

Addiction to unhealthy foods could help explain the global obesity epidemic

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Research presented today shows that high-fructose corn syrup can cause behavioural reactions in rats similar to those produced by drugs of abuse such as cocaine. These results, presented by addiction expert Francesco Leri, Associate Professor of Neuroscience and Applied Cognitive Science at the University of Guelph, suggest food addiction could explain, at least partly, the current global obesity epidemic. These results were presented at the 2013 Canadian Neuroscience Meeting, the annual meeting of the Canadian Association for Neuroscience - Association Canadienne des Neurosciences (CAN-ACN).

The "[Food Addiction](#)" hypothesis suggests one could be addicted to food just as one is addicted to drugs of abuse. To test this hypothesis, Dr. Leri studies the response of rats to foods containing unnaturally high concentrations of sugar, fats and taste enhancers, such as [high-fructose corn syrup](#) and foods like oreo cookies.

Increased availability of such highly-palatable foods could partly explain the high incidence of obesity around the world, but simple availability does not explain why some people are obese and others are not, given the same amount of available food. Dr. Leri, and others, suggest one important factor could be individual differences in vulnerability to addiction. Surveys of consumption of cocaine show that though many individuals try these drugs, only a small percentage of them become addicted. Dr. Leri wanted to know if the same could be true of "addictive foods". "We have evidence in laboratory animals of a shared vulnerability to develop preferences for sweet foods and for cocaine"

says Leri.

Dr. Leri investigated the behavioural, chemical and neurobiological changes induced by consumption of "addictive foods" in the bodies and brains of rats. "We are not rats, but our children do not think too much about the impact of sweets on their brain and behaviour. There is now convincing neurobiological and behavioural evidence indicating that addiction to food is possible. Our primary objective is to discover biological predictors of vulnerability to develop excessive consumption of high fructose [corn syrup](#) ," says Leri.

Dr. Leri's findings could lead to novel pharmacological interventions for obese individuals that could help them selectively reduce intake of unhealthy foods. This knowledge could also help increase the public's understanding of the effects of unhealthy food choices. An effective strategy to combat obesity is to educate people about the causes and consequences of their choices.

Provided by Canadian Association for Neuroscience

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