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Mindset and Stereotype Threat: Small Interventions That Make a Big Difference

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What if there were a simple classroom exercise that could create positive and lasting effects on the academic performance and persistence of students—in particular, students who are under-represented in your field?

It turns out there is. More accurately, there are a number of such exercises—let's call them interventions—that research shows are effective.

The interventions grow out of two intersecting bodies of literature in social psychology and are described in drastically over-simplified terms below.

Mindset research, widely known as the brainchild of Stanford's Carol Dweck (2006), holds that students' beliefs about learning and intelligence profoundly influence their ability to persist in the face of challenges and setbacks. Students with a "growth mindset" believe that intelligence is malleable, learning is often effortful, and failure is a natural (and perhaps necessary) part of personal and academic growth. When students with a growth mindset fail, it does not threaten their sense of identity, so they are able to move on and persist. As a result, they have a capacity for resilience that ultimately serves them well in academics and in life. Students with a "fixed mindset," on the other hand, view intelligence as innate and failure as a threat to their core identity ("But I'm an A student! How could I fail?!"). They are fine as long as they succeed, but tend to panic, give up, or even cheat when they encounter setbacks or find that learning is harder than they anticipated. In other words, they are brittle rather than resilient.

Stereotype threat research, championed by scholars like Claude Steele (2010), has a different but overlapping focus on issues related to identity. It shows that students from groups stigmatized or stereotyped on the basis of social identity (race, ethnicity, gender, age, etc.) experience stress when asked to perform challenging tasks that converge with known stereotypes. Think, for example, of women in STEM fields or the elderly performing memory tasks. The internalized pressure not to confirm stereotypes interferes with cognition, creating a kind of mental "noise" that negatively affects performance. Sophisticated experiments have shown that when a task-relevant negative stereotype is triggered in the minds of students from the stereotyped group, their performance measurably declines. However, when the stereotype is not triggered—or when steps are taken to actively reduce its salience—the performance of these students is significantly higher.

As powerfully detrimental as the effects of fixed mindsets and stereotype threat can be, there is good news coming out of both fields. Students with fixed mindsets can develop growth mindsets. In doing so, they can raise not only their short-term academic performance but also their long-term

ability to bounce back from setbacks and persist in challenging fields. Stereotype threat, moreover, can be mitigated, and when it is, it can significantly decrease and sometimes outright erase the performance differential between stereotyped and non-stereotyped groups. In addition, reducing stereotype threat can help members of underrepresented groups overcome imposter syndrome and develop a stronger and more resilient sense of belonging and self-efficacy within a given field.

Still better news: simple interventions can address both issues simultaneously. And – this part is perhaps the most encouraging of all—they create positive effects that snowball rather than diminish over time, as positive outcomes generate confidence that lead to still more positive outcomes (Yeager and Walton, 2011). While these interventions seem almost magical, Yeager and Walton point out in their excellent review of the research (2011) that they're not magical at all: they simply leverage what we know about the human mind, in particular how emotion and cognition interact.

So, without further ado, here are brief descriptions of the interventions and explanations of why they work.

1. Attributions interventions. These interventions focus on changing how students view academic struggle. For example, in one study by Wilson and Linville (1985) two groups of first-year college students were shown videos of seniors describing their college experiences. In the experimental group, the videos showed seniors talking about how their grades in college were low at first but improved over time. In the control group, videos showed seniors talking about social and academic interests. Students in the experimental condition performed better on a GRE exam one week later, earned higher college grades overall, and were 80% less likely to drop out. A study by Good, Aronson, and Inzlicht (2003) showed that a similar intervention eliminated the gender difference in math performance on a standardized test.

Why the interventions work. When students attribute their struggles to fixed qualities in themselves ("I got a C on the midterm; I'm not smart enough to make it in this program."), it contributes to low resilience and can exacerbate imposter syndrome and stereotype threat. But when they see that other students also struggle, overcome those struggles, and go on to succeed, it helps them adjust their attributions, moving from "I'm not good enough" to "It's hard. Struggle is normal. If they can do it, so can I."

2. Malleability of intelligence interventions. These are interventions that focus on changing students' beliefs about intelligence. Aronson, Fried, and Good (2002) conducted a study in which one group of college students was asked to write letters to middle school students explaining that intelligence is malleable and grows as we flex the brain's "muscle." The control group wrote letters on other topics or did not write letters at all. The researchers found that students in the experimental group outperformed the students in the control group, showing not only higher GPAs but also higher engagement and identification with school.

Why the interventions work. When students persuade themselves (in this case by persuading others) that intelligence is not innate but developed through effort, their orientation toward

academic challenges changes: struggle becomes something productive, not an indictment of one's capacities.

3. Affirmation interventions. These interventions refocus students' attention on their own goals and values. Miyake et al (2010) conducted a study in which college students in a physics class wrote about values for 15-20 minutes. The experimental group wrote about values that were important to them personally, while the control group wrote about values that might be important to someone else. The researchers found that this intervention alone eliminated a significant gender gap in grades and scores on a nationally normed physics test. Similar interventions substantially reduced a race-based performance gap in other subjects (e.g., Cohen et al, 2009).

Why the interventions work. When students focus on their core values and goals, it bolsters their sense of identity and helps to inoculate them against stereotype threat. It also contributes to a growth mindset by reminding students why struggling to attain goals they value is worthwhile.

4. Belonging interventions: These interventions show students that feelings of not belonging are widely shared. Walton and Cohen (2011) asked students to reflect on the results of a survey which showed that many college students feel that they don't belong in college at first, but develop a stronger sense of belonging over time. Students were then asked to write an essay and prepare a presentation for incoming students about how their own feelings of not belonging changed. (Students in the control condition did the same tasks but focused on other topics.) The researchers found that black students in the experimental condition earned higher GPAs *over their entire college careers* than students in the control group, reducing the racial achievement gap by 52%. These students were also more likely to be in the top 25% of their class, and to report higher levels of happiness and well-being.

Why the interventions work. When students who are vulnerable to imposter syndrome realize how common those feelings are among their peers, they reassign attributions, linking the feeling of not-belonging to being new, rather than linking it to their social identify (e.g., black, Hispanic, a woman, working class). This realization helps to thwart stereotype threat.

This is exciting, well-established, and powerful research. However, it also holds a more sobering message: social-psychological interventions are highly context-sensitive and can backfire if not understood properly or if overused. As Yeager and Walton point out, these interventions work in part by stealth. If every educator leaps to use them and they become commonplace in every class, their effect may diminish. If they are administered by teachers students don't trust or in ways that seem heavy-handed, students may end up feeling manipulated. Moreover, if students discern an agenda behind the intervention, it might trigger the very stereotype the intervention is intending to subvert.

As educators, we must approach these interventions thoughtfully and use them cautiously. In the end, what might be more useful than the specific interventions is an appreciation for the profound

role emotion and belief play in students' academic achievement and persistence in a field. Understanding these factors has the potential to change the landscape of academic equity profoundly. Think of it like the body's immune system: if we can strengthen students' internal resources—by helping change the attributions they make when they experience set-backs, helping them see that intelligence is malleable, reminding them of their values, goals, and strengths, and showing them that others struggle with imposter syndrome too—we bolster their ability to fight stigma and persevere in the face of challenges. We begin to level a playing field that is far from level, and we give our students powerful tools to grow academically and personally.

References

Aronson, J., Fried, C., & Good, C. (2002). Reducing the effects of stereotype threat on African-American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology,* 38, 113-125.

Cohen, G. L., Garcia, J., Purdie-Vaughns, V., Apfel, N., & Brzustoski, P. (2009). Recursive processes in self-affirmation: Intervening to close the minority achievement gap. *Science,* 324, 400-403.

Dweck, C. S. (2006). *Mindset.* New York, NY: Random House.

Good, C., Aronson, J., & Inzlicht, M. (2003). Improving adolescents' standardized test performance: An intervention to reduce stereotype threat. *Journal of Applied Developmental Psychology,* 24, 645-662.

Miyake, A., Kost-Smith, L. E., Finkelstein, N. D., Pollock, S. J., Cohen, G. L., & Ito, A. (2010). Reducing the gender achievement gap in college science: A classroom study of values affirmation. *Science,* 330, 1234-1237.

Steele, C. (2010) *Whistling Vivaldi: How Stereotypes Affect Us and What We Can Do.* New York, NY: Norton.

Wilson, T. D. & Linville, P. W. (1985). Improving the performance of college freshman with attributional techniques. *Journal of Personality and Social Psychology,* 49, 287-293.

Yeager, D. S. & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. *Review of Educational Research,* 1(2): 267-301.

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