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In Fighting Stereotypes, Students Lift Test Scores

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Girls and low-income minority students are more likely to improve their scores on standardized tests when they are taught ways to overcome the pressures associated with negative stereotypes, according to a new study of seventh graders.

Despite decades of national attention, standardized test results continue to show gender and race gaps in achievement. Some educators say these disparities, including girls' lower math scores and the lower reading scores of minority and low-income students, are a result of anxiety-inducing stereotypes. A new study suggests that arming students with the means to overcome that anxiety may reduce those disparities.

The study, which was published in The Journal of Applied Developmental Psychology in December, was conducted by Dr. Catherine Good, a postdoctoral fellow in psychology at Columbia, Dr. Joshua Aronson, an associate professor of psychology at New York University and Dr. Michael Inzlicht, a postdoctoral fellow in N.Y.U.'s department of applied psychology.

"One of the biggest pictures our research tells is that performance is so much more psychological than anything else," Dr. Aronson said.

In the study, college students acted as mentors for 138 seventh graders from Del Valle Independent School District near Austin, Tex., which serves a largely low-income population. The mentors encouraged the students to view intelligence as a faculty that can be developed or to attribute their academic difficulties to their new educational environment. At the end of the year, students took statewide standardized math and reading tests.

To test which method worked best, the researchers randomly assigned the seventh graders to one of four groups. The mentors taught one group of students about how the brain processes information. Another group was taught that all students faced academic difficulty in the transition to junior high school but that most overcame these challenges.

The mentors gave both messages to students in the third group. Then, the standardized test performance of these three groups was compared with the performance of a fourth group of students, who received information only about the dangers of drug use.

The girls who were taught that intelligence developed over time scored significantly higher on the standardized math test than girls in the fourth group. Similarly, the minority and low-income students who were told that they could overcome challenges and achieve academic success scored significantly higher on the standardized reading test than students in the fourth group, the researchers found.

The students who received both messages registered comparable gains. Students who were told about

drug use experienced no gains.

The findings suggest that if minority and low-income students receive positive messages about their ability to learn and succeed academically, they are less likely to conform to stereotypes they believe others have of them — poor reading ability in the case of minority students and inferior math skills in the case of girls — when taking standardized tests.

The researchers note that standardized test scores may be poor predictors of future academic success. But they say that encouraging adolescents to attribute academic troubles to their situation rather than to their shortcomings can meaningfully increase student achievement.

This is encouraging, the researchers say, because it demonstrates a successful way to stem the spiral of self-blame, anxiety and underperformance that many adolescents experience.

Researchers say their findings could lead schools to adopt programs to remedy stereotype-based underperformance as students move into junior high school.

"The key is for students to think that change is possible," Dr. Aronson said. "Kids who believe intelligence is malleable are not demoralized and succeed."