

Obese people enjoy food less than lean people – new study

May 25 2018, by Hans-Peter Kubis



Credit: Andrea Piacquadio from Pexels

Global obesity rates have [risen sharply](#) over the past three decades, leading to spikes in diabetes, arthritis and heart disease. The more we understand the causes of obesity and how to prevent it, the better.

We are interested in understanding reward-driven eating. Laboratory experiments have shown that [obese people](#) are [less rewarded by food](#) than [people](#) who are lean. We wanted to know if this held true when people were in a more natural environment – that is, going about their everyday lives.

For our [study](#), we developed a smartphone app to record spontaneous patterns of [food](#) wanting and liking as they occurred.

The participants used the app to score the intensity (on a scale of 0 to 10) of how much they wanted food whenever the thought of food popped into their head, regardless of whether they then ate or not. If they did eat, they rated the intensity of how much they liked their food (0 to 10), straight after eating. The app also recorded the time the participants ate and how long they took to eat.

Participants used the app continuously for two weeks. They also completed a questionnaire about their food cravings and attitudes to food, and had their various measurements taken (such as height, weight and body composition).

We grouped the participants according to their body fat. Of the 53 participants, 20 were a [healthy weight](#) and 33 were obese. Our analysis showed that obese participants reported slightly fewer food-wanting events per day – an average of five, compared with six in the healthy weight group.

Both groups resisted about the same proportion of food-wanting (30%) events. And the duration of meal times was about the same: about 18 minutes.

The intensity of the obese group's food wanting was not significantly different from the healthy weight group's food wanting, showing that

obese people don't have more frequent or intense food-wanting episodes.

However, obese participants reported significantly less intense food *liking* than healthy weight participants, revealing that they enjoyed or were rewarded less by the food they ate. There was a strong correlation between wanting events and craving traits measured by the questionnaire, which was not seen in healthy weight participants. Thus, obese participants showed that their [decision](#) to eat was strongly driven by cravings and not by hunger.

In the healthy weight group, the intensity of wanting food when people resisted temptation was less than when wanting was followed by eating, as one might expect. And the scores for liking were high after eating. This suggests that, in people with healthy weights, the decision to eat or not to eat is based on the intensity of wanting, and that food enjoyment supported the decision to eat.

This pattern, however, was not seen in the obese group. Their decision to eat, or not, didn't seem to be driven by conscious wanting [intensity](#), and their food satisfaction did not support their decision to eat. Emotional motivation in connection with cravings seems to be more influential in eating decisions in obese people than in healthy weight people.

Reward, not hunger

We are exposed to food cues many times a day, particularly cues for highly palatable foods high in sugar and fat. A lot of our eating is based on reward, not hunger. Some brain imaging studies have suggested that obese people respond more to food cues, but may respond less to food consumption. Our study is important in demonstrating this reward deficiency in daily life.

A lack of reward could contribute to overeating, as it could result in a

greater quantity of food being eaten in an attempt to compensate for the lack of enjoyment. To help people manage their [weight](#), more attention needs to be paid to the [reward](#) value of eating.

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