

# Marshmallows aren't likely to fix low-income kids' real problems

It's not all about self-control. Children's decisions are driven instead by the forces of evidence and expectations.

*By Celeste Kidd*

Starting in the late 1960s, a group of researchers led by then Stanford professor Walter Mischel offered young children a choice: *one marshmallow now or two later*<sup>1</sup>. Mischel and colleagues used this paradigm to study the efficacy of behavioral interventions for enhancing self-control, and they were quite prolific.

It wasn't those original studies, however, that really got people excited about the marshmallow test. It was a discovery that came decades later. While most children failed to wait for the second marshmallow, those who did went on in life to achieve great things. Kids who waited for the second marshmallow grew up to score better on their SATs<sup>2</sup> and have more friends. They had less body fat, and lower risks of both substance abuse and incarceration. They had better lives.

***“Waiting for a second marshmallow is only adaptive if you have a strong reason to believe that the second marshmallow will arrive as promised.”***

---

<sup>1</sup> Stanford Marshmallow Experiment, see informational videos on Youtube (e.g.,

<sup>2</sup> <https://www.collegeboard.org/sat> is a standardized test widely used for college admissions in the United States.

<sup>2</sup> The SAT is a standardized test widely used for college admissions in the United States.

This work has been popularly interpreted to mean that *self-control* is the driving force behind all of these wonderful outcomes—the “engine of success” to use Mischel’s own words. The kind of kid who can resist the impulse to grab the first marshmallow could grow up to be the kind of teenager who resisted the impulse to flip on the TV in lieu of studying for their exams. It is an especially alluring tale because it makes the answer to really complex problems seem suspiciously simple. Teach children self-control, and everything wonderful in life will follow.

When I first heard about the marshmallow test, I was working with children in a homeless shelter and my heart sank. I knew that the children with whom I worked would fail abysmally. These children had habits of breaking toys, pouring entire containers of glue and paint onto their papers, and devouring sweets as rapidly as their throats could manage. Like Mischel and his colleagues, these children’s caseworkers observed these behaviors as maladaptive. And so did I, I am now embarrassed to admit.

Here is why we were wrong: The apparent failures of self-control were actually well calibrated to those children’s everyday realities. Waiting for a second marshmallow is only adaptive if you have a strong reason to believe that the second marshmallow will arrive as promised. If you have less certainty, say, because your everyday reality has taught you that you should, you would be better off to go with the shorter-term, guaranteed treat instead.

### **Self-control is not the ‘engine of success’**

Children in more stable life circumstances have been given strong evidence that waiting pays off. Those better life circumstances, then, could be causally responsible for the positive later life outcomes associated with long waiting on the marshmallow test. We have a considerable amount of empirical evidence in support of this account. Unstable home environments lead to worse grades, lower test scores, more overeating, more substance abuse, more acting out. Of course a child with more parental support and resources is going to do better on their SATs—they’re likely attending a better school, don’t need to work a job, and more likely to have their parents hire them a tutor.

A few years ago, my colleagues and I published an article in *Cognition* that demonstrates how powerful the influence of expectations are on children’s behavior in the marshmallow test. The paper reported results from a study in which we randomly assigned children to one of two conditions that gave them evidence about how reliable or unreliable the environment was in advance of conducting the marshmallow test itself. Children in the reliable condition overwhelmingly waited for the second treat, regardless of their age. Children in the unreliable condition overwhelmingly did not.

We demonstrated that expectations matter—a lot—in the marshmallow test, and that it’s not all about self-control. This shows that children’s decisions aren’t driven by inherent ability or inability, as Mischel and colleagues suggest. The behavior is driven by the forces of evidence and expectations.

***“We should not waste time and grant money trying to train self-control, nor should we commit to the implicit judgment behind these studies—that kids who fail to wait for the second marshmallow are inferior.”***

If children’s behavior in the marshmallow test reflects the expectations that they’ve formed throughout their lives, the longitudinal correlations should not be taken to mean that self-control is the “engine of success.” **We should not waste time and grant money trying to train self-control, nor should we commit to the implicit judgment behind these studies—that kids who fail to wait for the second marshmallow are inferior.**

The evidence suggests that the root causes of poor life outcomes for children from poor, unstable backgrounds isn’t apparent impulsiveness. Their problems are far more pragmatic and complicated to repair. And more marshmallows can’t change that.

#### **About the author**

Celeste Kidd is the director of the Rochester Baby and Kid Labs at the University of Rochester, where she studies early cognitive development. Her work uses a combination of computational and behavioral methods to understand the dynamics of attention, curiosity, and learning. She also works to support women and minorities in science. Her research is funded by the Jacobs Foundation, Human Frontiers Science Program, and Google Faculty Research Awards.

Email address: [celestekidd@gmail.com](mailto:celestekidd@gmail.com)

Website: [www.celestekidd.com](http://www.celestekidd.com)

Twitter @celestekidd

This essay was originally published on BOLD, the **B**log **o**n **L**earning and **D**evelopment (<http://bold.expert/>), an interdisciplinary initiative powered by the Jacobs Foundation. The blog is dedicated to spreading the word about how children and young people develop and learn. Researchers at various stages of their careers – some are associated with the

Foundation, others are not – as well as science journalists, policymakers, and practitioners have their say on this blog.

Link to the original blog entry published July 31, 2017:

<http://bold.expert/marshmallows-arent-likely-to-fix-low-income-kids-real-problems/>