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## NEW STUDY: INVESTMENTS IN SMART START AND MORE AT FOUR GENERATE BROAD EDUCATION BENEFITS

Note to editors: Contact information for the three researchers can be found at the end of this release.

DURHAM, N.C. -- North Carolina third-graders have higher standardized reading and math scores and lower special education placement rates in those counties that had received more funding for Smart Start and More at Four when those children were younger, Duke University researchers have found.

"These findings provide the most rigorous evidence yet that investments in these early childhood initiatives generate substantial benefits for all the children in the counties that receive these funds, even children who were never enrolled in the early childhood programs," said Helen Ladd, the Edgar T. Thompson Distinguished Professor of Public Policy and a professor of economics at Duke.

For an average third-grade child whose community had received Smart Start or More at Four funding, the expected savings in special education and instructional costs is at least equal to the cost of those programs, researchers said. "By the time the children grow up, we expect the investment will have yielded large payoffs in lower special education and remedial costs," concluded Kenneth Dodge, the William McDougall Professor of Public Policy and director of Duke's Center for Child and Family Policy.

Smart Start provides state funds for high-quality child care and services for health, cognitive and social development from birth to age five. It was initiated in 1993 in pilot counties and then expanded statewide by 1999. More at Four provides funds for high-quality preschool for at-risk four-year-olds. It was first implemented in 2001 in pilot counties and then expanded statewide by 2004. More at Four spending has averaged about \$1,250 for every four-year-old child in a county, and Smart Start spending has averaged about \$250 per child per year for children ages 0 to 5 (\$1,250 total).

Duke professors Kenneth Dodge, Clara Muschkin and Ladd used new methods and data to evaluate North Carolina's investment in these two initiatives. Past evaluations of the impact have compared school performance for children who had participated in Smart Start or More at Four to other children within the same counties who had not.

In the new study, the Duke researchers asked a different and broader question: Do dollar investments for these initiatives lead to improvements in education outcomes for all a county's children? The study is ongoing, and the researchers plan to extend the analyses to include other educational outcomes beyond the third grade.

Ladd said that a statistical problem, called selection bias, often plagues studies that attempt to measure the impact of a voluntary program on its participants. "Our study avoids that problem to the extent that dollar allocations are received by entire communities rather than individual children," Ladd noted. Because Smart Start and More at Four were introduced in different counties in different years at different per-child state investment levels, the researchers were able to use the variation to test the overall impact on child outcomes.

"A second advantage of the new study is the possibility of capturing 'spillover effects,' whereby children who are not enrolled in these initiatives but live in the same communities also experience academic benefits." Ladd noted that spillover effects might arise, for example, from the availability of higher quality child care or pre-school programs, which can benefit all children in a county. Muschkin, assistant Research Professor of Public Policy at Duke added, "Another source of potential benefit for all students is the boost that these initiatives may have on children's school readiness, allowing classroom teachers to devote less time to remediation and to handling disruptive behaviors, and more time to enrichment and educational activities for all children."

In their analyses to date, the researchers found that third-grade math and reading scores are higher in counties that had received higher allocations for Smart Start and More at Four. Although only a minority of children in any county participated directly in these initiatives, the impact was equivalent to several months of extra schooling for all children in that county.

"The positive effect is highest among the group of children for whom the initiatives were targeted -- children at risk for academic failure. The impact of each allocation contributes independently of the other allocation, and the effects are cumulative."

Dodge said their research findings show these two initiatives have improved academic achievement and reduced placements for special education. "It has been a wise investment," he said.

The Duke study was supported by the Smith Richardson Foundation, the Spencer Foundation, the Center for the Analysis of Longitudinal Data in Education Research (a federally funded research center of which Duke is one of five university partners), Duke's Sanford School of Public Policy and the Duke Center for Child and Family Policy. The authors have no affiliation with any state-funded early childhood program.

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