

Some children are genetically predisposed to overeating in response to television food ads

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Exposure to food ads on television leads to overeating among children, especially those genetically predisposed to obesity, researchers at Dartmouth's Norris Cotton Cancer Center and the C. Everett Koop Institute have shown. In the Dartmouth study, a particular gene that has been linked previously to obesity is now shown to play a role in overeating among children exposed to food cues such as TV food advertising.

In a randomized experiment, 172 [children](#) aged 9-10 years ate lunch until they were full and then were immediately shown a 34-minute television show that contained either food or toy advertisements at normal commercial breaks. The children were given snacks that they could eat while watching the show. The researchers then measured how much the children ate and tested them for genetic variations in the Fat Mass and Obesity Associated Gene, known as FTO.

The results of the study showed that children who watched [food advertisements](#) consumed an average of 41% more calories of a recently advertised food than those who watched ads for toys. The study further showed that the effect of food advertisements on overeating differed by FTO genotype, with the effect more than three times as large for children at the highest genetic risk.

"This study shows that children overeat in response to TV [food ads](#) even when they are not hungry. More importantly, some children are genetically prone to eat much more in response to those cues," said Diane Gilbert-Diamond, ScD. "The findings may help us understand how genes predispose people to obesity by amplifying the response to environmental food cues. If that finding is confirmed, limiting exposure to food advertising and other food cues would be key to combating child obesity," she added. Obesity is a

known risk factor for cancer, diabetes and other health problems.

More information: D Gilbert-Diamond et al, Television food advertisement exposure and FTO rs9939609 genotype in relation to excess consumption in children, *International Journal of Obesity* (2016). [DOI: 10.1038/ijo.2016.163](https://doi.org/10.1038/ijo.2016.163)

Provided by Dartmouth-Hitchcock Medical Center

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