

# Marshmallow study proves youngsters can make rational decisions

By Sarah Kliff, Washington Post

In 1972, Stanford University's Walter Mischel sat 600 children down at a table with a marshmallow and gave them a choice: They could eat one marshmallow now, or wait 15 minutes and get two marshmallows.

The ability to hold out for the latter correlated with greater success and self control later in life, leaving most students in Psych 101 to assume the immediate marshmallow eaters were destined for failure.

But perhaps not! A team of researchers at the University of Rochester revisited the marshmallow experiment. And what they found was that the ability to delay gratification isn't just a hardwired, innate skill. Quite the opposite. Behavioral cues play a big role in determining who holds out for that second marshmallow, and the results call into question how much self-control actually has to do with it.

The Rochester researchers once again got a bunch of kids into a room. But they did something a bit different. Right before giving the kid a marshmallow, they would have an encounter with an adult. One would be unreliable; he would promise a bunch of fun art supplies that would never appear. Another would be reliable, delivering the art supplies as promised.

That earlier encounter had a huge influence on kids' willingness to wait for a second marshmallow. Only one of the 14 children in the unreliable condition held out for the full 15-minute wait. They may have assumed that the second marshmallow, just like the art supplies, was a big lie. More

than half of the kids who had just had a reliable encounter, however, made it through the 15-minute wait.

“The results of our study indicate that young children’s performance on sustained delay-of-gratification tasks can be strongly influenced by rational decision-making processes,” the researchers conclude.

In other words, sometimes eating the first marshmallow is actually the more rational approach, based on what the child knows about the situation. Why should an adult who failed to provide promised art supplies, after all, be relied on to deliver a second marshmallow?

“Being able to delay gratification – in this case to wait 15 difficult minutes to earn a second marshmallow – not only reflects a child’s capacity for self-control, it also reflects their belief about the practicality of waiting,” says Celeste Kidd, a doctoral candidate in brain and cognitive sciences at the University of Rochester and lead author on the study. “Delaying gratification is only the rational choice if the child believes a second marshmallow is likely to be delivered after a reasonably short delay.”

The researchers contend that this could be true on a larger scale. If a child or adult lives in an environment where promises always get broken and outcomes are unreliable, the most rational response is to eat the marshmallow right in front of her – and not wait for the promised marshmallows of the future.