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## Studies on Pupils Call Bad Behavior Not Dooming

By [BENEDICT CAREY](#)

Educators and [psychologists](#) have long feared that children entering school with behavior problems were doomed to fall behind in the upper grades. But two new studies suggest that those fears are exaggerated.

One concluded that kindergartners who are identified as troubled do as well academically as their peers in elementary school. The other found that children with attention deficit disorders suffer primarily from a delay in brain development, not from a deficit or flaw.

Experts say the findings of the two studies, being published today in separate journals, could change the way scientists, teachers and parents understand and manage children who are disruptive or emotionally withdrawn in the early years of school. The studies might even prompt a reassessment of the possible causes of disruptive behavior in some children.

“I think these may become landmark findings, forcing us to ask whether these acting-out kinds of problems are secondary to the inappropriate maturity expectations that some educators place on young children as soon as they enter classrooms,” said Sharon Landesman Ramey, director of the [Georgetown University](#) Center on Health and Education, who was not connected with either study.

In one study, an international team of researchers analyzed measures of social and intellectual development from over 16,000 children and found that disruptive or antisocial behaviors in kindergarten did not correlate with academic results at the end of elementary school.

Kindergartners who interrupted the teacher, defied instructions and even picked fights were performing as well in reading and math as well-behaved children of the same abilities when they both reached fifth grade, the study found.

Other researchers cautioned that the findings, being reported in the journal *Developmental Psychology*, did not imply that emotional problems were trivial or could not derail academic success in the years before or after elementary school.

In the other study, researchers from the National Institute of Mental Health and [McGill University](#), using imaging techniques, found that the brains of children with attention-deficit [hyperactivity](#) disorder developed normally but more slowly in some areas than the brains of children without the disorder.

The disorder, also known as [A.D.H.D.](#), is by far the most common psychiatric diagnosis given to disruptive young children; 3 percent to 5 percent of school-age children are thought to be affected. Researchers have long debated whether it was due to a brain deficit or to a delay in development.

Doctors said that the report, being published in *The Proceedings of the National Academy of Sciences*, helps to explain why so many children grow out of the diagnosis in middle school or later, often after taking stimulant [medications](#) to improve concentration in earlier grades.

The findings in the first study grew out of a collaboration among a dozen leading researchers to reassess data from six large child-development studies performed since 1970. Each of these six studies tracked

hundreds of children from an early age through elementary school on a number of measures, including reading and math skills, emotional stability and concentration, or attention. Most of the studies used teacher reports to gauge students' emotional and social progress and their ability to pay attention when asked.

The researchers adjusted the findings to eliminate the influence of factors like family income and family structure.

While there was little correlation between behavior problems in kindergarten and later academic success, the researchers did find that scores on math tests at ages 5 or 6 were highly correlated with academic success in fifth grade. Kindergarten reading skills and scores on attention measures — where youngsters with A.D.H.D. falter — also predicted later academic success, but less strongly than math scores did. The pattern was about the same in girls as in boys, and for children from affluent families as well as those from lower-income groups.

The authors of the study suggested that preschool programs might consider developing more effective math training. The findings should also put to rest concerns that boys and girls who are restless, disruptive or withdrawn in kindergarten are bound to suffer academically.

“For kindergarten, it appears teachers are able to work around these behavior problems in a way that enables kids to learn just as much as other kids with equal levels of ability,” said the lead author, Greg J. Duncan, a professor of human development and social policy at [Northwestern University](#).

The findings, Dr. Duncan said, have been “very controversial among developmental psychologists who have seen the paper.”

One who is concerned, Ross Thompson, a professor of [psychology](#) at the University of California, Davis, said it would be a mistake to conclude from the results that programs to guide preschoolers' emotional development were not helpful.

“That would be a double whammy for really difficult kids,” Dr. Thompson said, “to have no help managing their behavior and then — wham! — to get labeled as problem kids as soon as they enter school.”

In the second study, government psychiatric researchers compared brain scans from two groups of children: one with attention deficit disorder, the other without. The scientists had tracked the children — 223 in each group — from ages 6 to 16, taking multiple scans on each child.

In a normally developing brain, the cerebral cortex — the outer wrapping, where circuits involved in conscious thought are concentrated — thickens during early childhood. It then reverses course and thins out, losing neurons as the brain matures through [adolescence](#). The study found that, on average, the brains of children with A.D.H.D. began this “pruning” process at age 10 ½, about three years later than their peers.

About 80 percent of those with attention problems were taking or had taken stimulant drugs, and the researchers did not know the effect of the medications on brain development. Doctors consider stimulant drugs a reliable way to improve attention in the short term; the new study is not likely to change that attitude.

But the greatest delays in brain maturation were found in precisely those areas of the cortex most involved in attention and motor control, said the lead author of the study, Dr. Philip Shaw, a psychiatrist at the National Institute of Mental Health.

“Those are exactly the areas where we would expect to find differences,” Dr. Shaw said.

Doctors cannot diagnose attention deficit or any other psychiatric disorder with imaging technology, in part because brains vary so much that a single series of images can seldom reveal who has a disorder. The new findings suggest that searching for a clear abnormality or flaw is the wrong approach, at least for attention problems.

“The basic sequence of development in the brains of these kids with A.D.H.D. was intact, absolutely normal,” Dr. Shaw said. “I think this is pretty strong evidence we’re talking about a delay, and not an abnormal brain.”

About three in four children do grow out of the problem by early adulthood, he said.

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