

The first meal of the day is breakfast. A nutritious breakfast is connected to longstanding health rank throughout life and gives middle-aged children the vital nutrients they need for their activities. It is also associated with bettering an individual's overall nutritional status and gives school-age children the vital nutrients they need for their activities (Souza, 2023).

Additionally, breakfast is the first meal of the day and possibly the most significant one. Apart from providing energy, it also improves mental abilities, such as focus intelligence quotient IQ, and physical activity levels. Breakfast

is supposed to provide one-fourth to one-third of the daily required nutrients, however, youngsters may miss this crucial meal due to changing lifestyles and habits of food consumption (Weliwita, 2024).

Skipping breakfast is associated with many health issues as well as poorer cognitive, emotional, and academic learning and achievement outcomes. In addition to missing school, associated nutritional disturbances (i.e., any situation that results in a nutritional deficit or imbalance) manifest as apathy, anger, and drowsiness (ALBashtawy, 2017)

Additionally, by encouraging their children to eat a healthy diet, parents and other caregivers can set a good example for them. For this reason, they must learn about their children's meal acceptance patterns to influence their food preferences by improving their knowledge, attitudes, and behaviors related to healthy eating (ALBashtawy, 2017)

School children who eat breakfast will receive between 25% and 33% of their daily necessary energy needs; eating a good breakfast is associated with bettering one's overall nutritional status; also, enhanced attentiveness, learning, and skills throughout the day The school years are a period of swift change, expansion, and maturation. Additionally, the child's parents, family, friends, classmates, and teachers all shape and influence their eating habits during this time (Mahmood et al., 2021).

Also, To avoid undernutrition, developmental retardation, and severe nutritional issues in children, they must adopt appropriate eating habits. Avoiding long-term, chronic health issues including obesity, heart disease, type 2 diabetes, and stroke is also crucial (Capra et al., 2021)

Breakfast has become more popular People's interest in health has expanded along with living standards. The relevance of breakfast is particularly highlighted by the publication of research findings that indicate it influences school-age children's and adolescents' academic performance in addition to their health (Jeong, 2019)

Furthermore, as the value of breakfast is increasingly recognized, many nations are offering school-age children who miss breakfast because of hectic morning schedules meals at school. Since 2008, the Seoul Metropolitan Government in Korea has run a program known as the Good Morning Breakfast Club, which provides middle and high school students with breakfast. This program has improved eating habits and dietary intake status, increased the frequency of breakfast consumption, and improved school life, demonstrating that breakfast has an impact beyond just breakfast (CAMPOS-RAMOS et al., 2022)

Effect of breakfast on the cognitive function of children:

compared to breakfast exclusion in a teen group. found that regular intake of a cereal-based breakfast was associated with lower cortisol levels, whereas stress was associated with higher cortisol levels (López-Gil et al., 2022; Rani et al., 2021). Children who eat breakfast daily have reported improved reasoning or intellectual ability, and better exercise habits. Eating breakfast has been shown to enhance mental performance in areas such as memory, test scores, and school attendance. A higher-quality breakfast can enhance the overall quality of a child's diet and have a good effect on their mental health. On a speaking fluency test, eating a larger breakfast was also associated with a better presentation. Breakfast had a significant impact on temperament as a determinant of eating and body image satisfaction (Lundqvist et al., 2019; Edefonti et al., 2014).

Breakfast consumption is linked to mental alertness. Research has demonstrated that breakfast can significantly improve mental alertness, particularly in school-age children and teenagers. A meta-analysis compared breakfast skipping with breakfast consumption based on nutrient composition. Research has demonstrated that breakfast improves cognitive function, with short-term benefits for memory, attention, creativity, and, most importantly, for children who are malnourished (Souza, 2023; Adolphus et al., 2013).

Impact of Breakfast on the school- children performance:

It has been proposed that breakfast improves children's conduct, cognitive function, and academic achievement. They require a steady flow of glucose-based energy to sustain their elevated metabolic rate. Regular breakfast eaters are more likely to consume more dietary fiber, more total carbohydrates, and less total fat and cholesterol, among other beneficial nutrients. Waist circumference was found to be correlated with increased bakery consumption,

between-meal snacking, and skipping breakfast (in older children). The significance of breakfast to a person's health status over time is particularly crucial for youngsters whose daily nutritional intake barely satisfies their needs (Sivapatham, 2016).

Behavior changes are likely to reflect changes in cognitive performance. An increase in on-task conduct during classes may indicate a rise in attention after breakfast as opposed to not eating breakfast. Similar to this, alterations in cognitive function may have a cumulative effect on academic results and school performance. It is anticipated that eating breakfast will have short-term positive impacts on cognitive performance that are exclusive to specific mental functions and the morning in which it is ingested. Although most studies have not examined this, these immediate or acute effects may translate into improvements in academic performance with habitual or regular breakfast eating. Therefore, Frequent breakfast consumption may cause temporary alterations in cognitive function during instruction (like memory and attention), which could result in notable gains in academic performance due to an improved ability to concentrate and remember information during instruction (Adolphus et al., 2013).

Breakfast is a vital source of fuel following an overnight fast, and numerous studies have confirmed the favorable correlation between breakfast eating and children's cognitive function. Cognitive assessments such as logical thinking and skipping breakfast have a detrimental effect on attention, short-term memory, and problem-solving skills. Compared to well-nourished children, the impact of breakfast on cognitive function is more noticeable in undernourished children. This might be because children who are malnourished do not consume enough nutrients for the structural and functional development of their brains. Previous studies have found a connection between poor nutritional status and poor cognitive development. It was discovered that rats' myelinization, synaptogenesis, hippocampus development, and neurotransmission are all impacted by starvation. However, there aren't many human studies that explain how hunger affects people's brains and cognitive capacities(Mishra, 2016).

CONCLUSION:

It has been discovered that giving kids breakfast enhances their cognitive abilities, especially their memory, attention, and executive function. Development in academic performance as measured by achievement test results and grades Improve the class's on-task conduct Visit our National School Breakfast Programmed website here if this study has piqued your interest in learning more about how we help thousands of kids learn by serving school breakfasts. Watch the video below to learn more about the studies.

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