

Study: Overweight and obese women are equally capable of the impulse control that lean women exhibit

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SUNY Distinguished Professor Leonard H. Epstein, Ph.D., led the UB research that found behavioral interventions that improve delay of gratification can work just as well with overweight and obese women as with lean women. Credit: Douglas Levere, University at Buffalo

Dieters call it willpower; social scientists call it delayed gratification.

It's the ability to delay an immediate reward in favor of a bigger future reward, for example, having a slimmer body in a few months versus the hot fudge sundae now. Previous studies have shown that overweight and obese people have a harder time delaying gratification, so they are more likely to forego the healthy body later on in favor of eating more calorie-dense foods now.

But University at Buffalo research published last month in the journal *Appetite* now shows that [behavioral interventions](#) that improve delay of gratification can work just as well with overweight and obese women as with lean women.

"This research is certainly welcome news for people who have struggled to lose weight, because it shows that when people are taught to imagine, or simulate the future, they can improve their ability to delay gratification," says renowned [obesity](#) expert, Leonard H. Epstein, PhD, SUNY Distinguished Professor in the UB School of Medicine and Biomedical Sciences, who was senior author on the research.

The research is part of a field called *prospection*, the process by which people can project themselves into the future, by mentally simulating future events.

Some of the most famous research done on delay of gratification includes experiments done at Stanford University in the 1960s and 1970s, where children were given an opportunity to either eat a single snack, such as a marshmallow now, or, if they waited a period of time, they could be rewarded with multiple snacks. Follow-up studies found that in general, those who were able to wait were more responsible and successful in their adult lives.

Epstein notes that many people have difficulty resisting the impulse for immediate gratification. Instead, they do something called *delay*

discounting, in which they discount future rewards in favor of smaller, immediate rewards. This tendency is associated with greater consumption of highly caloric, ready-to-eat foods. It has been speculated that if people could modify delay discounting, they would be more successful at losing weight.

"Now we have developed a treatment for this," says Epstein. "We can teach people how to reduce delay discounting, where they learn how to mentally simulate the future in order to moderate their behavior in the present."

The UB researchers evaluated how much delay discounting participants engaged in using a hypothetical test that promised different amounts of money available either now or in the future. While the amount available in the future remained \$100, the amount available immediately decreased during each test, eventually falling as low as \$1.

Participants were then asked to think about future events that would occur during the time periods involved in the monetary test. So if they were choosing between \$95 now and \$100 in six months, they would be instructed to think about the most vivid event that would be happening to them six months from now, for example, a birthday party.

A control group was asked, instead, to think during the monetary test of vivid scenes from a Pinocchio story they had read.

The UB researchers found that those who engaged in the future thinking exercise were able to reduce delay discounting and that there were few differences between the lean and the overweight and obese women.

The study looked at 24 lean women and 24 overweight and obese women, all of whom underwent several behavioral assessments to determine differences in each person's motivation level, their

perspective on time and how much they sought out fun and responded to rewards.

In a study published earlier this year, Epstein and his colleagues demonstrated that overweight and obese women ate less when they were imagining themselves in enjoyable future scenarios and reduced their inclination to engage in delay discounting.

"In the current study, we show that episodic future thinking works equally well in overweight and obese women in comparison to lean women," says Epstein. "That's important since several studies have shown that overweight/obese women are more impulsive. The fact that projecting oneself into the future and imagining future scenarios works equally well for lean and overweight/[obese women](#) is important for designing interventions to reduce impulsive decision making in women who need to lose weight."

Tinuke Oluyomi Daniel, a doctoral student in the UB Department of Pediatrics and the the Department of Community Health and Health Behavior in the School of Public Health and Health Professions, is first author on the study; Christina M. Stanton, research assistant, is co-author.

Provided by University at Buffalo

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