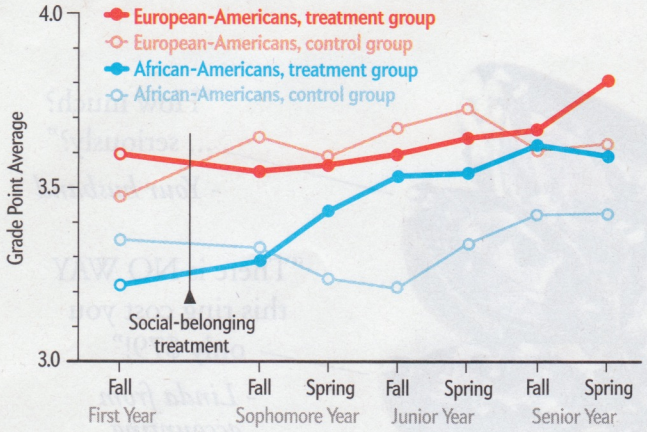

ANXIETY ABOUT FITTING IN at college can hinder some minorities' academic performance. In one study, European- and African-American freshmen read surveys emphasizing that such concerns are universal and transient. By increasing feelings of belonging, this simple exercise narrowed the academic gap between the two groups by 79 percent over the next three years.

at who experiences the effect and its mechanisms. The third wave is now to translate these results into interventions."

Geoffrey Cohen, also at Stanford, has achieved particularly impressive results. His method is disarmingly simple: he asks people to consider what is important to them, be it popularity or musical ability, and write about why it matters. The 15-minute exercise acts like a mental vaccine that boosts students' self-confidence, helping them combat any future stereotype threat.

In 2003 Cohen visited racially diverse middle schools in California and put his exercise through a randomized controlled trial—the gold-standard test in medicine that checks if an intervention works by pitting it against a placebo. Cohen administered his exercise to seventh graders: half wrote about their own values, and the rest wrote about things that were unimportant to them. The trial was double-blinded, meaning that neither Cohen nor the students knew who was in which group.

At the end of the term, black students who completed the exercise had closed a 40 percent academic gap between them and their white peers. Best of all, the students at the bottom of the class benefited most. Over the next two years the same students took two or three booster versions of the original exercise. Only 5 percent of the poorest students who wrote about their values ended up in remedial classes or repeated a grade, compared with 18 percent of those in the control group. Ultimately, the black students' grade point averages rose by a quarter of a point and by 0.4 point among the worst performers.

A few fractions of a point here and there might not seem like a huge improvement, but even small changes in confidence—whether positive or negative—have a cumulative effect. Children who do poorly at first can quickly lose self-confidence or a teacher's attention; conversely, signs of modest progress can motivate far greater success. By intervening early on, Cohen asserts, educators can turn vicious cycles into virtuous ones.

Cohen's task is so simple that Ryan and others are not entirely convinced by his results. "It was hard for us to believe, but we've replicated it since," Cohen says. In the past five years he has used his exercise to swing the fortunes of black students in three different middle schools and to largely close the gender gap in a college-level physics class. Skeptics, though, still hope that independent researchers will try to replicate these studies.

Meanwhile Cohen is seeking new ways to help students. He has collaborated with Greg Walton, also at Stanford, to counter a kind of isolation that stereotype threat often induces. Many minorities worry that their academic peers will not fully accept them. Walton combated these worries with survey statistics and quotes from older students showing that such feelings are common to everyone regardless of race and that they disappear with time. "It makes them reframe their own experiences through the lens of this message, rather than of race," Walton explains.

Walton and Cohen tested their hour-long exercise with college students in their first spring term. Three years later, when the students graduated, the achievement gap between blacks and whites had been halved. The black students were also happier and healthier than their peers who did not take part in Walton's exercise. In the past three years they had made fewer visits to the doctor. Walton acknowledges that such a simple exercise may look trivial to an outsider. But, he says, for a students who are "actively worried about whether they fit in, the knowledge that those concerns are shared and temporary is actually very powerful."

Cohen and Walton are now scaling up their simple and inexpensive interventions from individual schools to entire states. The pair—as well as Carol Dweck and Dave Paunesku—both also at Stanford, created PERTS (the *P*roject for *E*ducation *R*esearch *T*hat *S*cales), which allows them to rapidly administer their interventions online. They can also combine the programs or pit them against one another to see which have the greatest effects.

Even if the programs work as planned, researchers who study stereotype threat admit that undoing it is not a panacea against inequality. Cohen, for example, tested his initial writing exercise only in schools with mixed ethnicities, and he is unsure if it would work in predominantly minority schools. "There are many reasons why we have achievement gaps—inequality of resources, bad schools, less well-trained teachers," Walton adds. "There doesn't seem to be much hope of addressing these structural barriers. What's exciting about stereotype threat is that we can make headway in the face of those things."

Recent work on the phenomenon not only offers realistic hope for alleviating some truly tenacious problems—it also upends pervasive beliefs. By thwarting stereotype threat, researchers have shown that the stereotypes themselves are unfounded. Performance gaps between black and white students or between male and female scientists do not indicate differences in ability; rather they reflect prejudices that we can change. "The things we thought were so intractable 15 years ago aren't," Aronson says, "and that's a hugely positive message." SA

MORE TO EXPLORE

Recursive Processes in Self-Affirmation: Intervening to Close the Minority Achievement Gap. Geoffrey L. Cohen et al. in *Science*, Vol. 324, pages 400–403; April 17, 2009.

A Brief Social-Belonging Intervention Improves Academic and Health Outcomes of Minority Students. Gregory M. Walton and Geoffrey L. Cohen in *Science*, Vol. 331, pages 1447–1451; March 18, 2011.

SCIENTIFIC AMERICAN ONLINE

To learn more about the effort to scale up social interventions that counteract stereotype threat, visit Scientific American.com/jun2013/stereotype-interventions

SOURCE: "A BRIEF SOCIAL-BELONGING INTERVENTION IMPROVES ACADEMIC AND HEALTH OUTCOMES OF MINORITY STUDENTS," BY GREGORY M. WALTON ET AL., IN *SCIENCE*, VOL. 331; MARCH 18, 2011

Graphic by Jen Christiansen