

## Study: Impact of food waste campaigns muted, but point toward right direction

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Food waste campaigns are a low-cost way to curb waste at all-you-can-eat dining establishments, but they may need to be combined with other environmental changes to make a difference, says new research co-written by Brenna Ellison, a professor of agricultural and consumer economics at Illinois. Credit: L. Brian Stauffer

Food waste can be problematic at all-you-can-eat buffet-style restaurants or university dining halls for obvious reasons: With little incentive to pile less food on their plate, diners tend to overindulge.

One way to curb such behavior is a food waste-reduction campaign, which serves as a low-cost solution for promoting the virtues of moderation at the buffet line. But according to new research co-written by a University of Illinois expert who studies consumer food choice and behavior, food waste-reduction campaigns in such settings, however well-intentioned, may have limited efficacy.

Research from Brenna Ellison, a professor of agricultural and consumer economics at Illinois, indicates that the impact of a food waste-education campaign produced a modest, though not statistically significant, reduction in the average waste per diner in an all-you-can-eat dining setting.

"Food waste can be difficult to combat in all-you-care-to-eat settings like buffets and dining halls," she said. "Education campaigns can be a low-cost way to make consumers aware of food waste, but they may have smaller impacts on waste behavior. For greater waste reduction, education campaigns may need to be combined with [environmental changes](#) such as removing the flat-fee pricing structure or pre-portioning [food items](#)."

Ellison and her co-authors sought to determine the efficacy of introducing a food waste-reduction campaign in a university dining hall setting, as food waste is especially prevalent in university dining facilities, which serve younger consumers who tend to be more wasteful than the average adult.

"In general, the food service industry generates an inordinate amount of food waste, and in all-you-care-to-eat dining settings on a college

campus, the problem is exacerbated," Ellison said.

The research took place at two dining facilities on the U. of I.'s Urbana campus during the fall 2016 semester. Consumer plate waste was collected, sorted and weighed at the two dining halls—a treatment site and a comparison site—to assess the impact of an education campaign on the quantity and type of food waste.

"This study is unique in that diners were not tracked," Ellison said. "In other words, they didn't know that their waste was being monitored when they made their food choices, which means we were more likely to observe diners' natural eating behaviors."

The education campaign consisted of a series of pole-wrap posters placed in the student seating area of the treatment site that contextualized the problem of food waste in the U.S.; signage displayed at dining hall entry points and at multiple stations throughout the serving area that tracked student plate waste at lunch; and napkin inserts displayed throughout the student seating area.

The food waste-education campaign had little impact on behavior. Before the campaign, the average student wasted 88 grams of food in the treatment dining facility—the equivalent of about one chicken breast per student meal. After the campaign, the average student decreased their food waste by a modest 3.45 grams, or a 3.9 percent reduction in total food waste.

Although the finding is statistically insignificant, for a dining facility that serves 10,000 students, the aggregate reduction in waste during lunch each week (Monday-Friday) would be 76 pounds of food—an amount that may be far from negligible for a food service operator, Ellison said.

"This study also sorted plate waste so we could determine which meal components—like protein or fruits and vegetables—were wasted in greater volumes," she said. "This is important to food service operators who may be looking to estimate the financial impact of food waste, as foods like meat proteins are likely more expensive than grains and pastas."

Although behavior was relatively unaffected by the education campaign, the researchers observed improvements in some student beliefs related to food waste in the dining halls.

"The campaign resulted in an increased recognition that the dining halls were invested in reducing food waste, and in an increased awareness that individual actions could make an impact on the food waste problem," Ellison said. "The latter could be a signal that students are moving from a state of pre-contemplation, where there is little recognition that a behavior such as [food](#) waste is problematic, to a state of contemplation, in which the problem is acknowledged and behavioral change is considered."

While consumer education has been identified as a potentially useful tool in fighting [food waste](#), the results suggest that passive education alone is unlikely to be an effective intervention strategy for reducing plate [waste](#), particularly in an all-you-can-eat dining environment.

"Given the setting of the current study, this finding may not generalize to all consumer education efforts, but it contributes to the broader discussion of how information impacts behavior, which may be an important first step to achieving lasting behavioral change," Ellison said.

**More information:** Brenna Ellison et al, Every plate counts: Evaluation of a food waste reduction campaign in a university dining hall, *Resources, Conservation and Recycling* (2019). [DOI](#):

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