

# Poor attention in kindergarten predicts lower high school test scores

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As thousands of students nationwide prepare to leave high school, a UC Davis study appearing online today in the June issue of the medical journal *Pediatrics* shows a clear link between attention problems early in school — as early as kindergarten — and lower high school test scores.

"In our study, a child's inability to pay attention when they start school had the strongest negative effect on how they performed at the end of high school — regardless of their IQ (intelligence quotient)," said lead study author Joshua Breslau, an assistant professor of internal medicine at the UC Davis School of Medicine and a researcher with the UC Davis Center for Reducing Health Disparities.

He said that addressing attention problems early in life could keep some children from entering "a downward spiral of failure."

The study, "The Impact of Childhood Behavior Problems on Academic Achievement in High School," analyzes data on approximately 700 children who were followed from kindergarten (ages 5 through 6) through the end of high school (ages 17 through 18). It examines the relationship between aggressive, inattentive and depressive behaviors and children's later performance on standardized high school achievement tests.

The researchers found that inattentiveness in kindergarten was the only behavior that consistently predicted lower scores on reading and math achievement tests administered more than a decade later.

"Our study shows that early attention problems predict poor performance later in math and reading," Breslau said.

The study was possible because of the availability of data collected more than 20 years ago in Detroit by the lead study author's mother, Naomi Breslau, who was then researching the long-term effects of [low birth weight](#) .

For her 1983 research, Naomi Breslau conducted a random sample of 1,095 diverse children, with 823 participating in an initial assessment of IQ and classroom behavior as they passed their sixth birthdays. Follow-up assessments were conducted at ages 11 and 17.

The UC Davis researchers used data gathered on 693 of these children from ages 6 through 17. They focused on three categories of behavior as scored by their teachers: "internalizing" behaviors that included anxiety and depression; "externalizing" behaviors that included acting out and breaking rules; and attention problems that included restlessness and inability to focus on a single activity.

The analysis controlled for a variety of potentially confounding factors, including IQ and the fact that children who may have one psychiatric disorder often have other ones, as well. The current study's findings are rare in the field of pediatric mental health research and were made possible because of the availability of long-term data, Breslau noted.

"Many children have behavioral problems of the types we examined in this study, but we don't know which types of problems have the most serious long-term consequences," Joshua Breslau said. "By identifying attention problems as the most consequential for academic achievement over the long term, this study helps us decide where to put our clinical resources."

The message for parents and teachers is to not ignore signs of inattentiveness in young children, said study co-author Julie Schweitzer, a UC Davis associate professor of psychiatry and behavioral sciences and an attention-deficit hyperactivity disorder (ADHD) researcher at the UC Davis M.I.N.D. Institute.

"These data really suggest that, if there are attention problems at age 6, parents should not wait to see if the problems go away, but should seek an evaluation from a trained professional," Schweitzer said.

Such evaluations would look for signs of learning disorders, as well as for clinical disorders like ADHD. In addition to ADHD, inattentiveness can also be caused by poor nutrition, anxiety or lack of sleep, she said.

"Parents should start by talking with their child's pediatrician and determine the need to seek an evaluation by a psychologist," Schweitzer said.

The study adds to a growing body of evidence that suggests that attention problems can inhibit learning and that early onset psychiatric disorders are in part to blame for later failure in high school.

"Our study, along with others, shows that if children are going to harness their potential, they need to be able to focus and organize their thoughts," Schweitzer said.

The results of the study are a call to arms for policy makers in education and health care, said study co-author Elizabeth Miller, a UC Davis assistant professor of pediatrics and a clinician at UC Davis Children's Hospital. One-third of all American children do not finish high school on time, Miller said.

"What that means is that you have people transitioning into adulthood

without the advantages of the knowledge and skills usually acquired during high school, which impacts their future earning potential and well-being," Miller said.

Providing school-based mental health professionals should be a priority for education policy makers, because classroom interventions, counseling and — in some cases — treatment for psychiatric disorders could mitigate these [attention problems](#), Miller said.

"We really shouldn't be sweeping behavior problems in early elementary school under the rug, because there is a lot we can do," she said.

The researchers said that early intervention to prevent teens from dropping out of high school and the serious long-term consequences of poor high school achievement should be a major focus for both education and public-health policy makers.

More research is needed, however, to identify successful models of providing mental health services in school settings, Breslau said, and more long-term research is needed to find out what other factors come into play between kindergarten and the end of high school that affect scholastic performance.

"If we are going to make a difference in children's lives we need a whole lifespan perspective," Breslau said.

Source: University of California - Davis

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