

# Calorie-rich foods are more distracting than less energy-dense or non-food objects, study shows

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Sugary, fatty foods are a distraction - more so than low-calorie foods and everyday objects - even if you are busy with a task that isn't remotely related to food, or are not even thinking about eating. This is according to Corbin Cunningham and Howard Egeth of Johns Hopkins University in the US, in the journal *Psychonomic Bulletin & Review* which is published by Springer.

Many studies investigate how people's thoughts and cognition relate to their eating habits and relationship with food. Some, for instance, have shown that people respond faster to words linked to food, especially when they are hungry. Others have focused on the particular preference people have for energy-dense, calorie-rich foods with a high fat or sugar content. Researchers are now also using so-called distraction paradigms to understand how food sidetracks us from a task, and how the presence of something to eat influences the brain.

In this study, 18 [participants](#) had to classify a set of four symbols with no connection to food. These were presented to them on a computer screen as either digits or letters. Somewhere during the execution of this task, a picture of food irrelevant to the classification process was randomly flashed on the screen. This picture required no specific response from participants. These images varied in their nutritional content - from low energy to ordinary food and high-energy snacks. The researchers found that participants were more distracted by images of energy-dense foods than by ones depicting non-food objects or low-energy snacks.

"This suggests that participants rapidly and implicitly assessed the nutritional value of the distractor images presented to them, even when they were entirely irrelevant," says Cunningham.

In a similar experiment, eighteen new participants ate two small ("fun-sized") candy bars before completing the same tasks. These participants were not as distracted by the energy-rich images flashed on the screen as the participants in the first study.

"When interesting food stimuli are entirely irrelevant to a task, they still cause some kind of disruption," notes Cunningham. "Our results also provide strong evidence for distraction by foods that have a higher energy density, even when they are entirely irrelevant to a task." In a follow-up third experiment with 64 total participants, the images of low-energy food were replaced by faces showing fear and disgust. Participants who had had nothing to eat beforehand were more distracted by images of energy-dense foods than by any other item, including those of emotionally charged faces. This was not the case when they had received a snack before being tested.

So why did eating a candy bar eliminate the attention-capturing power of energy-dense [food](#)? "The answer has to do with a person's motivational state," says Egeth. "Recent research has shown that when an ordinarily rewarding stimulus such as chocolate is devalued, attention is no longer oriented towards this reward-associated stimulus."

**More information:** Corbin A. Cunningham et al, The capture of attention by entirely irrelevant pictures of calorie-dense foods, *Psychonomic Bulletin & Review* (2017). [DOI: 10.3758/s13423-017-1375-8](https://doi.org/10.3758/s13423-017-1375-8)

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