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The Economic Case for Early Education

April 7, 2016
1:00pm EST

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invest in US Build a better nation with early childhood education

Inequality in Early Childhood & Effective Public Policy Interventions

Sandra E. Black

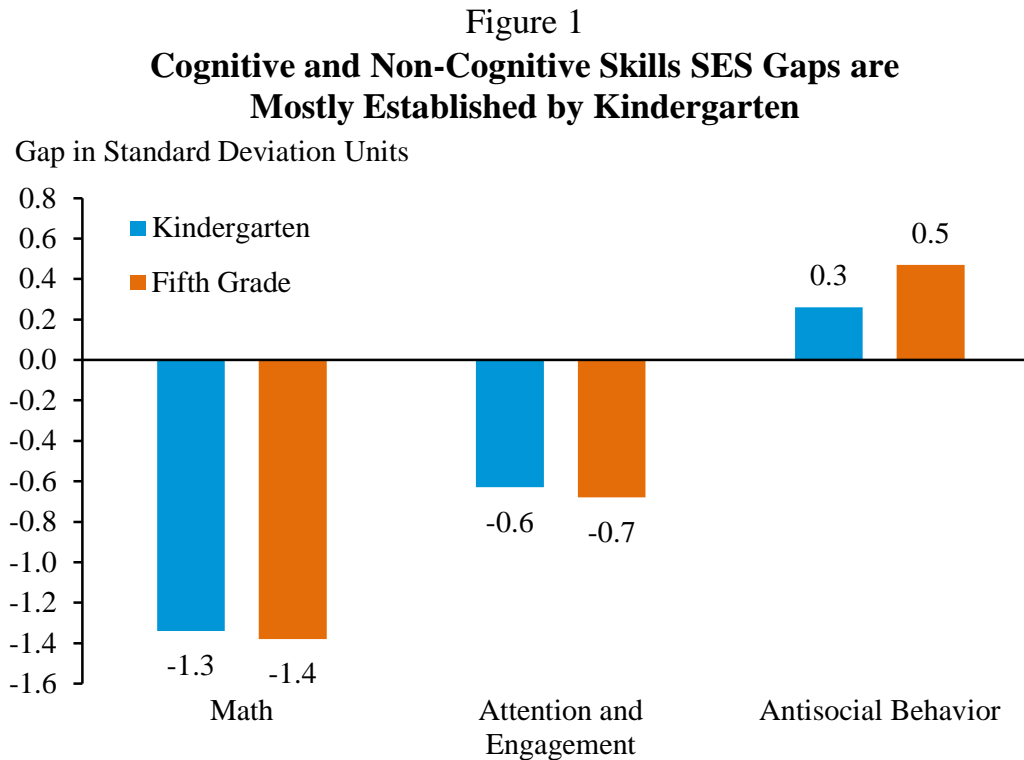
Member, Council of Economic Advisers



April 7, 2016



Income-based gaps in math skills, attention, and social skills are well-established by kindergarten

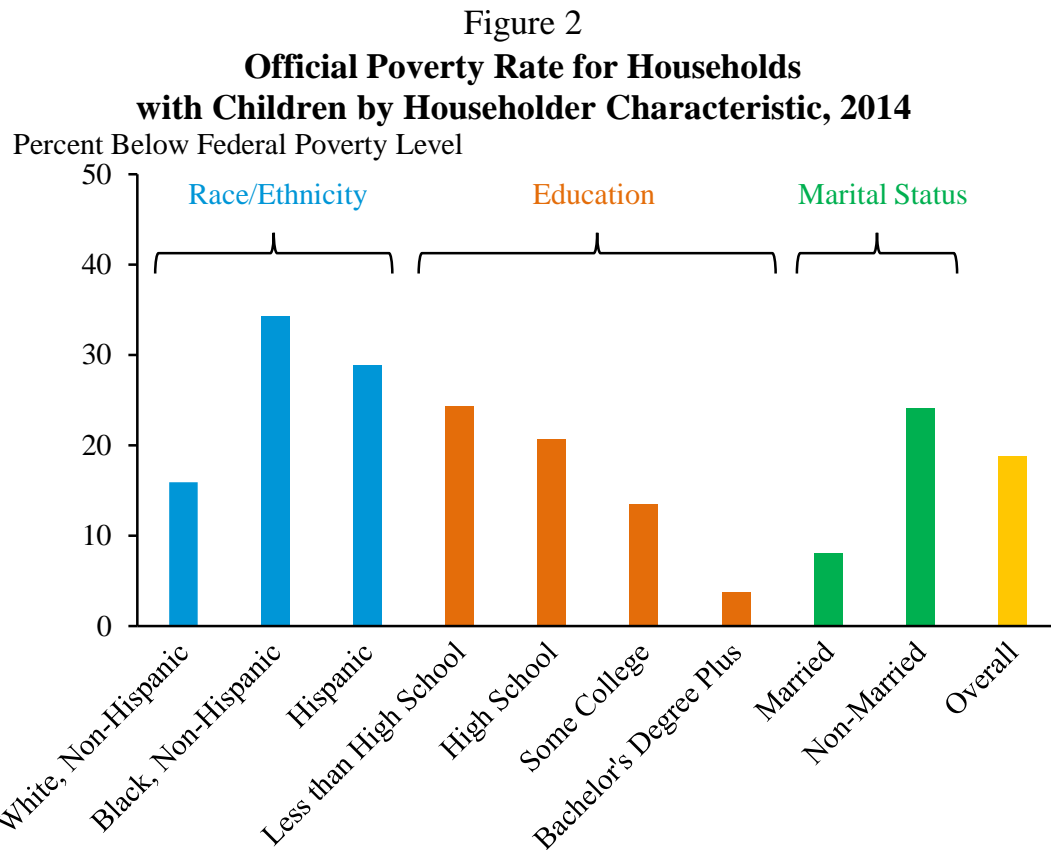


Note: SES refers to socioeconomic status. Calculations by Duncan and Magnuson (2011) based on data from the Early Childhood Longitudinal Study - Kindergarten Cohort. Kindergarten test scores were measured in 1998—1999; fifth grade test scores for the same students were measured in 2004.

Source: Duncan and Magnuson (2011).



Poverty is unevenly distributed across types of households



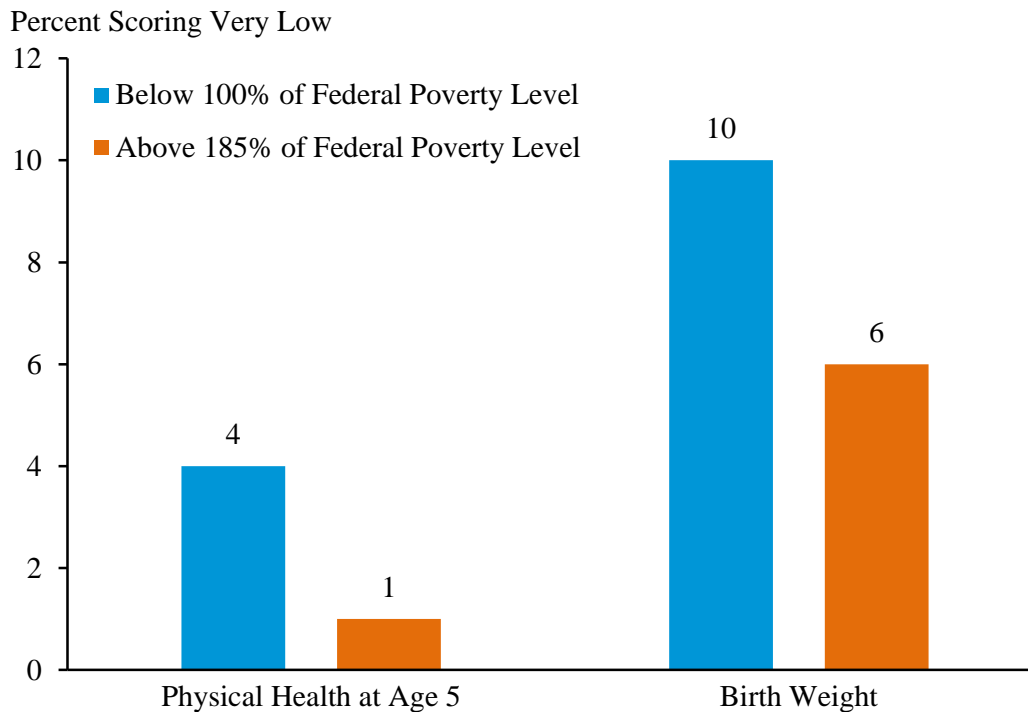
Source: CPS ASEC (2015); CEA calculations.



Children growing up in poverty tend to do worse across a spectrum of important early health outcomes

Figure 3

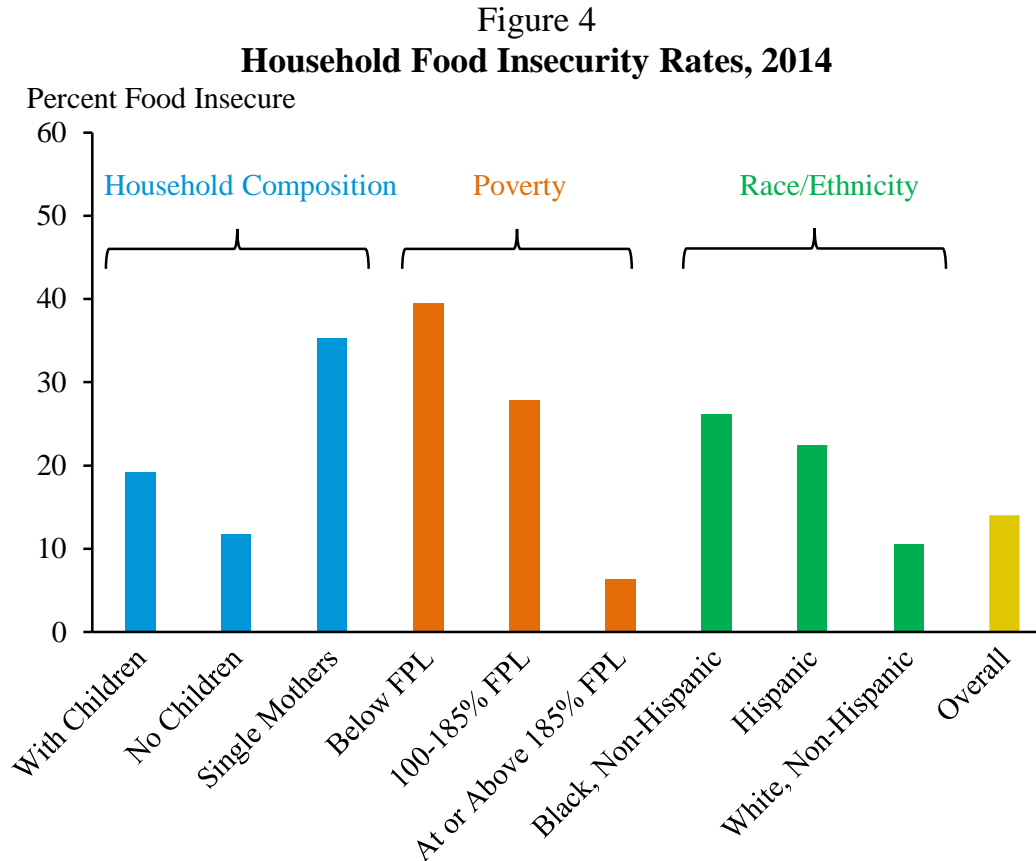
Likelihood of Scoring Very Low on Early Health Measures



Note: Data are from the Early Childhood Longitudinal Study - Birth Cohort and for children born in 2001. Very low physical health defined as at least one standard deviation below the average. Very low birth weight defined as below 5.5 pounds.
Source: Isaacs (2012).



Poor children are much more likely to experience food insecurity



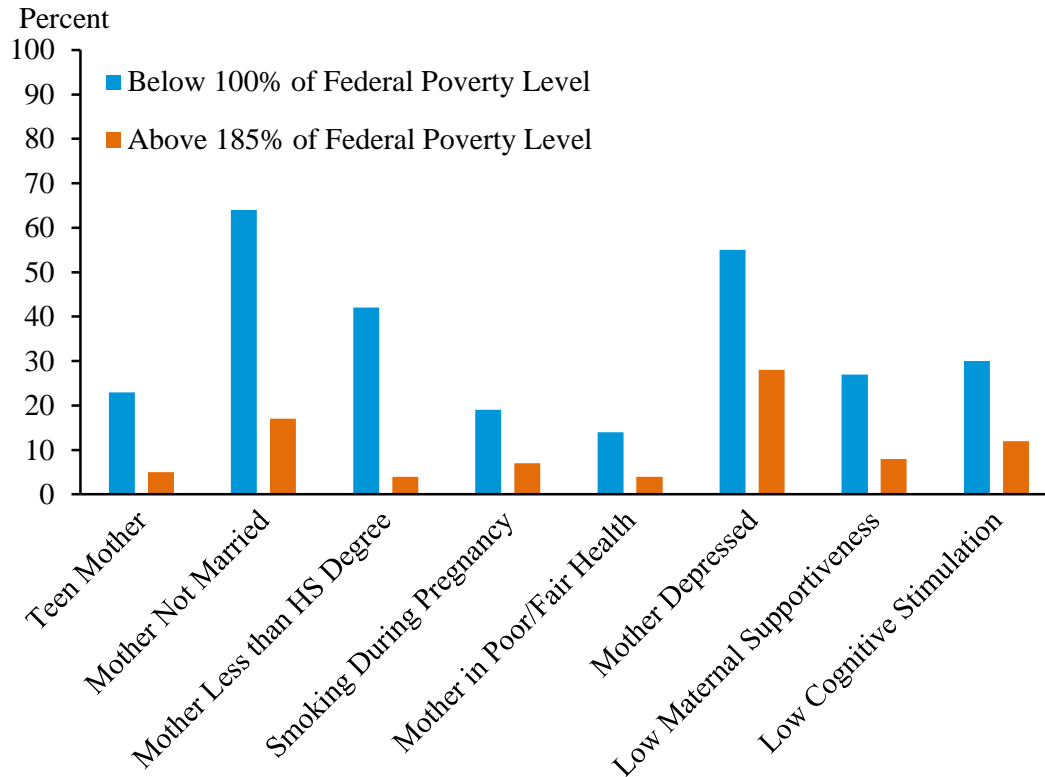
Note: FPL refers to the federal poverty level.
Source: Coleman-Jensen et al. (2015).



Parental and child stress can also be contributors to worse health outcomes for poor children.

Figure 5

Disparities in Underlying Factors Behind Outcome Gaps



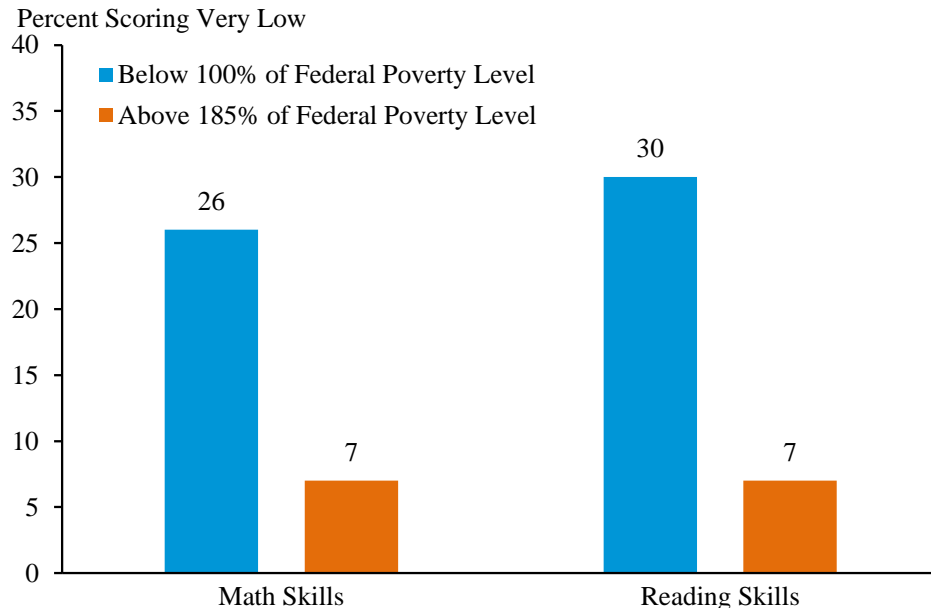
Note: HS stands for high school.
Source: Isaacs (2012).



Socioeconomic disparities in cognitive outcomes are evident in children as young as 9 months of age

Figure 6

Likelihood of Scoring Very Low on Measures of Cognition at Age 5, 2006

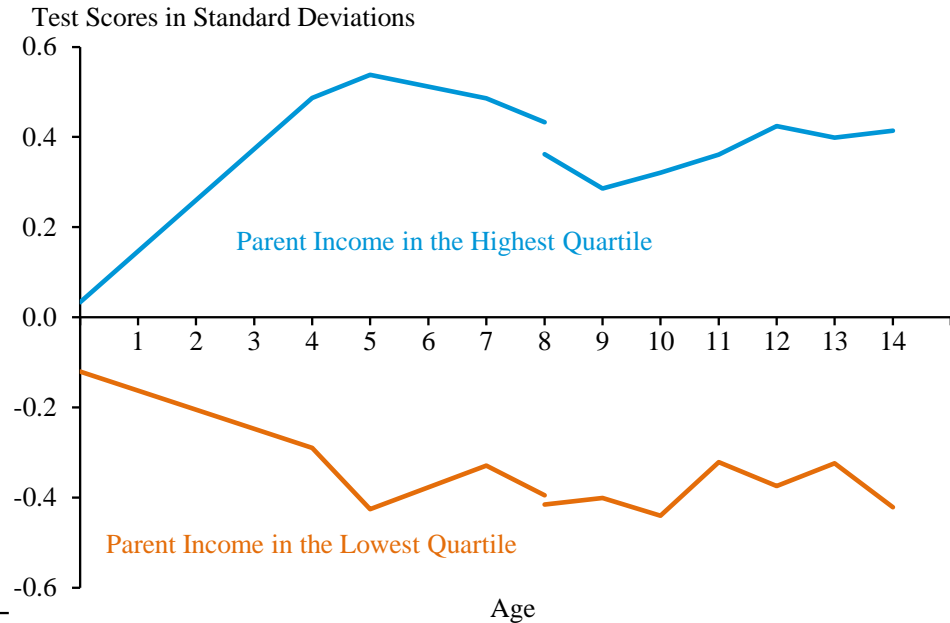


Note: Very low is defined as more than one standard deviation below average on academic measures. Data are from the Early Childhood Longitudinal Study - Birth Cohort. Test scores were measured in fall of 2006 or 2007.

Source: Isaacs (2012).

Figure 7

Achievement Gap is Largely Set by Age 5

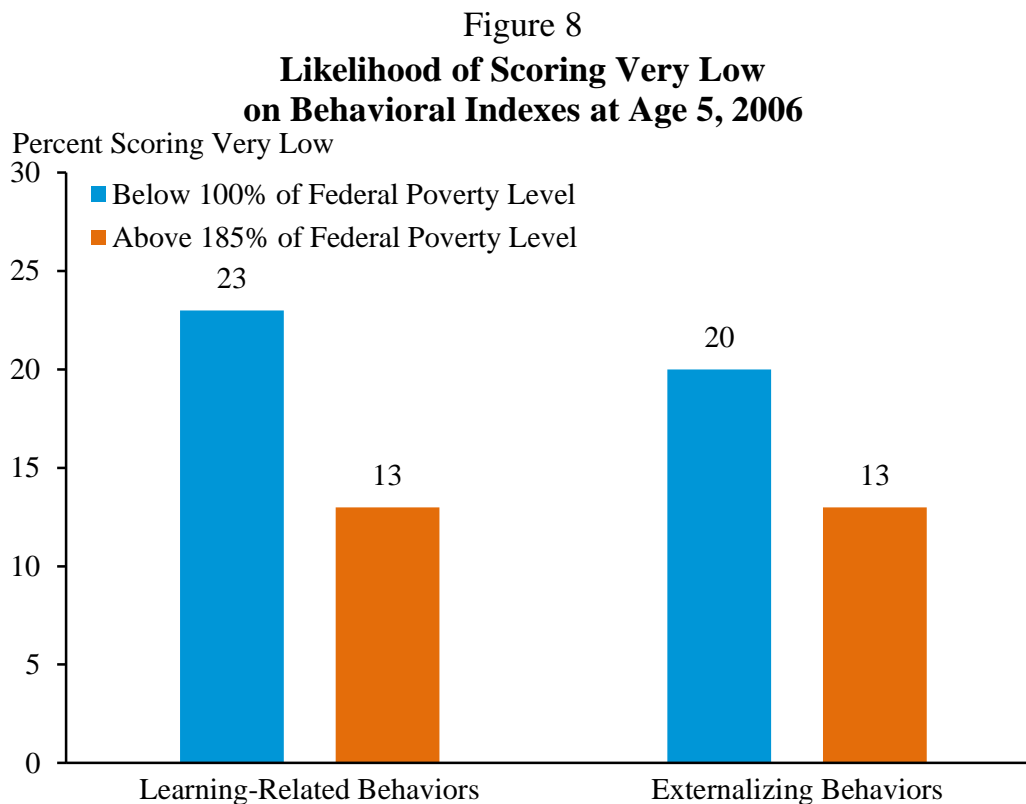


Note: IQ scores are available through age 8. After age 8, math test scores are shown. A three year moving average is used for math scores.

Source: U.S. Collaborative Perinatal Project from Fryer and Levitt (2013) (through age 8); NLSY79 Child and Young Adult Supplement from Cunha et al. (2006) (after age 8); CEA calculations.



Children experiencing poverty are more likely to exhibit behavioral problems and to perform worse on non-cognitive skills tests



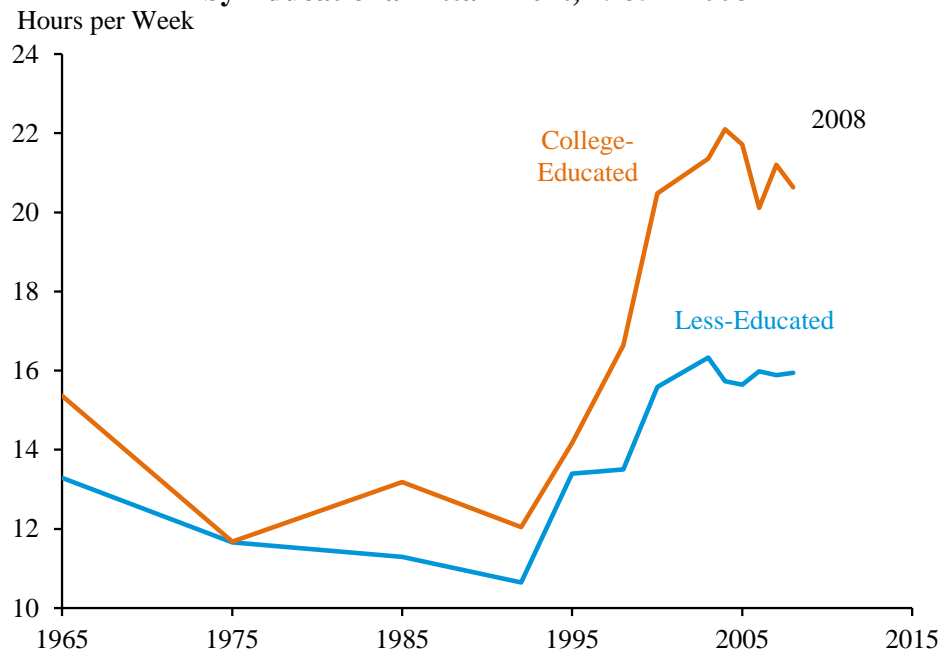
Note: Very low is defined as more than one standard deviation below average on behavioral measures. Data are from the Early Childhood Longitudinal Program Birth Cohort. Test scores were measured in the fall of 2006.

Source: Isaacs (2012).



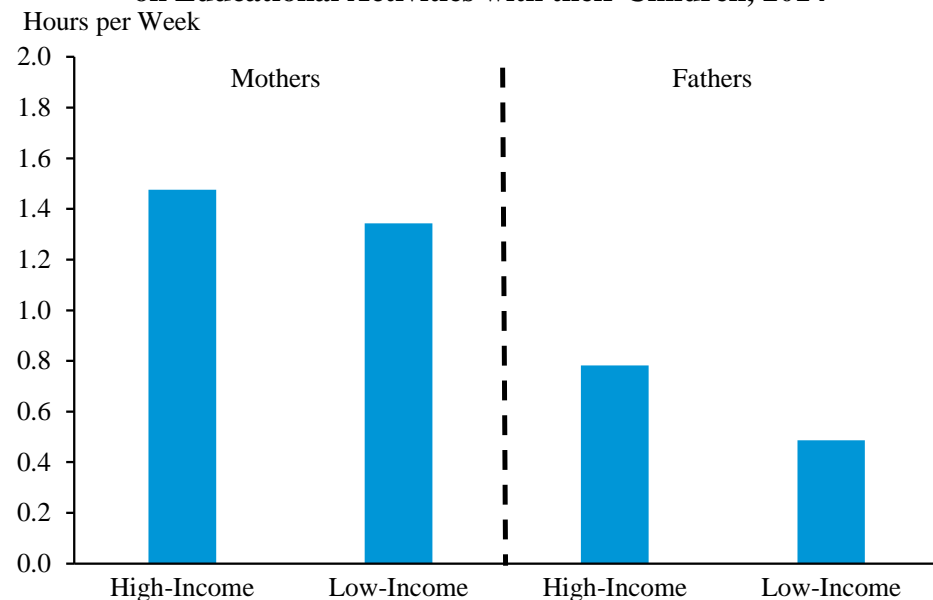
Inequalities in parental inputs such as time, resources, earnings, and education are higher than in the past

Figure 9
Mother's Time Spent on Child Care by Educational Attainment, 1965—2008



Note: Estimates are for mothers aged 25-34.
 Source: Ramey and Ramey (2010).

Figure 10
High-Income Parents Spend More Time on Educational Activities with their Children, 2014

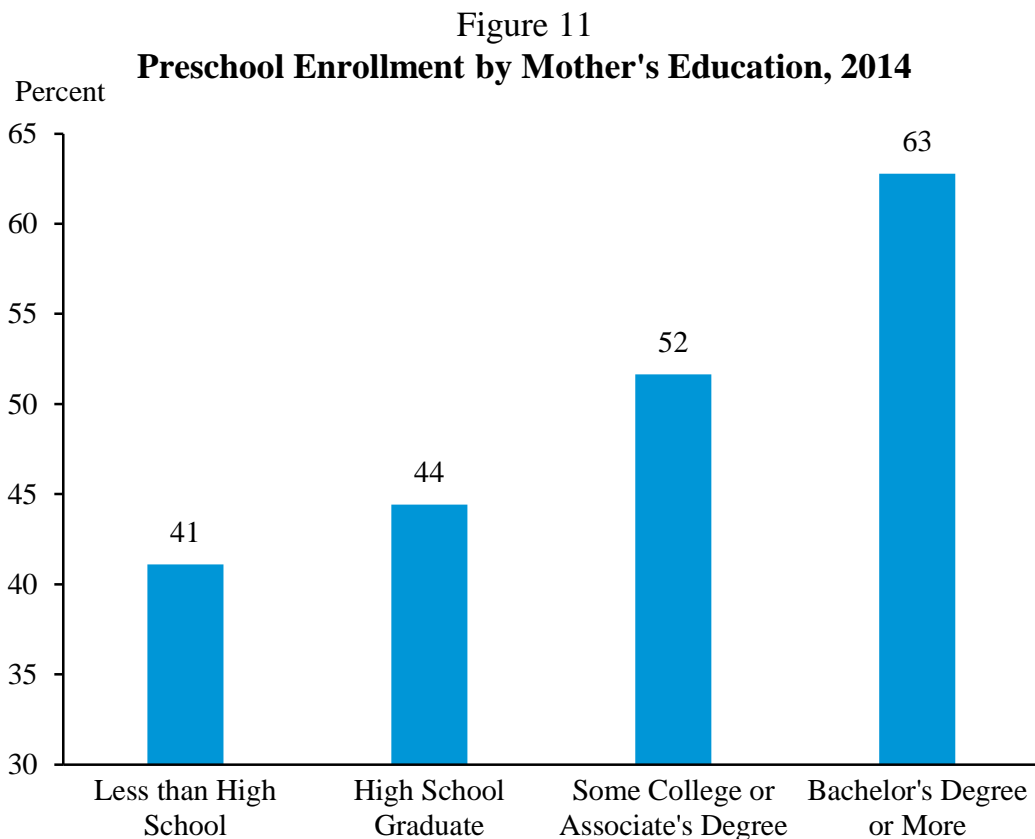


Note: High-income refers to top quartile while low-income refers to bottom quartile. Includes time spent helping with homework, attending school meetings, reading to or with children, and other activities associated with children's education.

Source: American Time Use Survey (2014).



These disparities in early childhood development can be exacerbated by later gaps in formal early schooling opportunities



Note: Excludes children in kindergarten.

Source: Current Population Survey October Supplement (2014); Census Bureau calculations; CEA calculations.



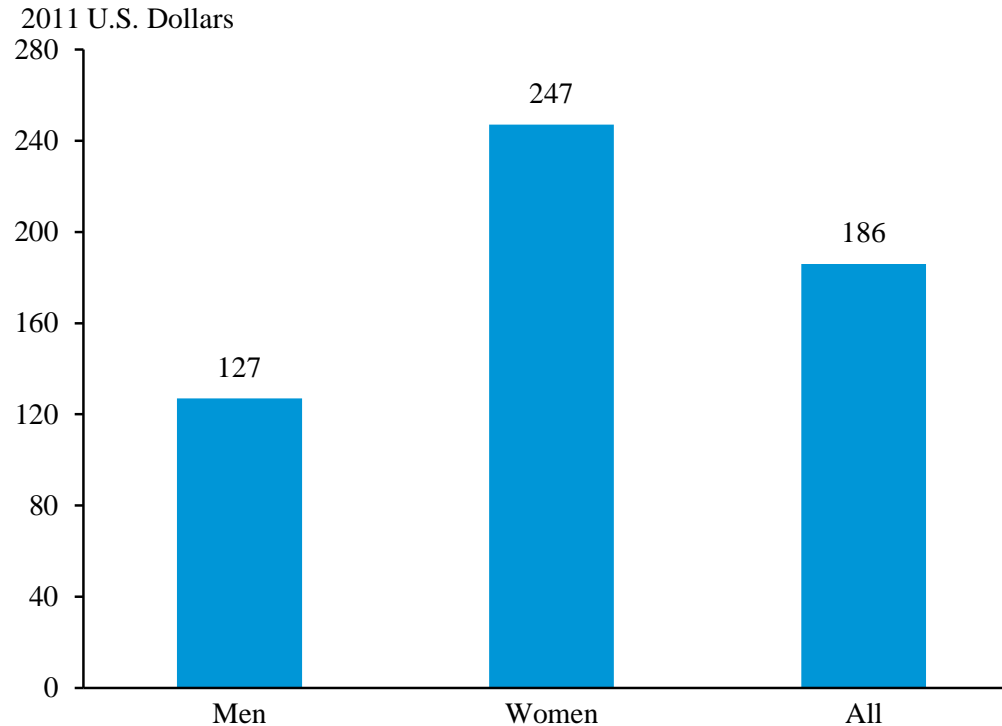
Public investment must play a central role in counteracting early childhood inequalities

- (1) The benefits may be delayed
- (2) The investments require significant up-front costs
- (3) Factors other than direct investments matter (e.g. neighborhood quality, environmental factors)
- (4) Benefits accrue to society in addition to individuals



Insurance coverage during childhood can have important benefits for educational and labor market outcomes much later in life

Figure 12
Increase in Payroll Taxes Paid Through Age 28 from an Additional Year of Medicaid Eligibility in Childhood, 1996—2012



Note: Cumulative tax payments based on earnings through age 28.
Source: Brown, Kowalski, and Lurie (2015).



A large body of evidence shows that nutrition programs improve health and human capital outcomes for poor children

Figure 13

Effects of WIC Participation on Birth Outcomes, 1994—2004

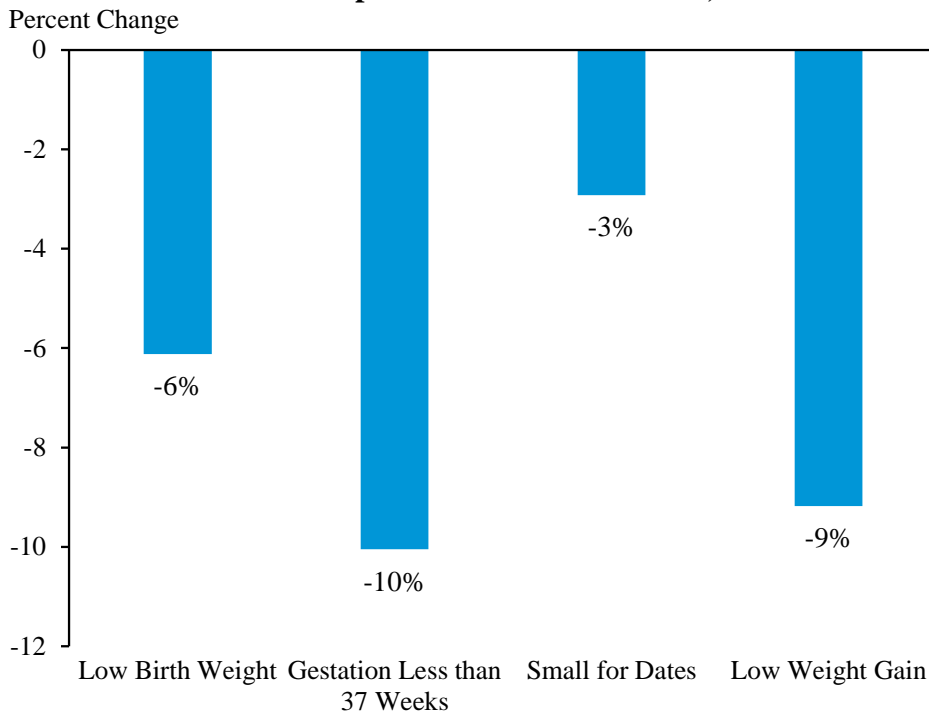
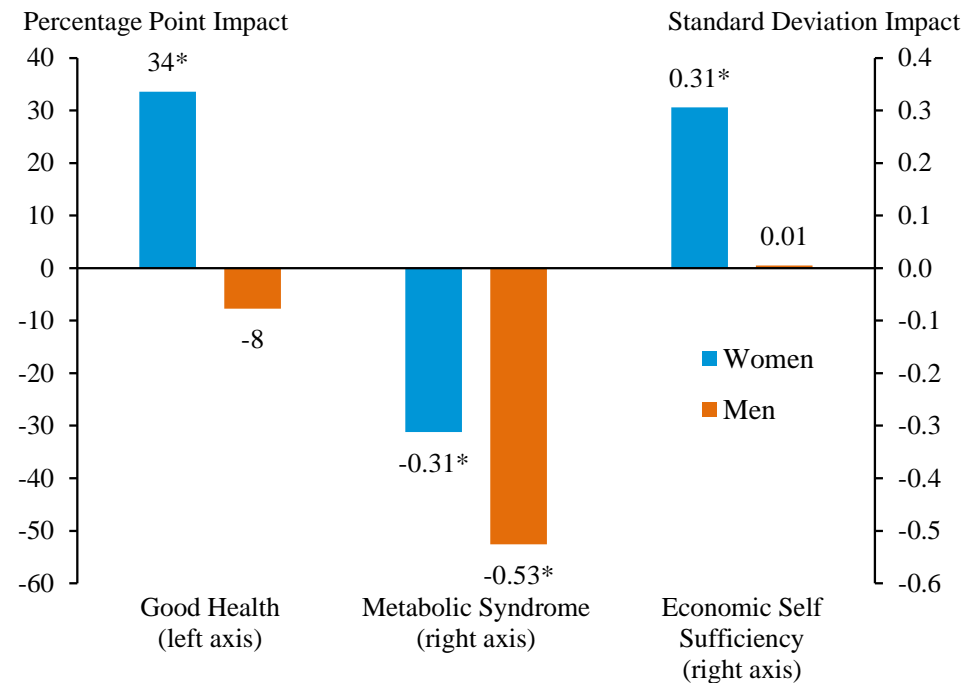


Figure 14

Long-Term Impacts of Exposure to Food Stamps as a Child



Note: * denotes statistically significant result. Estimates are for a high-impact sample where the head of household had less than a high school education.

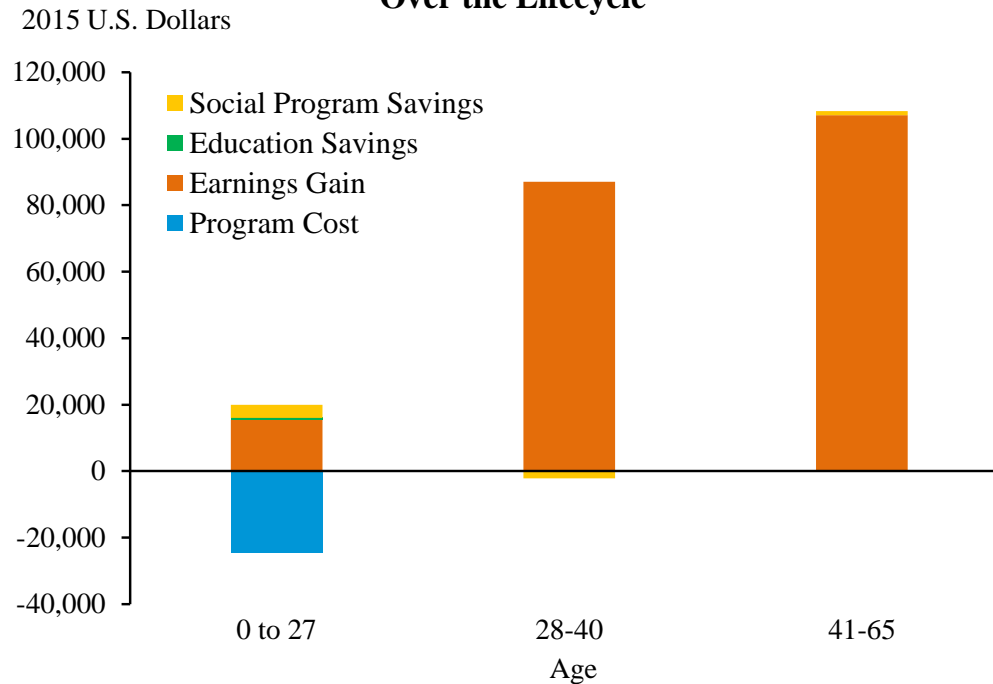
Source: Hoynes, Schanzenbach, and Almond (2016).

Source: Currie and Rajani (2015).



Preschool improves school readiness and can have long-term impacts on human capital attainment

Figure 15
Net Benefit Per Child of Perry Preschool Rises Over the Lifecycle



Note: Estimates based on Heckman et al. (2010) using undiscounted 2006 dollars converted to 2015 dollars using CPI-U-RS. Additional costs and benefits, such as education beyond age 27, vocational training, savings from crime reduction, health benefits, and maternal earnings, have not been quantified in this chart.

Source: Heckman et al. (2010); CEA calculations.

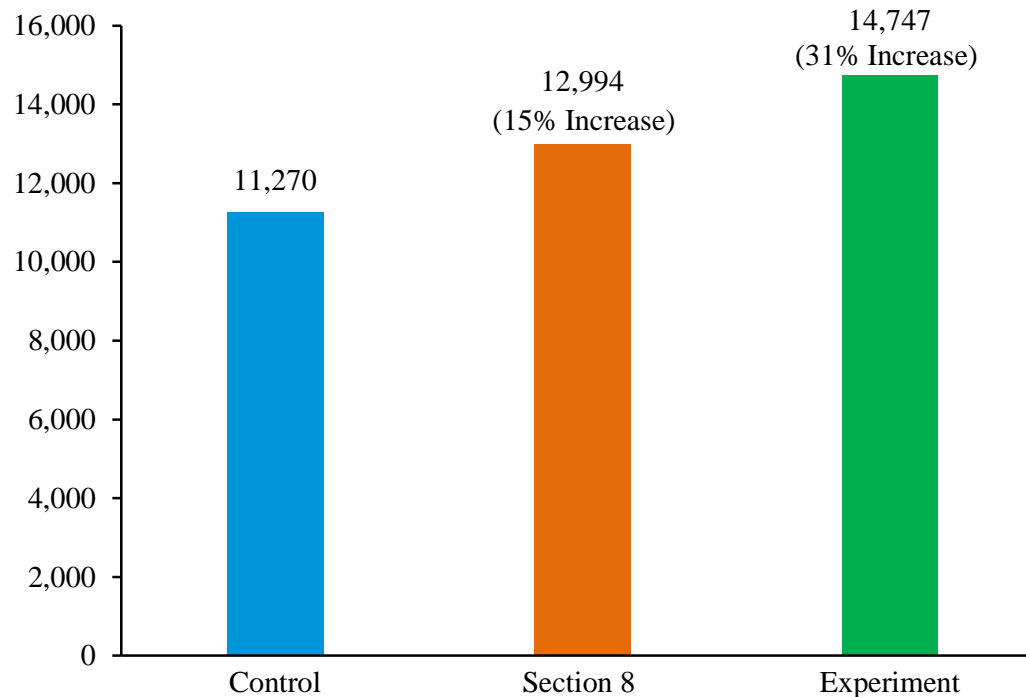


Moving to a lower-poverty neighborhood as a child can have a profound impact on health and human capital outcomes

Figure 16

Average Annual Earnings in Adulthood Among Children Younger than 13 When Their Family Participated in MTO, 2008—2012

2012 U.S. Dollars



Note: MTO stands for the Moving to Opportunity experiment.

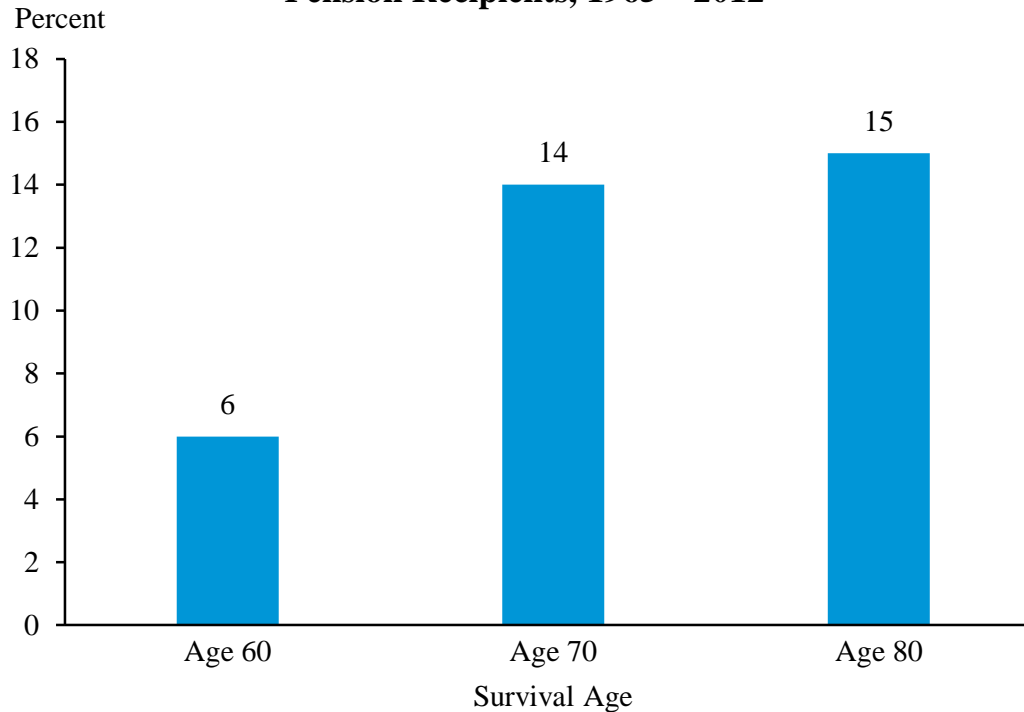
Source: Chetty, Hendren, and Katz (2016).



Income transfers have been shown to improve health and human capital outcomes for poor children in both the short-term and long-term

Figure 17

Increase in Probability of Survival Past Age 60-80 Among Mothers' Pension Recipients, 1965–2012



Note: Based on specification that includes individual controls and county and cohort fixed effects. Increase in survival calculated as a percent of the average survival rate of rejected applicants.
Source: Aizer et al. (2016).

When we invest in young children, we all benefit

- The research highlighted here suggests the investments we make in children today could benefit our economy in the long run.
- They do by expanding our skilled workforce and increasing their earnings, as well as by improving health and wellness.
- This means society reaps the benefits of a better-educated, higher-earning, and healthier population in the future.
- Expanding access to high-quality programs that support children in their earliest years is a win-win opportunity for participating children, their parents, and society as a whole.
- To learn more, see the fourth chapter of the 2016 *Economic Report of the President* [here](#).





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questions???



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