



## When words really do matter: Subtle language cues convey stereotypes and activate mindsets that diminish young children's performance

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Early childhood is a transformative period of life, with long-term effects on development and behavior. But how do the ways in which we interact with young children and convey information to them shape these processes?

In order to make sense of the world around them, children develop intuitive theories, or ways of interpreting what they see based on their past experiences and causal inferences.<sup>1,2</sup> For example, after seeing the lights turn on when a switch is flipped in her house, a child will make inferences about how this process would work in other locations. An individual's perception of how much control she has over her successes and failures is a particularly important theory—or mindset—that is developed throughout life. Researchers are interested in exploring how these mindsets develop and what inputs affect their development over time.

In this study, Andrei Cimpian, Yan Mu, and Lucy C. Erickson test the hypothesis that individuals adopt an entity theory—also known as a “fixed mindset,” or the belief that ability is fixed at birth—when success at a given activity is linked to group membership (e.g., gender, race, disability status). The team completed two experiments that delve into how this process might occur in young children.

### STUDY DESIGN

In order to explore their hypothesis, the researchers conducted a first study with 48 four- to five-year old children.

### KEY FINDINGS:

- Telling young children that members of a certain group are good at a task caused all children—regardless of their membership in the positively stereotyped group—to perform worse at that task.
- These types of subtle cues convey a fixed mindset about ability because success is linked to a quality that cannot be changed, which leads all children to feel like they have less control over their performance on the task.

These children participated in a novel task in which they were asked to draw circles in empty shapes, a task that is developmentally difficult for children of this age. All children were stopped after completing twelve circles, and their speed was recorded as the performance outcome.

Before beginning the task, however, an adult experimenter gave the children information about “who was good at the shape game.” Participants were randomly assigned to either the group condition (“boys [girls] are really good at this game”) or individual condition (“there’s a boy [girl] who is really good at this game”). After the first round of play, all

This research summary highlights findings from the following article:

Cimpian, A., Mu, Y., & Erickson, L. C. (2012). Who is good at this game? Linking an activity to a social category undermines children's achievement. *Psychological Science*, 23, 533-41.

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of the children were given mildly negative feedback in order to let them know that they had not performed the task as well as expected. After this setback, the children then performed the task a second time.

#### HOW DID THE MESSAGES CONVEYED TO CHILDREN AFFECT THEIR PERFORMANCE ON THE TASK?

**Children in the group condition performed more poorly than those in the individual condition.** Even when children identified with the group that was said to be “good at the shape game” (thus conveying a positive stereotype about their group), they performed at a worse rate than their peers in the individual condition. This study suggests that linking success on a task to group membership can lead to a decrease in performance—regardless of whether the child is a member of the positively stereotyped group.

The researchers hypothesized that this decrease in performance might occur because children in the group condition adopt an entity theory, or a fixed view of who can succeed at the task, as a result of the comments made by the adult experimenter. Because success on the task is linked to a quality that cannot be changed, this leads all children to feel like they have less control over their performance on the task.

#### STUDY 2

The researchers designed a follow-up study to see whether these findings were generalizable, and to further explore the psychological mechanism that could be responsible for them. To increase generalizability, the follow-up study included older participants, now working with 144 four- to seven-year old children. In addition to the individual and group conditions, this study added a third condition: a group of participants who did not hear any information about who is good at the task.

All of the children completed a mental-rotation task, which required children to pick out a rotated version of a target object. In order to further explore whether the adoption of a fixed mindset contributed to the decrease in performance for the group condition, the researchers added trials of varying difficulty. Previous research has found that theories about what it takes to be successful have the greatest effect on performance during challenging situations.<sup>3,4</sup> Therefore, the research team hypothesized that there might be different results in performance based on the difficulty of the task. They also added baseline trials before the experiment began. Participants completed these tasks before getting any information about who was good at the game, in order to further support that receiving this information was what caused the difference in performance between the participants in the different conditions.

#### WHAT DID THE FOLLOW-UP STUDY FIND?

**Children in the group condition performed worse only on trials that were of higher difficulty.** As in Study 1, participants in the group condition performed more poorly on the task than those in the individual and control conditions. However, this pattern only occurred during the more difficult trials; there was no significant difference in performance on the less difficult trials among the control, group, and individual conditions. This result supports the idea that the mechanism underlying the difference in performance observed between the group and individual conditions may be the adoption of an entity theory, as this is most likely to hinder performance under challenging circumstances.<sup>5</sup>

How exactly does the adoption of an entity theory affect how children perform during the task? The researchers suggest that because the children in the group condition believe that success is associated with a stable feature, they feel they do not have control over how they perform, leading them to have trouble coping when the task becomes difficult.

#### IMPLICATIONS OF THIS RESEARCH

These studies provide evidence that young children’s theories about what is most important to performance can be affected by seemingly minor comments. Comments regarding the tasks we ask of children can convey that it is who they are that matters to their success, or conversely, that it is *what they do* that matters. These findings also suggest that even children as young as four are sensitive to subtle information that conveys stereotypes. Moreover, even if the stereotype a child is exposed to is positive with regard to their group, it can still negatively impact their performance.

Future research can build on these insights by exploring other ways in which we implicitly convey stereotypes to children and shape their emergent theories about ability—mindsets that other research suggests are critical to motivation, resilience, and achievement.<sup>5,6</sup>

This brief was edited by Lisa Quay, Managing Director of the Mindset Scholars Network.

<sup>1</sup> Gelman, S. A. (2003). *The essential child: Origins of essentialism in everyday thought*. London, England: Oxford University Press.

<sup>2</sup> Gopnik, A., Meltzoff, A. N., & Kuhl, P. K. (1999). *The scientist in the crib: Minds, brains, and how children learn*. New York, NY: HarperCollins.

<sup>3</sup> Diner, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous change in performance, strategy and achievement cognitions following failure. *Journal of Personality and Social Psychology*, 36, 451-462.

<sup>4</sup> Licht, B. G., & Dweck, C. S. (1984). Determinants of academic achievement: The interaction of children’s achievement orientations with skill area. *Developmental Psychology*, 20, 628.

<sup>5</sup> Dweck, C. S. (1999). *Self-theories: Their role in personality, motivation, and development*. Philadelphia, PA: Psychology Press.

<sup>6</sup> Dweck, C.S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.