

Greater diet-induced obesity in rats consuming sugar solution during the inactive period

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Research to be presented at the Annual Meeting of the Society for the Study of Ingestive Behavior (SSIB) the foremost society for research into all aspects of eating and drinking behavior suggests that, not only the amount and type of food eaten but the time of day it is eaten, is important in contributing to obesity.

Previous studies have shown that when mice consumed all of their calories during their inactive period they gained more weight than when they consumed the same amount of calories during their active period. A team led by Drs. Susanne la Fleur and Andries Kalsbeek at the Academic Medical Center of the University of Amsterdam wished to investigate how certain components of the diet, such as sugar or fat, contributed to differences in weight gain during different times of the day. To address this question Dr. Joelle Oosterman gave rats either [rodent](#) chow or chow plus either saturated fat or a sugar solution. One group was allowed to consume the diets freely whereas the other groups were only allowed to eat either the fat or sugar during their inactive period. They found that rats consuming all of their sugar solution in the inactive period gained more weight than rats consuming all their sugar solution during the active period, even though their total [caloric intake](#) was the same. They also gained more weight than rats consuming the saturated fat solely during the inactive period. The greater body weight gain in rats consuming sugar in the inactive period was associated with less [heat production](#).

This research suggests that there are differences in the impact sugar drinking can have on body weight gain, depending on when in the day it is consumed. Dr. Oosterman commented, "In today's society where snacks containing [saturated fat](#) and beverages containing lots of sugar are readily available to people, it is important to understand the impact these [food components](#) have on [energy balance](#). Although there is a lot of attention for the content of the food people consume, little attention is been given to the best or worst timing for certain foods to be consumed."

Provided by Society for the Study of Ingestive Behavior

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