

Research Briefing: Long-Term Impacts of Early Education

Summary of research prepared for the Winning Beginning NY Campaign

As New York debates how much to spend on public school and what we should expect for our money, early education merits a prominent role in the discussion. Three classic studies have found that economic benefits from intensive, high-quality early learning programs far exceed the cost.



As part of a series of research briefings on early education, this publication presents evidence of long-term benefits of quality programs. Early education offers several levels of positive impact on children, families, and society at large. The short-term benefits include increased school readiness among prekindergarten graduates, and improved academic achievement in early grades. Medium-term effects (within a decade) include reduction in special education and grade repetition, as well as substantial cost-savings to taxpayers. Long-term impacts include increased likelihood of high school graduation and college enrollment, higher lifetime income and lower welfare dependence, and reduced involvement in crime.

These nationally recognized studies show the social returns on public investment in high quality preschool and early education program are significant and long lasting. So, too, are the economic returns. All three studies show that not only are the costs of quality early education recouped, they pay an impressive rate of return — an estimated 700% over the lifetime of a given preschooler.

While the locales, populations, and formulas used to calculate costs and benefits vary, all three studies involve rigorous research methods and long-term follow-up. Collectively, they represent our best insight into the long-term social and economic benefits of quality early care and education.

Abecedarian Early Childhood Intervention Project

The Carolina Abecedarian Project in Chapel Hill, NC, provided intensive preschool programs to children in low-income families in the early 1970s. The program featured small class sizes, a strong curriculum, and well-educated, well-compensated, professional teachers.



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The Abecedarian Project initially involved 112 mostly African-American children, born between 1972 and 1977, all from family settings thought to hinder their intellectual and social development. Family characteristics at program entry included maternal education of about 10 years; maternal IQ of 85; both parents present in 25% of households; and just over half of households receiving Aid to Families with Dependent Children. At between six and 12 weeks of age, random assignment placed children either in a full-time preschool program or in a control group.

Follow-up studies of participants at ages 8, 12, 15, and 21, showed they were more likely to perform well on intelligence tests, earn higher education, and delay parenting than those in the control group. In all, 104 of the original 112 children remained in the study through the final follow up.

An analysis of this study released by the National Institute for Early Education Research (NIEER) in November 2002 highlighted new findings about the program's positive outcomes on parents as well as children. As well as the educational benefits and increase in long-term earning potential for children, the full-day, year-round preschool program also allowed mothers to work at better paying jobs, this tracking them for significantly higher earnings over the long term.



Among the study's key economic outcome findings:

- The Abecedarian Project produced roughly \$4 in benefits for every \$1 invested.
- Analysis suggests that participants will each earn an average of \$143,000 more over their lifetimes than control group members.
- Mothers of enrollees can also expect greater earnings, on average about \$133,000 more over their lifetimes than mothers of control group members.
- School districts saved more than \$11,000 a child because participants are less likely to need either special education or remedial education.
- Participants were less likely to smoke (39% were smokers vs. 55% in the control group), resulting in health benefits, longer lives, and an average \$164,000 a person in health-cost savings.
- Members of the next generation (children of the children in the Abecedarian project) will earn an average of nearly \$48,000 more each than nonparticipant offspring throughout their lifetimes.

Compared with the control group, those in the (High/Scope Perry) preschool group had higher average achievement scores at age 14 and higher literacy scores at age 19.

The study's key conclusion is that quality early care and education for preschool children provides significant return on investment. They close noting that their findings make the case for all children receiving a quality education in their first five years of life.



High/Scope Perry Preschool Project

Perhaps the best known study of the long-term benefits of preschool, the High/Scope Perry Preschool Project in Ypsilanti, Michigan, followed 123 African-American children born into poverty.

Between 1962 and 1965, program directors randomly assigned the 3- and 4-year-olds into two groups: the test group attended a high-quality preschool program for 2.5 hours daily, and received a 1.5 hour weekly home visit by the teacher. The control group received no preschool or home visits.

Researchers followed up with the children yearly until age 11, then at age 14, 15, 19, 27, and, just recently, 39-41.

The age-27 interviews covered 95% of the original program participants. This round revealed that in comparison to a control group, people who attended the preschool program had significantly higher income, home ownership, and education attainment, while welfare dependence and criminal behavior were significantly lower. For example:

- Compared with the control group, those in the preschool group had higher average achievement scores at age 14 and higher literacy scores at age 19. Also, 71% of preschool participants graduated from high school or received their GED, compared with 54% of nonpreschoolers.

The Chicago Child-Parent Center graduates were more likely to complete high school, less likely to face juvenile court charges, and less likely to repeat a grade.

- Four times as many preschool graduates earned \$2,000 or more a month, compared with the control group.
- Program graduate averaged 2.3 criminal arrests by age 28, while the control group members averages 4.6 arrests.
- Almost three times as many preschool graduates owned their own homes, compared to the control group.

Cost-benefit analysis of the High/Scope program showed that for every \$1 invested, \$7 returned from various benefits over the entire period from program start through age 27. That includes savings from reduced remediation costs, welfare payments, and other compensatory costs. Examples of savings for each participant include:

- \$68,584 saved by the potential victims of crimes never committed.
- \$15,240 in lessened justice costs.
- \$7,488 saved in schooling costs, such as special education services.
- \$3,475 in welfare savings.



Chicago Child-Parent Centers

Founded in 1967, the Chicago Child-Parent (CPC) Center is the oldest federally funded early childhood intervention program in the nation. It serves low-income children ages 3 through 9 from more than 20 sites throughout the city. The program is the subject of the Chicago Longitudinal Study, a continuing investigation of the effects of early, high-quality education and family support services.

The study sample included 1,150 children attending preschool and kindergarten at a CPC center from 1983 to 1986. The study compared these children to a separate sample of 389 children of the same age who did not attend preschool and who attended conventional full-day kindergarten in one of five randomly selected public schools.

More than 90% of the students were African-American; 84% lived below the poverty line, 70% came from single-parent homes, and 58% of their parents graduated from high school. The study followed the student through the years by school records, interviews, class observations, and parent and child surveys.

The study examined such areas as child welfare, school remedial services, juvenile and adult courts, and lifetime earnings ability of each participant.

Research Briefing: Early Education Pays Off

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The CPC graduates were more likely than the second sample to complete high school, less likely to face juvenile court charges, and less likely to repeat a grade. CPC children displayed:

- A 29% higher high school completion rate, including a 47% higher rate of school completion for boys.
- A 40% lower rate of grade retention.
- A 33% lower rate of juvenile arrests.
- A 41% lower rate of arrests for violent crime.

As with the High/Scope Perry study, researchers estimate a payback to society of \$7 for every \$1 invested. The largest benefit was the participants' increased earning ability, this linked to higher educational attainment. The top public benefit categories include increased tax revenue from the higher earnings of participants and criminal justice savings associated with lower rates of arrest. Researchers estimate the total net public cost-benefit from the 1,150 study subjects amounts to about \$26 million.

Program Comparison Table

Program	Participant Cost	Societal Benefit	Ratio (Rounded)
Abecedarian Project Full-day, year-round program in Chapel Hill, NC	\$36,000	\$136,000	4:1
Chicago-Child Parent Centers Half-day program in Chicago public schools	\$7,000	\$48,000	7:1
High/Scope Perry Preschool Half-day program in Ypsilanti, MI, public schools	\$12,000	\$108,000	8:1

SOURCE: W. Steven Barnett, National Institute for Early Education Research.

References

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The Center for Early Care and Education, created in 1999, is a collaboration of Child Care, Inc., of New York City and the Albany-based Schuyler Center for Analysis and Advocacy. CECE sponsors Winning Beginning NY, a statewide campaign stressing the importance of quality early care and education to all New Yorkers—children, families, employers, and society at large. The campaign receives support from the Pew Charitable Trusts' initiative to advance high quality prekindergarten for the nation's 3- and 4-year-olds through objective, policy-focused research in conjunction with state public education campaigns and national outreach.



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