

# Breakfast: A crucial meal for adolescents' cognitive performance according to their nutritional status. the cogni-action project

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## Abstract

This study aimed to determine whether pupils who have breakfast just before a cognitive demand, do not regularly skip breakfast, and consume a high-quality breakfast present higher cognitive performance than those who do not; furthermore, to establish differences according to their nutritional status. In this study, 1181 Chilean adolescents aged 10–14 years participated. A global cognitive score was computed through eight tasks, and the body mass index z-score (BMIz) was calculated using a growth reference for school-aged adolescents. The characteristics of breakfast were self-reported. Analyses of covariance were performed to determine differences in cognitive performance according to BMIz groups adjusted to sex, peak height velocity, physical fitness global score, and their schools. A positive association was found in adolescents' cognitive performance when they had breakfast just before cognitive tasks, did not regularly skip breakfast, presented at least two breakfast quality components, and included dairy products. No significant differences were found between breakfast components, including cereal/bread and fruits/fruit juice. Finally, pupils who were overweight/obese who declared that they skipped breakfast regularly presented a lower cognitive performance than their normal-BMIz peers. These findings suggest that adolescents who have breakfast just prior to a cognitive demand and regularly have a high quality breakfast have better cognitive performance than those who do not. Educative nutritional strategies should be prioritized, especially in “breakfast skippers” adolescents living with overweight/obesity.

## Author keywords

Breakfast  
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Nutrition  
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