

Symbols, such as traffic lights, on menus effective in educating diners

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Brenna Ellison, a professor of agricultural and consumer economics, says the combination of a symbol and a numeric calorie count on a menu is the most effective way to influence patrons to select lower-calorie items. Credit: L. Brian Stauffer

A little-noticed provision of the Affordable Care Act requires all chain restaurants and retail food establishments with 20 or more locations to list calorie counts on their menus. But according to research co-written by a University of Illinois agricultural economist, numeric calorie labels might not be the most effective way to influence patrons to select "healthier" (often interpreted as lower-calorie) items.

Brenna Ellison, a professor of agricultural and consumer economics, says placing a symbolic label in addition to the numeric calorie information on a menu is a better way to reach more diners, from the least to the most health-conscious.

"Our research found that if only numeric calorie labels are implemented, the effect on calories ordered will be smaller in [magnitude](#), but less health-conscious patrons are still likely to respond

to the information by ordering lower-calorie items, which is good," she said. "However, if you go one step further and add a symbol – in our case, a traffic light symbol – to the existing calorie information, that extra step benefits even the most health-conscious individuals."

For the health-conscious, it may provide an extra piece of information that they did not already know.

"The traffic light may function as a normative suggestion as to what is 'better' or 'worse' for diners to eat," Ellison said. "Thus, by reducing the number of calories ordered for diners across all levels of health-consciousness, the combination calorie-traffic light label seems to be more effective than the numeric calorie label alone."

The research, co-written by Jayson L. Lusk and David Davis, both of Oklahoma State University, was conducted in a full-service restaurant where patrons were randomly assigned one of three different types of menus – some with no information about calories; some with the number of calories listed; and some with a symbol (in this case, a traffic light symbol with red, yellow and green lights indicating specific calorie ranges) in addition to the numeric calorie label.

The results show that the number-only calorie labels had the greatest impact on those who were the least health-conscious.

"That's good news, because this is exactly who the government is trying to reach with this information," Ellison said. "However, labels of any form – so long as they are relatively easy to understand – are likely to have the largest impact on less health-conscious diners because the information is new to these individuals."

For the highly health-conscious, adding the traffic light symbol to the existing calorie information further reduced the number of calories ordered.

"[Calorie counts](#) did provide the most health-conscious with additional information, but it was the symbol that really enhanced the information provided to these consumers," she said. "This is most likely because the symbol offered new information to these diners."

So if the government is looking for a policy that would help the largest possible demographic, adding a symbol to the calorie information might be a more effective way to influence food choices, Ellison says.

"A downside to the [Affordable Care](#) Act legislation as currently proposed is that it just provides a number," she said. "If we've learned anything about consumers, it's that people often operate under time constraints and are very convenience-oriented. Not every restaurant diner has time to read – or even wants to read – the number of calories listed for each menu item. Those decisions are often made quickly. For this reason, a symbol might be especially helpful in communicating with the broadest groups of consumers."

In 1980, 30 percent of meals were consumed outside of the home. Now it's about 40 percent, according to the paper. The proportion of food dollars spent outside the home has hovered between 46 and 49 percent since 2000, according to the Economic Research Service.

"Though expenditures outside the home have leveled off in recent years, it's still a substantial proportion of food dollars spent and calories consumed outside of the home," Ellison said. "If the labels work and the effect of the label persists to subsequent restaurant visits, even small reductions in the number of calories consumed could add up in the long run in terms of a few pounds in a year."

But if the labels only result in a one-time calorie reduction, the effect is relatively small. On average, the combination calorie-traffic light label only reduced total calories ordered by about 69 calories, Ellison says.

"An individual could reduce twice as many calories simply by not drinking a soda," she said.

Ellison notes that the research does have an additional takeaway for consumers: Calorie labels were more likely to influence the selection of the main entrée as opposed to supplemental items such as drinks and desserts.

"While both [calorie labels](#) reduced entrée calories ordered, both also actually increased extra calories ordered from additional sides, desserts, drinks, etc., compared to the menu with no nutrition information," she said. "So there does seem to be what we call a 'licensing effect,' which could also potentially be a concern. In other words, people might reward themselves for ordering a low-calorie entrée by adding on a dessert, ultimately negating the entrée calorie reduction. Research has shown people don't want to be future-oriented. When you're hungry, you're hungry now. You're not thinking of yourself in 20 years."

Another stumbling block for consumers could be foods that have associated "health halos," Ellison warns.

"Salads are a common example of a food that experiences the 'health halo' effect," she said. "Consumers expect salads to be healthy because they have many vegetables. They think that no matter what else is added to the salad, it should still be healthy. While this logic is often used, unfortunately, it's not sound. In actuality, by adding any type of meat or dressing to a full-portion salad, the salad quickly approaches the threshold for red-light foods."

Ellison says the symbol doesn't necessarily have to be a traffic light.

"It could very well be something else," she said. "The traffic light is being used in the U.K. and Australia in a slightly different form, but since it's being used elsewhere, we wanted to try it here. You could use a star rating system or some other variation, but negative information" – in this case, a red traffic light – "seems to affect people more than positive."

The study also asked respondents which type of label they preferred.

"It turns out that the [traffic light](#) was the least preferred even though it was the most effective," she said. "The numeric label, however, was the most well liked, which struck us as odd. It seems as though people want the information, but they don't necessarily want to be told how to apply it. In other words, they want to know how many [calories](#) are in foods, but they don't think it's our job to tell them whether those foods are good or bad."

More information: The research was published in the *International Journal of Behavioral Nutrition and Physical Activity*.

www.ijbnpa.org/content/pdf/1479-5868-10-21.pdf

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