

The Role of Noncognitive Factors in Shaping School Performance

Children spend over 16,000 hours in classrooms between kindergarten and high school graduation. Much of that time is spent cultivating the traditional academic skills that standardized tests measure. However, teaching students to become learners requires more than improving test scores; it requires transforming classrooms into places alive with ideas that engage students' natural curiosity and desire to learn in preparation for college, career, and meaningful adult lives. This requires fostering the noncognitive factors that standardized tests don't measure: the behaviors, attitudes, beliefs, and social-emotional skills that set students up for success in school and in life.

The University of Chicago's Consortium on School Research has carefully examined the field's key findings and amassed solid evidence that noncognitive factors are strongly linked to academic performance, which in turn predicts positive life outcomes. In fact, noncognitive factors are crucial for children's learning and development at *all* ages and *all* education levels — from early childhood through high school and beyond — and are not fixed traits that students either do or don't have.

Noncognitive factors are shaped by the environments students are in every day—what they hear, see, and feel from teachers, schools, parents, and society. That means *all* of us — teachers and schools; parents and guardians; coaches and mentors — can play a critical role in fostering them. We can create environments that support noncognitive development — schools and spaces where students feel their work is meaningful, where they know adults believe in their ability, and where they genuinely believe in their *own* capacity to learn, grow, and succeed. By helping students develop noncognitive skills, strategies, attitudes, and behaviors, we can improve student learning and academic performance while also increasing the likelihood that students will be successful in life beyond the classroom.

Noncognitive factors associated with academic performance fall into five categories:

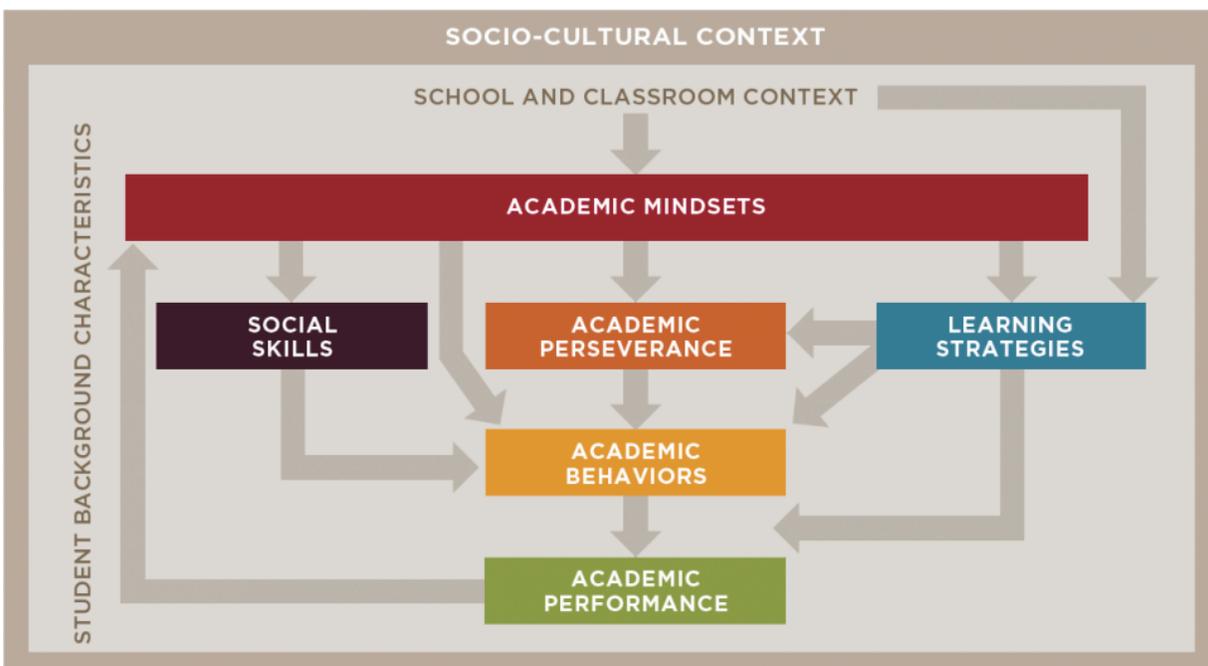
- 1. Academic Behaviors:** *Going to class, doing homework, organizing materials, participating, studying*
Academic behaviors are those behaviors commonly associated with being a “good student.” These include regularly attending class, arriving ready to work, paying attention, participating in instructional activities and class discussions, and devoting out-of-school time to studying and completing homework. Academic behaviors are the visible, outward signs that a student is engaged and putting forth effort to learn.
- 2. Perseverance:** *Grit, tenacity, delayed gratification, self-discipline, self-control*
Broadly, perseverance refers to a student's tendency to complete school assignments in a timely and thorough manner, to the best of their ability, despite distractions, obstacles, or level of challenge. To persevere academically requires that students stay focused on a goal despite obstacles (grit or persistence) and forego distractions or temptations to prioritize academic work (delayed gratification, self-discipline, self-control).
- 3. Mindsets:** *A sense of belonging, belief in one's ability to grow and succeed with effort, belief in the value of academic work*
Academic mindsets are the attitudes or beliefs one has about oneself in relation to academic work. Positive academic mindsets motivate students to persist at schoolwork (i.e., they give rise to academic perseverance), which manifests itself through better academic behaviors, which lead to improved performance in school. There is also a reciprocal relationship among mindsets, perseverance, behaviors, and performance. Strong academic performance validates positive mindsets, increases perseverance, and reinforces strong academic behaviors.



- 4. Learning strategies:** *Study skills, metacognitive strategies, self-regulated learning, goal-setting*
Learning strategies are processes and tactics that aid in the cognitive work of thinking, remembering, or learning. Effective learning strategies allow students to leverage academic behaviors to maximize learning. These include strategies for recalling facts, monitoring one's own comprehension (such as while reading or doing math problems), and self-correcting when one detects confusion or errors in one's thinking. Learning strategies may also include goal setting and time management, both of which help students manage the process of learning.
- 5. Social skills:** *Interpersonal skills, empathy, cooperation*
Social skills are acceptable behaviors that improve social interactions, such as those between peers or between students and teachers. While the development of social skills may be an important educational goal in itself, particularly in the primary grades, social skills are also logically related to academic performance. For example, cooperating in groups or participating appropriately in class discussions can lead to better academic performance.

What do we know about the relationship between these noncognitive factors and academic performance?

Fostering noncognitive factors requires helping students develop positive mindsets — belief in their ability to learn, grow, and succeed. Those mindsets are closely linked to perseverance and academic behaviors, which have the most direct effect on academic performance. And even the most motivated student will do better if they have learning strategies for overcoming challenges and accomplishing goals, as well as the social skills to work well with peers and adults.



What helps foster the noncognitive factors associated with academic performance?

Mindsets and learning environments matter:

- 1. Students earn high grades when they show perseverance and strong academic behaviors**
Academic behaviors and perseverance reflect the level of students' engagement in their work — the degree to which they are coming to class, completing assignments on time, participating, studying, trying to master material, taking time to do challenging work, and sticking with a task until it is done well. Students who engage in positive academic behaviors earn higher grades, while those who do not often struggle to succeed in school.
- 2. Helping students cultivate positive academic mindsets and effective learning strategies are the best ways to foster positive academic behaviors and academic perseverance.**
A positive academic mindset — belief in one's ability to grow and succeed with effort — strongly influences the degree to which students engage in positive academic behaviors, persevere at difficult tasks, and employ effective learning strategies, such as study, goal setting, and time management skills. Building students' academic mindsets and teaching them effective learning strategies are the best ways to improve academic behaviors and perseverance, which leads to better grades.
- 3. Students with poor academic behaviors or a lack of perseverance may be misperceived as students who are not motivated or students who do not care, when in fact they lack strategies or mindsets that would help them learn.**
In fact, what looks like a lack of caring or persevering could be a student indicating that she is convinced that she cannot do the work. Developing students as learners requires paying attention to their mindsets, skills, strategies, and behaviors as well as their content knowledge and academic skills. If students are not demonstrating strong academic behaviors, teachers need to be able to determine and address the obstacles that deter their learning. Within a given course, students' sense of belonging, self-efficacy, and interest will be shaped by their experiences in the classroom, their interactions with the teacher and fellow classmates, their prevailing beliefs about their own ability, and the nature of the work they are asked to do. Likewise, students are not likely to develop learning strategies in the absence either of explicit instruction or classwork that requires the use of such strategies.

Developing students as learners requires paying attention to their mindsets, social skills, strategies, and behaviors as well as their content knowledge and academic skills. The essential question is not how to change students to improve their behavior but rather how to create contexts that better support students in developing critical attitudes and learning strategies necessary for their academic success.

To learn more, please see the University of Chicago Consortium on School Research report, ["Teaching Adolescents to Become Learners."](#)