



Society for Research in Child Development

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PRESS RELEASE

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One Reason to Test Premature Babies Early: Results Provide Clues to Later Cognitive Development

The rate of premature births in the United States is on the rise, with one in eight babies born before 37 weeks gestation in 2003, a 13 percent increase from 10 years ago.¹ While it's long been known that premature birth increases a child's risk of learning and other cognitive disabilities, including lower IQ, language delay, poorer school achievement and learning disabilities, it has not been known if those problems are linked to cognitive development in early infancy.

Now a study from researchers at the Albert Einstein College of Medicine in the Bronx, N.Y., and the University of Ghent in Belgium, finds that early cognitive deficits in infancy such as poorer attention, slower processing speed and poorer recognition memory are important harbingers of later cognitive deficits, fully accounting for lower cognitive scores of 2- and 3-year-olds. The study was published in the November/December issue of the journal *Child Development*.

The researchers set out to address two questions: The origin of cognitive deficits in children born prematurely, and whether those deficits progressed from more elemental specific infant abilities (attention and speed of information processing) to more advanced ones (visual recognition memory and visual recognition of objects previously felt) which, in turn, influenced the general cognitive ability of these children as toddlers.

The researchers examined 200 children. One group was born prematurely, with birthweights of less than 3.9 pounds (1,750 grams), the other was full term. Researchers tested the children at 7 months and at 2 and 3 years.

In addition to their finding that early deficits in preterm infants' cognitive ability fully accounted for the lower scores of the 2- and 3-year-olds, the researchers also found a cascade of effects, in which speed influenced memory for objects seen and felt, which then influenced general cognitive ability.

"The findings from this study imply that cognitive difficulties can be detected early – in the first year of life – and that these early difficulties have important implications for later development," said lead author Susan A. Rose, Ph.D., professor of pediatrics and psychiatry at Albert Einstein College of Medicine.

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“As such, the infant measures hold promise for early assessment of medical interventions designed to improve the long-term outcome of premature infants. They also hold promise for helping us learn more about the very nature of early cognitive abilities.”

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Summarized from Child Development, Vol. 76, Issue 6, *Pathways from Prematurity and Infant Abilities to Later Cognition*, by Rose SA, Feldman JF, Jankowski JJ (all of Albert Einstein College of Medicine), and Van Rossem R (University of Ghent, Belgium). Copyright 2005 The Society for Research in Child Development, Inc. All rights reserved.

ⁱ Martin JA, Hamilton, BE, Sutton PD, et al. Births: Final Data for 2003. National Center for Health Statistics; 2005; 54:2