

Does food act physiologically like a 'drug of choice' for some?

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Variety is considered the "spice of life," but does today's unprecedented level of dietary variety help explain skyrocketing rates of obesity? Some researchers think it might.

According to ASN Spokesperson Shelley McGuire, PhD: "We've known for years that foods- even eating, itself- can trigger release of various [brain chemicals](#), some of which are also involved in what happens with [drug addiction](#) and withdrawal. And, as can happen with substance abusers, tolerance or "habituation" can occur, meaning that repeated use (in this case, exposure to a food) is sometimes accompanied by a lack of response (in this case, disinterest in the food). The results of the study by Epstein and colleagues provides a very interesting new piece to the obesity puzzle by suggesting that meal monotony may actually lead to reduced [calorie consumption](#). The trick will be balancing this concept with the importance of variety to good nutrition."

Studies have shown that many people become disinterested in a particular food when they are repeatedly exposed to it. This response, called habituation, can decrease caloric intake in the short-run. Conversely, when presented with a variety of foods, caloric intake can increase. The "food addiction hypothesis" purports that some people may overeat because they are insensitive to the normal habituation response and thus need even more exposure to a food to trigger a disinterest. However, there has been no rigorous research investigating whether healthy-weight and [overweight individuals](#) have different habituation responses, and little is known about what patterns of food

exposure are most powerful in triggering habituation. To help close these research gaps, researchers studied long-term habituation in obese and nonobese women. Their results, and an accompanying editorial by Nicole Avena and Mark Gold, are published in the August 2011 issue of The [American Journal of Clinical Nutrition](#).

Sixteen nonobese [BMI (in kg/m²)

Whereas weekly food exposure increased total caloric intake by approximately 30 kcal/d, daily exposure decreased energy consumption by ~100 kcal/d. This supports long-term habituation in terms of [caloric intake](#). Very few differences were found between how obese and nonobese individuals responded.

The authors concluded that reducing variety in food choices may represent an important strategy for those trying to lose weight. Moreover, having a person even remember that they have eaten a certain food recently may be effective in this regard. In their accompanying editorial, Avena and Gold compare physiologic components of the [food addiction](#) hypothesis to the body's addictive responses to drugs. They also ponder whether school-lunch planners and public health officials should note that diversity in the menu is not necessarily a virtue" but might instead "be associated with promoting excess food intake and increased body mass index." Provocative [food](#) for thought.

Provided by American Society for Nutrition

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