http://www.slate.com/blogs/xx_factor/2012/10/16/the_marshmallow_study_revisited_kids_will_delay_gratifcation_if_they_trust.html

Reconsidering the Marshmallow Test

By Maggie Severns

|

Posted Tuesday, Oct. 16, 2012, at 10:12 AM ET

Share

Tweet

25



http://www.slate.com/blogs/xx_factor/2012/10/16/the_marshmallow_study_revisited_kids_will_delay_gratifcation_if_they_trust.html

The image of a child crouching over a marshmallow at a table is one of the most iconic in modern psychology. It's from the 1972 Stanford marshmallow experiment, a classic measure of childhood willpower in which kids who managed to sit at a table with a marshmallow in front of them and not eat it for 15 minutes were rewarded with a second marshmallow.

The experiment remains a touchstone for research about the social-emotional qualities—willpower, grit—that appear to have a big impact on a person's long-term success. Years after the marshmallow experiment, when researchers followed up with test subjects, they found that children who had been good at delaying gratification by waiting for that second marshmallow had turned out better: They tended to have higher SAT scores than their counterparts, lower levels of substance abuse, and their parents reported that they were more competent.

But willpower, it turns out, is not just a matter of will. A new riff on the marshmallow test suggests kids will wait longer—on average twice as long—for that second marshmallow if they have good reason to believe that it will actually come. Conversely, kids who are conditioned to suspect the marshmallow might not ever get there are likely to give up in half the time.

For the new marshmallow experiment, published in this month's issue of *Cognition*, researchers from the University of Rochester divided a group of 28 children in half and primed them to feel like they were in "reliable" or "unreliable" situations. They presented the children with closed jars of crayons, and told them if they could wait to open the jar until the adult came back, they would get a new, bigger set of art supplies to draw with instead. For children in the reliable group, the adult returned with the promised new supplies; for the unreliable group the adult came back, apologized for not having the new supplies, and suggested that the child draw with the original crayons. The researchers then ran a second, similar scenario using stickers.

Then came the marshmallow test. Again, each child was in a chair at a table alone with a marshmallow and told that if he or she could wait, there would be a second marshmallow when the adult returned.

Children in the reliable environment waited on average *four times longer* than children in the unreliable environment (12 minutes as opposed to 3) and twice as long as children in the original test, who waited an average of about 6 minutes. Further, only one of the 14 children who had experienced the unreliable environment waited the full 15 minutes, while 9 of the 14 children who had been interacting with a reliable adult did the same. The sample for the study is too small to

be considered conclusive, but the results are thought-provoking.

Through the years, researchers have conducted countless studies that attempt to tease out how willpower and other character-related qualities are built. And this idea of character has become central in education—at charter schools like KIPP, the largest network of American charter schools, there is an extensive code of conduct and "character curricula" in an attempt to give disadvantaged children an edge.

The Rochester experiment suggests that willpower—a major character trait—is part nature, part nurture. For a school like KIPP, the idea that even young children have expectations about the world and that those expectations impact their willpower has its plusses and minuses: Teachers can control a child's environment and make it "reliable" in school, but how to convince a foster child that he is living in a reliable world?

The new marshmallow experiment doesn't discount the old one—willpower still does breed long-term success, as far as we know. But it suggests that when children are in an environment where

they trust in a clear long-term gain, they are more likely to pursue it.