

Chef-enhanced school meals increase healthy food consumption

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Schools collaborating with a professionally trained chef to improve the taste of healthy meals significantly increased students' fruit and vegetable consumption, according to a new study led by researchers from Harvard T.H. Chan School of Public Health. The study also found that using "choice architecture" (environmental nudges to promote healthy choices) in school cafeterias improved students' selection of fruits and vegetables, but did not increase consumption over the long-term. The study is the first to examine the long-term impact of choice architecture and chef-enhanced meals in school cafeterias on selection and consumption of healthier foods.

"The results highlight the importance of focusing on the palatability of [school meals](#). Partnerships with chefs can lead to substantial improvements in the quality of [school](#) meals and can be an economically feasible option for schools," said lead author Juliana Cohen, research fellow in the Department of Nutrition at Harvard Chan. "Additionally, this study shows that schools should not abandon [healthier foods](#) if they are initially met with resistance by [students](#)."

The study will be published online in *JAMA Pediatrics*, March 23, 2015.

Some 32 million U.S. students eat school meals every day; for many low-income students, up to half their daily calories come from school meals. More than 15,000 U.S. schools have implemented choice architecture methods, which encompasses techniques such as placing healthy options at the beginning of the buffet line or placing white milk in front of sugar-

sweetened milk.

The researchers conducted a school-based [randomized clinical trial](#) during the 2011-2012 school year among 14 elementary and middle schools in two urban, low-income school districts in Massachusetts. Included in the study were 2,638 students in grades three through eight. The schools were randomly assigned to receive weekly training and recipe design from a professionally trained chef; some received choice architecture techniques (referred to as "smart café"); some received both; and the rest (control schools) received no intervention.

After three months of exposure to the chef intervention, students selected 8% more vegetables than students at the control schools. After seven months, students in the chef intervention were 20% more likely than control school students to choose a fruit and 30% more likely to choose a vegetable. Their consumption of these foods—meaning how much of the selected items were actually eaten—increased by similar percentages.

After four months, smart café students increased their vegetable selection over control students by about 17% and fruit selection by 3%, but consumption didn't improve. There was no significant change in selection or consumption of white milk over chocolate milk. The schools with combined smart café and chef intervention fared only modestly better than the schools with chef alone.

"Our study was not testing whether a local celebrity chef was good for the school lunch program. Our goal was to have a chef who could work with the whole school district to train personnel and to design more palatable recipes without increasing the cost of the meal. It was a great success and really illustrated that through persistence school-aged children can learn to like healthy whole grains, fruits, and vegetables especially if they taste good. In the end, the quality and taste of the food

was much more impactful on consumption than were the effects of choice architecture," said senior author Eric Rimm, professor in the Departments of Epidemiology and Nutrition at Harvard Chan. "Schools should therefore put more effort into improving the palatability of school meals for the biggest impact on students' diets. Additionally, schools may want to consider policies that eliminate chocolate milk as choice architecture was not an effective strategy to improve white milk selection."

Chef-enhanced recipes are included in the book *Let's Cook Healthy School Meals*, which can be downloaded at:

<http://support.projectbread.org/site/PageServer?pagename=schoolcookbook>

More information: "Effects of Choice Architecture and Chef-Enhanced Meals on the Selection and Consumption of Healthier School Foods: A Randomized Clinical Trial," Juliana F.W. Cohen, Scott A. Richardson, Sarah A. Cluggish, Ellen Parker, Paul J. Catalano, Eric B. Rimm, *JAMA Pediatrics*, online March 23, 2015, [DOI: 10.1001/jamapediatrics.2014.3805](https://doi.org/10.1001/jamapediatrics.2014.3805)

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