

Extra cash for low-income mothers may influence baby brains

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New research suggests giving extra cash to low-income mothers can change their infants' brain development.

Brain measurements at age 1 showed faster activity in key brain regions in infants whose low-income families received \$300-plus monthly for a year, compared with those who got \$20 each month, U.S. researchers

reported Monday.

The same type of brain activity has been linked in older children to learning skills and other development, although it's unclear whether the differences found will persist or influence the infants' future.

The researchers are investigating whether the payments led to better nutrition, less parent stress or other benefits to the infants. There were no restrictions on how the money was spent.

The results suggest reducing poverty can directly affect infant [brain development](#), said senior author, Dr. Kimberly Noble, a neuroscience and education professor at Teachers College, Columbia University.

"The brain changes speak to the remarkable malleability of the brain, especially early in childhood," she said.

While the researchers can't rule out that differences seen in total brain activity in both groups were due to chance, they did find meaningful differences in the frontal region, linked with learning and thinking skills. Higher-frequency activity was about 20% greater in infants whose families received the larger payments.

The findings build on evidence that cash support can improve outcomes for [older children](#), said co-author Katherine Magnuson, director of the National Institute for Research on Poverty and Economic Mobility, based at the University of Wisconsin in Madison.

It's also the first rigorous evidence of how the payments may affect children in the earliest years of life, she said. Results were published in the *Proceedings of the National Academy of Sciences*.

The study recruited mothers shortly after childbirth at hospitals in four

metropolitan areas: Minneapolis-St. Paul, New Orleans, New York City and Omaha. The women reported an [average household income](#) of about \$20,000 and were randomly assigned to receive \$333 or \$20 each month on debit cards. The money was provided by private funders and the recipients could spend it as they wished.

The larger cash payments in the study were similar to those distributed to [low-income families](#) during the pandemic in President Joe Biden's child tax credit program, which ended last month.

The study "couldn't be more relevant to the current moment," Dr. Joan Luby, a professor of child psychiatry at Washington University's medical school.

While renewal of the tax credit is uncertain, "this study should really inform Congress about how tremendously important" it is, said Luby. She reviewed the study for the scientific journal but was not involved in the research.

Mothers enrolled in the study were mostly Black and Hispanic without a college education. As the infants neared their first birthday, researchers made home visits to test the children in person. Infants were fitted with special caps covered with electrodes that detect electrical signals [brain](#) cells use to communicate with each other.

Home visits stopped because of the pandemic, so researchers don't have full data on all 1,000 mothers who enrolled since 2018. They reported on the results for 435 but hope to resume [home visits](#) this year.

The study is ongoing and payments to families will continue until at least their children's fourth birthdays.

Natasha Pilkauskas, an associate professor of public policy at the

University of Michigan, called it "a very important study," but said more research is needed to confirm the results and to see if they hold true for children older than [infants](#).

More information: "The impact of a poverty reduction intervention on infant brain act," by Sonya V. Troller-Renfree et al. *PNAS* (2022). www.pnas.org/cgi/doi/10.1073/pnas.2115649119

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