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Marshmallow test holds firm

Famous experiment on delayed gratification reproduced years later, with same results

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If you couldn't resist a marshmallow when you were 4, you're likely still unable to turn down a tempting treat, according to a new study that follows up on the landmark "marshmallow test" of the 1960s.

The new study took 59 of the original participants and tested them to see if they were still as good - or bad - at delaying gratification by asking them to complete a simple task while photos flashed in front of them, offering potential distractions.

The authors found that adults in their 40s had about the same amount of control over their impulses as they did when they were 4 years old.

The original experiment, by Walter Mischel of Stanford University, put 4-year-olds in a room with a single marshmallow for 15 minutes. If they resisted eating the marshmallow, they'd get to eat two at the end of the time slot.

So the kid in the original experiment who grabbed that marshmallow and shoved it in his mouth as soon as the researcher left the room was distracted by images of smiling faces as an adult, while the little girl who was able to distract herself by singing or inventing an imaginary friend completed the task without looking up in the new study.

"Individuals who, as a group, had more difficulty delaying gratification at 4 years of age showed more difficulty as adults in suppressing responses to happy faces," reads the study, published in the Aug. 29 edition of the Proceedings of the National Academy of Sciences.

Brain imaging performed on some of the participants showed different parts of the brain were activated during the task.

Those participants with high levels of self-control activated the "executive function" part of their brains while those less able to delay gratification activated a more "emotional" region, explained a University of Toronto expert on self-control.

Think of it as a big plate of poutine, said Michael Inzlicht, an assistant professor in the department of psychology.

An adult with a high degree of self-control, who is able to delay gratification, will be able to look at the cheesy dish rationally and decide not to take a bite.

"If I wasn't as good a (self) regulator, I might get more of an emotional rush - 'Oh my God, french fries. Oh my God, gravy. Oh my God, cheese curds' - and dig right in," he said.

"We've known already through other means that those kids who spent a little bit longer delaying the gratification, that they were better at all kinds of things," said Inzlicht. That includes scoring higher on tests, doing better in school and being less likely to abuse drugs.

A YouTube search for "marshmallow experiment" yielded 1,160 results, including parents trying it with their own kids. In one video, a girl who's nearly 4 tries everything she can to avoid eating the marshmallow in front of her - making up songs, holding the marshmallow, looking away and picking her nose. It works, and she gets to eat two.

Credit: Cynthia Vukets Toronto Star

[Illustration]

Caption: In the '60s, researchers asked 4-year-olds not to eat marshmallows, promising them more if they waited. The study turned out to be a good predictor of adults' ability to delay gratification. Keith Beaty/Toronto Star file photos

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