

# Rigorous study confirms video game playing increases food intake in teens

May 17 2011

---

The US Centers for Disease Control and Prevention estimates that almost 18% of US teens are obese. Although most experts agree that our growing obesity "epidemic" is driven by both inadequate physical activity and excessive caloric intake, implementing solutions is extraordinarily difficult. One area that has caught the attention of health researchers is the observation that trends in video game playing parallel obesity rates on a population basis. Furthermore, several studies have documented a positive association between how much time a child plays video games and his or her chance of being obese. However, correlation does not necessarily imply causality, and controlled intervention studies are required to test whether playing video games causes children to increase their food intake and/or decrease their energy expenditure. In the first such study of this kind, Canadian and Danish researchers tested their hypothesis that video game playing is accompanied by increased spontaneous food intake.

"This study is an especially important piece of the scientific puzzle in this arena because it went beyond simply simultaneously documenting the relationship between video game playing and food intake in kids," said Shelley McGuire, PhD, American Society for Nutrition spokesperson. "Instead, it actually studied the same group of children during two separate, experimentally-administered periods of rest and video-game play, and then used gold-standard methods to measure important outcomes such as food intake, [energy expenditure](#), and feelings of hunger and appetite. Consequently, the results can be used with a high degree of confidence to suggest that playing virtual soccer

can affect food intake. Very interesting! Given our current obesity "crisis" in kids, I will be curious to follow the results of follow-up studies. For instance, do [violent games](#) or [educational games](#) have the same effect as sports-related games?"

Healthy, normal-weight male teens (mean age: ~17 y) were studied in this crossover intervention trial consisting of two 1-h periods. In one period, subjects rested (control period); in the other, they played video games. For both study periods (which occurred at 10:30 AM), the youth reported to a research laboratory after an overnight fast and were provided with a standardized breakfast (8:00 AM). During the intervention periods, blood samples were collected every 10 min, and energy expenditure was assessed by using indirect calorimetry. Immediately thereafter, each participant was offered full access to a spaghetti lunch. [Food intake](#) and measurements of hunger, satiety, fullness, and appetite were assessed.

Blood glucose concentrations increased more when playing video games than during the control period, but there was no differential effect on insulin or ghrelin (a hormone thought to signal the sensation of hunger to the brain). Energy expenditure was 21 kcal/h higher during video [game play](#) than during the resting condition. However, subjects ate 80 more kilocalories after playing the video games than they did after the control period. This resulted in a net positive energy of 163 kcal during the entire day when video games were played compared with when subjects rested, despite the fact that the subjects reported similar appetite ratings during these periods.

The authors concluded that their results provide preliminary evidence that male teens playing video games for 1 h consume more calories in the short-term than they do after 1 h of rest. Moreover, overconsumption of food after [playing video games](#) occurs without changes in perceived hunger and appetite. Additional studies are needed to determine the long-

term effects on weight gain and health.

Provided by American Society for Nutrition

Citation: Rigorous study confirms video game playing increases food intake in teens (2011, May 17) retrieved 2 May 2024 from <https://medicalxpress.com/news/2011-05-rigorous-video-game-food-intake.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.