



## Poverty During Early Childhood May Last a Lifetime

### Children raised in poverty in their first five years are more likely to feel its effects well into adulthood.

By [Jessica Marshall](#) | Mon Feb 22, 2010 12:29 PM ET

#### THE GIST:

- **Poverty during early childhood is correlated with lower adult income.**
- **Childhood poverty causes lasting effects on the brain and on the way DNA is expressed.**
- **Because early childhood is so important, researchers advise policies to address these problems should focus on the youngest children.**

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It's no surprise that growing up in [poverty](#) makes it more likely you'll be poorer as an adult.

But new research shows that the earliest years of life are the most critical in determining future earnings. Even more strikingly, a growing body of research shows that [childhood poverty](#) causes lasting changes in the brain -- from its overall structure down to the level of gene expression.

These findings highlight the importance of programs that specifically address the needs of the youngest children, the researchers say.

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"Early experiences are built into our bodies, for better or worse," said Jack Shonkoff of Harvard University in Cambridge, Mass., speaking at a meeting of the American Association for the Advancement of Science in San Diego on Sunday.

"If you begin with the experience of adversity and stress, those get translated into changes in brain function and structure that get translated into changes in cellular and neuronal connections, and most recently, down into lasting changes in how the DNA is expressed," said Thomas Boyce of the University of British Columbia in Vancouver, who has carried out several studies that show these effects.

Poor children perform worse in many ways, said Katherine Magnuson of the University of Wisconsin, Madison, from standardized tests to amount of schooling to behavior and

health. "We've known this for a long time. What is interesting and emergent is our ability to talk about these as being caused by income per se rather than the range of things that are associated with poverty," Magnuson said.

Greg Duncan of the University of California, Irvine, examined information on income, health, education and other factors for a group of children born between 1968 and 1975 tracked through adulthood.

Duncan found that for children in families earning less than the equivalent of \$25,000 a year in 2005, a \$3,000 increase in household income during the first five years of a child's life translated into 17 percent higher earnings as an adult, and almost a month's more working hours annually. The effects lasted at least until age 37, and are independent of other factors that are typically associated with low income like education or poor health.

This association disappeared when Duncan looked at the effect of poverty during later years of childhood.

Other studies have found that lower family income correlates with lower cognitive performance in children, Magnuson said.

Why income has such an effect on the brain, on cognitive and behavioral performance, and on future earning could be because income allows parents to buy things that enrich their child's environment like books or quality childcare.

But it also could be because low income creates constant stress that the children feel in the home. Indeed many of the biological changes seen in the brain are consistent with prolonged exposure to stress, Boyce said.

Evidence suggests that both of these mechanisms contribute to cognitive and behavioral problems in low-income children. This means interventions need to target more than just [early childhood](#) education for children, the researchers agreed.

Intervening early may be important given Duncan's findings.

"We're focusing on the potential for early childhood as a particularly sensitive period," Duncan said. "With all the different economic policies that we've developed, there's never been a distinction based on age. We haven't treated families with young kids differently. When we think about these, it's a good opportunity to think of privileging early childhood as being a particularly important period."

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