

Giving consumers a "prize" for choosing smaller meal portions results in lower daily intake of calories

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The study findings may offer a tasty salvo against rising obesity rates and health care costs. Credit: Peter Zhaoyu Zhou.

It's not easy to lose weight in our "super-sized" nation, but researchers at USC Dornsife and the USC Marshall School of Business have found that even modest incentives to eat smaller portions work in a big way.

Call it the "Happy Meal effect." The research suggests that given the choice between a full-sized meal and one half the size with a modest

"prize," people will consistently choose the smaller meal. What's better, it doesn't take a free car to motivate healthier eating; even the uncertain chance of winning a \$10 lottery was shown to be enough.

Antoine Bechara, professor of psychology, collaborated with Deborah MacInnis, Charles L. and Ramona I. Hilliard Professor of Business Administration and professor of marketing at USC Marshall, and Martin Reimann (Ph.D., psychology, 2013), now assistant professor of marketing at the Eller College of Management at the University of Arizona, on the research.

Their study, published in the *Journal of Experimental Psychology: Applied*, may offer a tasty salvo against rising obesity rates and [health care costs](#).

"Portion sizes at U.S. restaurants are often two or three times what they were 20 years ago, which is also distorting how much we eat at home," MacInnis said. "The increase in portion size directly parallels the increase we observe in obesity."

Giving [consumers](#) an incentive for choosing smaller meal portions means lower daily caloric intake and also helps consumers realize that smaller portions won't leave them hungry, she said.

Would you like earbuds with that?

In the first experiment, sixth-graders were offered the choice between a 9-inch sandwich, and a 4.5-inch sandwich and inexpensive earbuds. The majority chose the latter. In a second experiment with adults, half-sized portions were paired with the chance to win a \$100 Amazon gift card or the chance to win 10,000 frequent-flyer miles accepted by all major airline loyalty programs. The majority chose the incentive and made that choice consistently over three days.

In a third experiment, the researchers got similar results in a real restaurant setting with customers who came in with the intention of buying a full-sized sandwich, but opted for the half-size and a chance to win a \$10 lottery.

The researchers found that the Happy Meal Effect was robust across different non-food incentives, foods, populations and time. Even hungry individuals were motivated to switch from the bigger to the smaller portion size when the smaller portion was paired with an appealing gamble to win money. And people consistently chose the smaller meal-plus-incentive even when it was priced the same as the full-sized meal.

But did those hungry people who chose the half-sized portion compensate later in the day? The researchers measured total calorie intake for participants in the second experiment and found that not only did they not compensate, but they actually consumed fewer total calories compared to their baseline day.

The researchers said the finding supports earlier research showing that reductions in portion size are additive; they lead to prolonged decreases in food intake.

"This could be a novel approach to combating obesity, where you don't have to force the person to make healthy choices, but instead 'fool' their brain to willingly make the healthy choice," said Bechara.

What can we take away from this?

"As we all know, the medical and fast food establishments are at opposite extremes," Bechara noted. "The medical establishment wants fast food outlets to stop selling high-calorie meals, yet the consumers love this food because it is 'addictive,' or in other words, it releases more dopamine in the brain."

While some restaurants and food producers have recently eliminated smaller [portion sizes](#) due to decreased demand, the Happy Meal effect shows how it may be economically feasible for firms to maintain smaller-sized portions that are also desirable alternatives to larger-sized options.

The researchers believe the experiment provides a strategy for how medicine and marketing can come together: if a child chooses the half-size meal with a prize, then medically, calorie consumption is being reduced. From the business perspective, restaurants won't object to making the accommodation since they are still selling the same product and it's not hurting their bottom line.

Food providers can remain profitable because the payouts are nominal and costs can be distributed over dozens of customers, MacInnis said. "That's good for healthy consumers and healthy businesses."

Bechara cites evidence of another "win-win" stemming from the study—one that may lead to further benefits for both consumers and businesses. "People always ask how neuroscience benefits marketing or economic sciences," he said. "I say this is an example of how to do it."

Provided by University of Southern California

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