# CCSR literature review examines noncognitive factors in student performance

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Recent research has shown that students' course grades and GPAs are much better predictors of their future educational outcomes than test scores. Credit: Dan Dry

(Phys.org) -- Classroom characteristics can make a difference in how students learn to apply themselves academically, research shows.

Teachers know that students' willingness to put in effort and be persistent in their studies is a valuable part of learning. Qualities such as perseverance, often called noncognitive skills, can be encouraged through targeted instructional strategies and classroom context, according to a new critical literature review from the University of Chicago Consortium on Chicago School Research.

The research comes as districts across the country are preparing to

implement the new Common Core State Standards, which reflect an agreement across states to set a higher bar for college and career preparation and which will require shifts in classroom practice. Of course, significantly raising the bar will not improve educational outcomes unless students are able to meet these new standards. The CCSR review, titled "Teaching Adolescents To Become Learners: The Role of Noncognitive Factors in Shaping School Performance,"presents an opportunity for both policymakers and practitioners to better understand the role that noncognitive factors can play in improving student performance.

While many current education policy initiatives focus on test scores as the chief predictors of high school success and college readiness, recent research has shown that students' course grades and GPAs are much better predictors of their future educational outcomes than test scores. The prevailing interpretation is that grades not only capture academic skills but also reflect a range of noncognitive factors that are critical for students' success in school and later in life.

An emphasis on high school and college completion as national educational goals requires a shift in educational policy and practice — away from a narrow focus on test scores and toward a new emphasis on the cognitive and noncognitive factors that lead students to productively engage with rigorous content and earn high course grades.

"Teaching Adolescents To Become Learners" summarizes the research on five categories of noncognitive factors that are related to academic performance: academic behaviors, academic perseverance, academic mindsets, learning strategies and social skills. It examines whether there is substantial evidence that noncognitive factors matter for students' long-term success, clarifying how and why these factors matter, determining if these factors are malleable and responsive to context, determining if they play a role in persistent racial/ethnic or gender gaps in academic

achievement, and illuminating how educators might best support the development of important noncognitive factors within their schools and classrooms. The review suggests some promising levers for change at the classroom level, as well as challenges for further research.

## Promising levers for change:

• Students earn high grades when they show perseverance and strong academic behaviors; those who attend class, work hard, complete assignments and fully apply themselves earn the best grades. Research shows that the critical levers for improving academic behaviors are to build students' academic mindsets and help them develop learning strategies.
• There is little evidence that students' innate perseverance is malleable, but students are much more likely to demonstrate perseverance and strong academic behaviors when they have positive academic mindsets and effective learning strategies.
• Poor academic behaviors and a lack of perseverance may often be misdiagnosed as a lack of motivation or interest, rather than a lack of effective learning strategies or a problem with students' mindsets. Research shows that classroom environments and instructional strategies can intentionally build strong academic mindsets and that teachers can explicitly teach and model learning strategies that improve student behaviors, perseverance, and performance.

## Challenges for future research:

• Research should strive for conceptual clarity when studying noncognitive factors; there is little consistency in measurement or definition across different fields of study.
• Social science researchers have often relied on interpretation to identify noncognitive factors, rather than measuring them directly. This

can lead to misinterpretation of the conclusions of the studies. Future research depends, in part, on the development of better measures of noncognitive factors.

• More research is needed on the role of school and classroom contexts in students' development and demonstration of noncognitive factors. Little work to date has focused specifically on existing teacher practice and its effect on student behaviors, attitudes, strategies, or overall perseverance.

• Teachers need coherent, actionable strategies for developing students as learners in the context of regular classroom instruction. Research should look beyond experimental interventions to consider ways teachers could incorporate attention to noncognitive factors into their everyday practice.

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