Research Article Summary

Addressing Achievement Gaps with Psychological Interventions by David Yeager, Gregory Walton, and Geoffrey Cohen, Phi Delta Kappan, volume 96, pages 19-26, February 2013.

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When talking about motivation in the classroom, the emphasis is often placed on instructional quality: how can we teach more effectively? How can we more deeply engage students? How do we reach struggling or disengaged students?

While these questions are important and worthy of consideration, educators should also consider the student's perspective and experiences in the classroom - how welcomed and accepted does the student feel in the classroom? What is his/her attitude towards learning, and towards their own abilities? What are their concerns and experiences? By taking a student-centered approach, the psychology of motivation reveals a variety of psychological constructs that underlie student behavior and beliefs that can then be targeted by classroom interventions. In their article Yeager et al. outline the various constructs that drive student motivation, and how timely, stealthy interventions can help augment student effort and classroom instruction.

Student Motivation: Mindset, Belonging, and Reframing Feedback

First, here are several concepts that underlie student motivation. Carol Dweck's seminal work on growth mindset shows that student beliefs about their own ability and intelligence can largely influence their willingness to engage in effortful learning. Students who believe that their intelligence is fixed and cannot change, called a fixed mindset, find it hard to stay motivated when they struggle in their classwork. They believe that their struggles are indicative of an overall ineptitude - *"I'm just not good at math, I'll never get it"* - and so are unmotivated to persist in their efforts. On the other hand, teaching students that intelligence and ability can be developed with *strategic* effort, called a growth mindset, can help students reframe struggles as an opportunity to grow, rather than a sign of inability. Dweck's studies that directly targeted cultivating growth mindset showed improvements to student achievement, including low-income and minority students.

The second construct surrounding student motivation is that of social belonging. Students bring in a wide variety of beliefs about their identities, and the kinds of stereotypes and expectations that are built into them. For example, students who have negative academic stereotypes associated with their identities (for example, girls, or black and Latino students in STEM fields) may worry about whether their teachers expect them to excel less, or feel left out, dismissed or marginalized by their peers. These anxieties over belonging can lead to long-term stress and decrease student motivation over time.

Yeager et al. outline two ways teachers can address these concerns of social belonging and stress. The first social belonging intervention is to convey to students

that their concerns and anxieties about belonging are not unique to them - almost all students worry about feeling like they belong, and that these worries will fade over time. By highlighting that all students grapple with feelings of belonging, and by reassuring that these anxieties are short term, students may feel less marginalized and isolated in their struggles.

The second way to address social belonging is to take a values affirmation approach. Values affirmation interventions asks students to reflect on the values that drive their sense of purpose and belonging (such as their cultural and religious values, their personal relationships, or their personal pursuits and aspirations), during a particularly stressful time(s) of the year. These reflections help students reaffirm their sense of belonging, and can boost the GPAs of students who grapple with negative stereotypes in both adolescence and college.

The third concept underlying student motivation is their perception of fairness and rigor in class expectations and standards. Students, especially those facing negative stereotypes, may worry or suspect that a teacher is unfairly harsh or biased against them. They might mistrust whether a teacher's feedback or evaluation is a genuine reflection of their work, or if it's a product of a teacher's bias against their group. By promoting the idea that critical, constructive feedback is a sign of a teacher's confidence in a student's potential to reach high standards, teachers can help students reframe their concerns that the feedback is biased or unfair. Interventions that reframe feedback as a sign of high standards boosted urban black youths' GPAs and reduced the achievement gap months after the intervention.

Psychological Interventions: Implementation

These psychological interventions, which can be low cost, take comparably little time, and are relatively simple to implement, can disrupt traditional breakdowns in student motivation and positively impact achievement in both the short and long term. However, despite their powerful potential, these interventions can only be impactful if they're carefully, subtly, and effectively delivered—in the words of Yeager et al. using "stealthy approaches." Unlike prescribed lesson plans or workbooks to be filled out, these psychological interventions are only effective if they are delivered in ways that can substantially and authentically change how students think about themselves, their classroom, and their performance. Furthermore, they cannot alleviate deficits in student performance due to larger systemic issues in their environment, such as poverty or neighborhood trauma.

Construal. A student-centered approach to psychological interventions means taking on the perspective of each student - their anxieties, their beliefs, and their interpretations of interactions with peers and teachers. In other words, teachers must not only make observations of the classroom environment and interactions as they appear, but also consider how these elements are *construed* by their students. For example, consider a student that worries about how a bad grade might impact her: it could be construed as a sign that she's not smart enough, or it might make her anxious about how her peers see her. Reinforcing the idea that a poor grade is an opportunity to improve, or that the negative feedback means the teacher believes in her potential be do better, can be an effective way to reframe the way your students approach academic tasks.

Psychologically wise delivery. Because these interventions ask for a shift in the way students perceive or understand themselves and their environment, rather than acquisition of complex knowledge (like math or language arts), psychological interventions need to be subtle, varied, and promote internalization of the ideas. It isn't sufficient to simply deliver direct messages about mindset, belonging, and feedback; as teachers quickly realize, students have a hard time internalizing ideas if they aren't asked to deeply process or explain them. Rather, each of the interventions described are rooted in a delivery mechanism that help students internalize and deeply process these ideas. For example, growth mindset interventions take advantage of the "saying-is-believing" effect by having students write letters to younger students about growth mindset. Furthermore, these interventions need to be subtle and varied. Lecturing about the benefits of belonging in the classroom, or verbal reassurances that teacher feedback in unbiased, might feel controlling and alienate students from the original intention, or worse, make students feel as though they need help more than others. Worse, excessive repetition may come across as a "canned response", and therefore undermine the credibility and sincerity of a reassuring message. In short, these psychological interventions require a subtle, nuanced approach that gets students to deeply internalize these ideas, and shift the way they approach both their own academic processes and the classroom.

Recursive processes. It might seem confounding, maybe even "too-good-to-be-true", that these psychological interventions can impact so many dimensions of student achievement and attitudes, in both the short and long term. Yet, we often see that students' early experiences and attitudes can translate into self-reinforcing cycles as they progress through school. For example, students who might make more friends early on might feel more confident that they belong in their school, which in turn translates into more confidence and closer relationships with teachers, which in turn translates into receiving greater support and encouragement to succeed. Conversely, students who might start off feeling uneasy and unaccepted by their peers might feel less welcome to contribute to class discussions or ask for help, which translates into less support or encouragement from the classroom, which translates into disengagement from academic tasks. These recursive cycles happen both over the course of a school year, and over the long term trajectory of a child's education. Because of this, it is critically important to intervene early in the cycles or at a critical stage to improve the long-term trajectory of student attitudes, beliefs and performance.

Well-Meaning Mistakes and How to Avoid Them
Many teachers may have already heard of these constructs and implemented their own ways to address them in their own classrooms. Yet, psychological interventions differ from most academic interventions - they require subtlety and are vulnerable to many possible mistakes - psychological researchers can attest to that. Yeager and his colleagues discuss some of the more common mistakes educators make, and how to avoid them.

When encouraging students to persist through setbacks, a common refrain is to "try again". Yet, "more effort" oftentimes is insufficient for skill development - a good strategy or response is required to improve. If students are only encouraged to give more effort without an effective plan or strategy, they might continue to experience

failures even with increased effort and therefore become despondent and demotivated. Growth mindset interventions teach that success comes from effort + strategy + help from others, and teacher encouragement should also include identifying effective strategies to address student performance, and give or seek help when needed.

Another common mistake is delivering psychological interventions as generic, one-size-fits-all lessons that don't feel sincere, personal, or taken seriously. For example, generally touting that "everyone belongs here" without making students feel personally valued and respected won't fool anyone. Instead, helping poor-performing students acknowledge their worries about belonging are common and fade with time can more tangibly and subtly ease student anxieties.

A third common mistake teachers make is overpraising student effort. Often in an attempt to boost student confidence and appear biased, teachers bestow praise to students for mediocre performance, especially students who belong in stereotyped or marginalized groups. Other times, teachers, will deliberately praise student ability with phrases such as "You're so smart!" Yet this can actually undermine effort or high expectations, as this may convey to students that the bar set for praiseworthy performance is lower for them (for the former), or reinforce that only ability, rather than effort and strategy, is praiseworthy (for the latter).

While the constructs of belonging, mindset, and high standards are not new to educators, sometimes even the most well intended interventions might go awry. On the other hand, researchers may lack the nuanced subtlety and experience to make these interventions sink in most effectively for students in a given class. Furthermore, many of the findings from psychological and educational research started from real-world success stories, from teachers like you, who found effective and innovative ways to reach their students. Yeager and his colleagues conclude that there must be two sets of collaboration moving forward; first, a deeper collaboration between researchers and teachers to work together to both investigate and implement changes in the classroom to change students' motivations and attitudes for the better; and second, a collaborative effort to integrate both psychological and academic interventions to improve both student motivation and learning outcomes.