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## Do “Consoling” Messages Hinder Math Achievement?

BY LAURA A. COOPER

**B**ecause I believe that teachers’ theories about intelligence impact their instruction and their students’ learning, I eagerly sought out a 2011 article in the *Journal of Experimental Social Psychology* by Aneeta Rattan, Catherine Good, and Carol S. Dweck. Their report, “It’s ok—Not everyone can be good at math’: Instructors with an entity theory comfort (and demotivate) students,” includes four studies describing how teachers’ beliefs about intelligence play out in their practices and how, in turn, these practices affect students in mathematics classes.

The authors built on a body of research about how implicit theories of ability influence mindsets and performances. An entity theory is the belief that intelligence is a fixed or innate trait. An incremental theory is the belief that ability is malleable and influenced by experience and learning. The researchers hypothesized that teachers with an entity theory would conclude that students who struggled to learn had low math intelligence and that the best response would be to console students by suggesting, for instance, that not everyone can be good at every subject. The researchers further hypothesized that students would interpret teachers’ well-intentioned messages as an assessment of their low math ability and that consequently students would be less motivated to achieve.

In three of the studies, separate groups of undergraduate students and graduate student math instructors were asked to imagine themselves as teachers meeting with a student who received a score of 65 percent on the first test of the year. The scenarios were slightly different, but in all three studies, participants with entity beliefs (as opposed to incremental beliefs) were more likely to attribute the low test score to a lack of math intelligence rather than a lack of hard

work. Two of these studies went a step further and asked the participants how they would respond to the student who had received a low grade. In both cases, those with entity beliefs were much more likely to endorse consoling students (“Not everyone is good at math; you have many talents.”) and to apply teaching strategies that would reduce the student’s engagement with math (“I’ll assign you less homework or call on you less in class.”).

The researchers were interested in how this consoling (or comfort) feedback affects students. In the final study, participants were asked to imagine that they had received a low grade of 65 percent on the first calculus test of the semester. The students then received one of three different kinds of feedback:

- Control feedback (offering general support): “I want to assure you that you are a talented student in general, and I want to assure you that I really care, so let’s stay in contact about how you’re doing in this class.”
- Comfort feedback: “I want you to remember how great you do in other subjects. . . . I’m going to make a point not to call on you as much in class because I don’t want you to have the added pressure . . . and I’m going to give you some easier math tasks.”
- Strategy feedback: “I want you to change your study strategies and consider working with a tutor. . . . I’m going to make a point to call on you more in class, and I’m going to give you more challenging math tasks.”

The participants who received comfort feedback concluded that the professor had low expectations and little investment in them. They also felt much less

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encouraged and motivated than other students, and given the hypothetical scenario, the students said they thought they would receive lower grades at the end of the course than the participants who received strategy or control feedback did.

In discussing the results, the authors noted that even in the elite private university where the study was set, the participants with entity beliefs made judgments about students' math intelligence, consoled students, and were more likely to anticipate counseling students to drop the class. Noting the negative impact of well-intentioned, positively phrased comfort feedback, the authors argued that their research challenges the widespread practice of teachers consoling students and urging them to accept their weaknesses. They also suggested that these consoling messages could inadvertently contribute to the number of students deciding not to pursue advanced study in math and science.

I believe that this research study will be of great interest to teachers and school leaders working to create schools where all students—whether rich or poor, white or non-white, native English speakers or English language learners—achieve at high levels.

As a high school administrator, I worked closely with math teachers to figure out how to ensure that all students mastered algebra by ninth grade and successfully completed geometry and advanced algebra (or higher) prior to graduation. Confronted by many students who loudly announced that they just weren't good at math, we made many structural, curricular,

and instructional changes in our algebra program. But too many students continued to fail, often declaring their entity beliefs that math intelligence was fixed and that they just didn't get it. We made more progress when we also addressed the social and psychological factors by explicitly teaching them that intelligence is malleable and that you can "get smarter" by working harder.

I am currently working with teachers and school leaders around the country to improve instruction so that all students will achieve. In every school, every content area, and every grade K–12, I hear from frustrated teachers about students who have given up even trying an assignment and "explain" that they just aren't smart enough. In teaching how to create a classroom characterized by high expectations, I highlight Dweck's body of research about how students' beliefs about intelligence impact their performance. I ask teachers to examine their own implicit theories about the nature of intelligence. Now, because of this recent study, I will also ask them to examine how they respond to students, and I will help them develop the feedback and supports that will send the students this message: "What we're learning is important. You can do it, and I won't give up on you even when you give up on yourself."

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