

# Self-regulation abilities, beyond intelligence, play major role in early achievement

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Although intelligence is generally thought to play a key role in children's early academic achievement, aspects of children's self-regulation abilities -- including the ability to alternately shift and focus attention and to inhibit impulsive responding -- are uniquely related to early academic success and account for greater variation in early academic progress than do measures of intelligence, according to Penn State researchers.

Therefore, in order to help children from low-income families succeed in school, early school-age programs may need to include curricula designed specifically to promote children's self-regulation skills as a means of enhancing their early academic progress.

The researchers have published their findings in the March-April 2007 issue of the journal *Child Development*.

Although there is currently a focus on teaching specific content and factual information in pre-kindergarten and early elementary education, these findings indicate that without a simultaneous focus on promoting self-regulation skills, many children are likely to struggle to keep pace with the academic demands of the early elementary classroom.

The study examined the role of self-regulation in emerging academic ability in 141 3- to 5-year-old children from low-income homes who attended Head Start, the federal preschool program for children living in poverty. The researchers sought to determine the extent to which distinct

but overlapping aspects of children's developing self-regulation (cognitive, social-emotional, and temperament-based) are associated with emerging math and literacy ability in kindergarten.

The researchers found that all aspects of children's self-regulation are uniquely related to their academic abilities, over and above their intelligence. They also found that one particular aspect of self-regulation—termed the inhibitory control aspect of brain function used in planning, problem solving, and goal-directed activity—is predictive of all academic outcomes but was particularly associated with early ability in math.

"Children's ability to regulate their thinking and behavior develops rapidly in the preschool years," said Clancy Blair, associate professor of human development and family studies at the Penn State and lead author of the study. "By the time children start school, they are expected to be able to sufficiently regulate attention, impulsivity and emotion so as to communicate effectively and to jointly engage in learning experiences with teachers and classmates.

"For some children, however, particularly children from low-income homes or facing early adversity, self-regulation abilities may be slow in developing, leading to problems in the transition to school and increased risk for early school failure. In the attempt to improve educational achievement and decrease inequities in educational progress associated with socioeconomic status, it is important to understand the nature of multiple influences on early progress in school."

Source: Penn State

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