Meal Size Explains Errors in Estimating How Many Calories Are in a Meal

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The full report is titled "Meal Size, Not Body Size, Explains Errors in Estimating the Calorie Content of Meals." It is in the 5 September 2006 issue of *Annals of Internal Medicine* (volume 145, pages 326-332). The authors are B. Wansink and P. Chandon.

What is the problem and what is known about it so far?

People who try to lose weight often count calories. For that reason, their ability to guess the number of calories in a meal is important. Most people guess too low; they think that their meal has fewer calories than it actually has. People who are overweight are especially likely to make this mistake, which may make it more difficult for them to lose weight.

Why did the researchers do this particular study?

To obtain a more clear understanding of why overweight people guess incorrectly, which might lead to ways to help them more accurately guess the calories in their meals and lose weight.

Who was studied?

In the first part of the study, the researchers studied people who were just finishing a noon-hour meal in 1 of 2 fast-food chain restaurants. In the second part, they studied 40 undergraduate university students who were taking a course that required them to participate in an experiment.

How was the study done?

In the first part of the study, a trained research assistant asked the diners to estimate the number of calories in the meal that they had just consumed. While the diner was answering the questions, the researcher counted the number of each type of food container and wrapper on the person's tray. The restaurant provides the calorie content of each food item on its Web site, so the researcher could calculate the actual calorie content of the meal. In the second part of the study, the researchers displayed 15 different meals purchased at a fast-food restaurant and asked the participants to guess the number of calories in each meal. The actual calorie content varied from 445 to 1780 calories. In both studies, the researchers asked the participants to give their height and weight.

What did the researchers find?

Participants accurately guessed the number of calories in small meals but not in large meals. They tended to think that larger meals contained fewer calories than they actually did. The participants' body weights had nothing to do with the accuracy of their guesses. However, because overweight people in the first study tended to eat larger meals, they were more likely to say that their meal contained fewer calories than it actually contained.

What are the limitations of the study?

The researchers did not measure the height and weight of the participants. The study was limited to meals from fast-food restaurants.

What are the implications of the study?

People tend to think that larger meals contain fewer calories than they actually do. Overweight people tend to eat larger meals, so they are more likely to make mistakes in counting calories than are normal-weight people. This study explains why overweight people are more likely to make mistakes in counting calories.