

# Iowa State study finds health value to children of National School Lunch Program

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The federally funded National School Lunch Program (NSLP) provides free and reduced-price meals to more than 31 million children every school day, according to its website (<http://www.fns.usda.gov/cnd/lunch/>). And a recent study by current and former Iowa State University researchers confirmed that school lunches improve the health outcomes of children who reside in low-income households.

The researchers analyzed data from nearly 2,700 NSLP children (ages 6-17) taken from the 2001-04 National [Health](#) and [Nutrition Examination Survey](#). Their study finds that the NSLP reduces the prevalence of food insecurity -- a situation in which an individual cannot access enough food to sustain active, healthy living -- by 3.8 percent, poor general health by 29 percent, and the rate of obesity by at least 17 percent in its participants.

"Our first objective was to try to provide policymakers with the best estimates of the effects of the NSLP on the well-being of children," said Brent Kreider, an Iowa State professor of economics who collaborated on the study. "We think our results provide good evidence that the [school lunch](#) program is having generally beneficial effects on children's health outcomes. Of course we can't say that all children benefit, but it appears from our results that the prevalence of [food insecurity](#), poor general health and obesity would be higher without the program."

Craig Gundersen, a former ISU professor of human development and

family studies who now is a professor in the Department of Agricultural and Consumer Economics at the University of Illinois; and John Pepper, an associate professor of economics at the University of Virginia, also collaborated on the research. The study was posted online by the Journal of Econometrics ([www.sciencedirect.com/science/.../S0304407611001205](http://www.sciencedirect.com/science/.../S0304407611001205)) and will be published in an upcoming issue of the journal.

To study the impact of school lunch on children's nutritional health, the researchers used data from the National Health and Nutrition Examination Survey, conducted by the National Centers for Health Statistics, Centers for Disease Control -- a program of surveys designed to assess the health and nutritional status of adults and children in the United States through interviews and direct physical examinations. Their sample included 2,693 children between the ages of 6 and 17 who were reported to be attending schools with the NSLP and residing in households with income less than 185 percent of the federal poverty line.

Kreider says it's been well documented that children who qualify for free and reduced-price school lunches tend to have worse health than their fellow students.

"What is more difficult to identify is the causal role of the program itself when children are not randomly assigned into the NSLP," Kreider said. "Parents and teachers who know that particular children are not getting adequate nutrition at home may be self-selecting such children into the program. This can make it appear that the program is ineffective when it is really just the composition of high-risk beneficiaries."

Kreider and his colleagues' analysis developed new statistical methods capable of estimating causal "treatment effects" for government assistance programs when participation and eligibility are imperfectly measured. While their data came from 2001-04, Kreider says the basic

structure of the NSLP and its participation rate haven't changed much in recent years, so the researchers expect their conclusions to be stable across time.

Among their findings, Kreider found the rate of obesity reduction to be the most surprising.

"We didn't expect to find such a large effect of the NSLP on reducing the obesity rate," Kreider said. "Theoretically, the impact of reduced-price lunches on obesity is ambiguous. Because NSLP administrators must adhere to nutritional guidelines, one might expect the NSLP to reduce obesity. But school lunches might also lead to higher caloric intakes, and possibly more fat-related calories."

"The magnitude of this effect was surprising to us, though we are not estimating an amount of weight loss but rather changes in the fraction of children above a specific threshold. This large percentage change may also reflect the somewhat small base," he said.

The new study contradicts previous research suggesting that the NSLP actually increases the obesity rate. For that reason, Kreider says he's looking forward to future literature on the topic.

Still, the researchers conclude that their analysis shows that the NSLP program significantly improves the well-being of [children](#) in several dimensions.

They plan to continue studying the [health outcomes](#) of participants in government programs that target low-income households.

Provided by Iowa State University

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