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## Project to Improve Poor Children's Intellect Led to Better Health, Data Show

By [SABRINA TAVERNISE](#) MARCH 27, 2014



Frances Campbell was involved with the Carolina Abecedarian Project, which started following two groups of babies in 1972. Credit Travis Dove for The New York Times

In 1972, researchers in North Carolina started following two groups of babies from poor families. In the first group, the children were given full-time day care up to age 5 that included most of their daily meals, talking, games and other stimulating activities. The other group, aside from baby formula, got nothing. The scientists were testing whether the special treatment would lead to better cognitive abilities in the long run.

Forty-two years later, the researchers found something that they had not expected to see: The group that got care was far healthier, with sharply lower rates of high blood pressure and obesity, and higher levels of so-called good cholesterol.

The study, [which was published in the journal Science](#) on Thursday, is part of a growing body of scientific evidence that hardship in early childhood has lifelong health implications. But it goes further than outlining the problem, offering evidence that a particular policy might prevent it.

“This tells us that adversity matters and it does affect adult health,” said James Heckman, a professor of economics at the University of Chicago who led the data analysis. “But it also shows us that we can do something about it, that poverty is not just a hopeless condition.”

The findings come amid a political push by the Obama administration for [government-funded preschool](#) for 4-year-olds. But a growing number of experts, Professor Heckman among them, say they believe that more effective public programs would start far earlier — in infancy, for example, because that is when many of the skills needed to take control of one's life and become a successful adult are acquired.

The study in *Science* drew its data from the Carolina Abecedarian Project, in which about 100 infants from low-income families in North Carolina were followed from early infancy to

their mid-30s. The project is well known in the world of social science because of its design: The infants were randomly assigned to one group or the other, allowing researchers to isolate the effects of the program. Such designs are the gold standard in medical research, but are rarely used in investigations that influence domestic social policy.

The researchers [had already answered](#) their original question about cognitive development: whether the treated children would, for example, be less likely to fail in school. The answer was yes. Over all, the participants' abilities as infants were about the same, but by age 3 they had diverged. By age 30, those in the group given special care were four times as likely to have graduated from college.

“Forty years ago, it was all about cognition,” Professor Heckman said. “But it turned out that when you expand these capabilities — not only cognitive but social and emotional — one of the effects is better health. Nobody thought about that at the time.”

Frances Campbell, a senior scientist at the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill, who started work on the project in the 1970s, said of the health improvements, “I would not say to you that we were expecting to see much of a difference at all.”

But that is precisely what researchers found. Men in the treatment group, now mostly in their mid-30s, were less likely to develop hypertension than those in the control group. They also had significantly higher levels of so-called good cholesterol, and none had developed metabolic syndrome, the medical term for a group of risk factors that together substantially raise the chances for heart disease, diabetes and stroke. In contrast, a quarter of the men in the control group had the syndrome.

“These are real biological markers, blood tests, physical results,” Dr. Campbell said. “That’s what makes this story so exciting.”

As for women, those in the treated group were less likely to develop pre-hypertension or abdominal obesity, which tends to be a risk factor for heart problems. They also had healthier habits. They were significantly less likely to have started drinking before age 17, and more likely to be physically active and eat nutritious food, than the women in the control group.

Some have criticized the Abecedarian study as not persuasive because it is too small and too old, Professor Heckman said. He argued that results were striking even with its small size, and the fact that it was randomized and that the participants have been followed for decades shows the results are real and long-lasting.

Addressing criticism that the program would be too expensive to apply more broadly, Professor Heckman said the cost of the Abecedarian project was about \$16,000 per child per year in 2010 dollars. His research group is now analyzing how that might compare to the costs of medical care for the poorer health outcomes that tend to be typical for low-income Americans.

“This is tangible, it is real,” Professor Heckman said. “It’s not just a declaration from someone saying, ‘I’m smart and I think this is true.’ ”

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