

# The marshmallow test revisited

September 9 2020, by Inga Kiderra

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Credit: CC0 Public Domain

When kids "pass" the marshmallow test, are they simply better at self-control or is something else going on? A new UC San Diego study revisits the classic psychology experiment and reports that part of what may be at work is that children care more deeply than previously known what authority figures think of them.

In the [marshmallow test](#), young [children](#) are given one marshmallow and

told they can eat it right away or, if they wait a while, while nobody is watching, they can have two marshmallows instead. The half-century-old test is quite well-known. It's entered [everyday speech](#), and you may have chuckled at an online video or two in which children struggle adorably on hidden camera with the temptation of an immediate treat.

But the real reason the test is famous (and infamous) is because researchers have shown that the ability to wait—to delay gratification in order to get a bigger reward later—is associated with a range of positive life outcomes far down the line, including better stress tolerance and higher SAT scores more than a decade later. Whether or not it's just this ability to wait or a host of other socioeconomic and [personality factors](#) that are predictive is still up for debate, but the new study, published in the journal *Psychological Science*, shows that young children will wait nearly twice as long for a reward if they are told their teacher will find out how long they waited.

This is the first demonstration that what researchers call "reputation management" might be a factor.

"The classic marshmallow test has shaped the way researchers think about the development of [self-control](#), which is an important skill," said Gail Heyman, a University of California San Diego professor of psychology and lead author on the study. "Our new research suggests that in addition to measuring self-control, the task may also be measuring another important skill: awareness of what other people value."

In fact, she said, "one reason for the predictive power of delay-of-gratification tasks may be that the children who wait longer care more about what people around them value, or are better at figuring it out."

For their study, Heyman and her colleagues from UC San Diego and Zhejiang Sci-Tech University conducted two experiments with a total of

273 preschool children in China aged 3 to 4 years old.

The researchers told the children that they could earn a small reward immediately or wait for a bigger one. (Instead of a marshmallow, the researchers used a sticker reward in one of the experiments and a cookie in the other.) Children were assigned to either a "teacher condition" in which they were told that their teacher would find out how long they waited, a "peer condition" in which they were told that a classmate would find out how long they waited, or a "standard condition" that had no special instructions.

Children waited longer in both the teacher and peer conditions than in the standard condition. The difference was about twice as great in the teacher condition as compared to the peer condition. The researchers interpret these results to mean that when children decide how long to wait, they make a [cost-benefit analysis](#) that takes into account the possibility of getting a social reward in the form of a boost to their reputation. These findings suggest that the desire to impress others is strong and can motivate human behavior starting at a very young age.

The researchers were surprised by their findings because the traditional view is that 3- and 4-year-olds are too young to care what care what other people think of them.

"The children waited longer in the [teacher](#) and peer conditions even though no one directly told them that it's good to wait longer," said Heyman. "We believe that children are good at making these kinds of inferences because they are constantly on the lookout for cues about what people around them value. This may take the form of carefully listening to the evaluative comments that parents and teachers make, or noticing what kinds of people and topics are getting attention in the media."

**More information:** Fengling Ma et al, Delay of Gratification as Reputation Management, *Psychological Science* (2020). [DOI: 10.1177/0956797620939940](https://doi.org/10.1177/0956797620939940)

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