

The Case for Investing in Early Childhood Education

Marylanders spend billions of public and private dollars each year in pursuit of three elusive goals: excellent educational achievement; a quality workforce; and, safe, civil communities. The recent convergence of two fields of research -- neurological studies of early brain development and longitudinal studies of the long-term impact of early childhood experiences -- fundamentally changes the context in which we must evaluate these investments. We now know that one of the greatest influences on educational achievement, workforce quality, and safe, civil communities is the quality of a child's experiences *before he or she ever enters school*.

Neurological research confirms the findings of previous developmental studies: that newborns are biologically primed for learning. But it breaks new ground in revealing that the early years are a critical developmental window of opportunity -- profoundly determinative of an individual's fundamental ability to learn, achieve, and participate in a civil society. Soundly refuting long-held assumptions that children are born with a fixed intellectual capacity, neurological studies indicate that early experiences have a dramatic and specific impact on subsequent development by directly affecting how the intricate circuitry of the brain is wired. In fact, the brain's greatest capacity to change and compensate occurs during the first three years of life. Also the majority of brain synapses is produced during the first three years. Indeed, by the age of two, an infant's brain has twice as many synapses as an adult's; those activated often by repeated early experiences will likely be permanent and those used less frequently will be eliminated. In short, brain development is much more vulnerable to environmental influences than formerly suspected, especially in the earliest years.¹

Four major longitudinal studies have contributed to our understanding of the long-term impact of early learning experiences. **The Carolina Abecedarian Project**, a carefully controlled longitudinal study released in February 2000, provides compelling evidence that high-quality early education programs have a statistically significant long-term effect on skill development and academic success. The study tracks participants, to age 21, who received full-time educational intervention from infancy through age 5. Compared to the project's control group, the recipients had significantly higher cognitive test scores, posted consistently higher reading and math achievement scores, and were 2 ½ times more likely to attend four-year colleges. An interesting feature of that study is the fact that both groups received social service and family support as well as free access to health services. The main difference between the treatment and control group was a high-quality Early Childhood Education program, which accounted for the significant difference in outcomes. This study compellingly suggests that high-quality Early Childhood Education in combination with other support services has long-term positive effects from childhood through adolescence.²

¹ National Research Council and Institute of Medicine (2000) *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Jack P. Shonkoff and Deborah A. Phillips, eds. Washington, D.C.: National Academy Press.

² Frank Porter Graham Child Development Center (2000) *Early Learning, Later Success: The Abecedarian Study*. Craig A. Ramey, et al. North Carolina: University of North Carolina (UNC) at Chapel Hill.

In the Cost, Quality, and Child Outcomes Study, a consortium of researchers from UCLA, Yale, and the Universities of Colorado and North Carolina have been following more than 800 preschoolers since 1993. By the time they entered second grade, the children who attended high-quality Early Childhood Education programs continued to score higher on cognitive and social skill measures.³

In addition, **the Perry Preschool Project**, a study of at-risk children from 1962 through 1996, found that by age 19 those students who were in quality preschools fared better than those not in care, not only in school, but in their health, social adjustment and economic prospects. By age 27, these benefits were confirmed by high school completion rates, income levels, and arrest rates. The researchers estimated that every dollar invested in the preschool program returned seven dollars that other wise would have gone for remediation such as welfare, unemployment costs, or other compensatory services.⁴

In the study's most recent phase, 97% of the study participants still living were interviewed at age 40. Additional data were gathered from the subjects' school, social services, and arrest records. The study found that adults at age 40 who had the preschool program had higher earnings, were more likely to hold a job, had committed fewer crimes, and were more likely to have graduated from high school than adults who did not have preschool. **Overall, the study documented a return to society of more than a \$17 for every tax dollar invested in the early care and education program.**⁵

Some observers note that both the Abecedarian Project and Perry Preschool were “Cadillac” programs, that is to say, programs of intensive, high-quality intervention that might be expensive and difficult for public entities to replicate on a large scale. A recent study of participants in the **Child-Parent Centers (CPC) in Chicago’s Title I schools** substantially dispels this concern. This government-funded and publicly-administered program serves thousands of inner-city children and spends about the same amount of money per child as Head Start. A longitudinal study of participants in the CPC program indicates that it generates powerful benefits that stay with the children at least until age 20. Specifically,

- CPC’s preschool program returned \$7.14 for every \$1 invested.
- The average participant spent 1.5 years in the CPC preschool program at a cost of \$6,692.
- The total benefit from CPC amounted to nearly \$48,000 per participant.
- Of that amount, the participants themselves gained over \$20,000 from increased earnings due to better jobs and almost \$1,700 in reduced child care costs.
- The public at large gained even more, about \$25,800, including -- an additional \$7,200 in taxes on the higher earnings,

³ Frank Porter Graham Child Development Center (1999) *Children of the Cost, Quality and Outcomes Study Go To School*. Peisner-Feinberg, Ellen, et.al. North Carolina: UNC at Chapel Hill.

⁴ “Years of Promise: A Comprehensive Learning Strategy for America’s Children,” (1996) NY: Carnegie; and David P. Weikart (2000) *Early Childhood Education: Need and Opportunity*. Paris: UNESCO.

⁵ Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (in press). *Lifetime effects: The High/Scope Perry Preschool study through age 40*. (Monographs of the High/Scope Educational Research Foundation, 14). Ypsilanti, MI: High/Scope Press.

--savings of \$7,100 in criminal justice costs due to lower arrest rates,
-- approximately \$6,100 in savings to potential crime victims, and
--\$4,900 saved by school systems in reduced placements in remedial and special education.⁶

“Looked at another way, leaving kids out of the [CPC] program increased by 70 percent the risk that kids would be arrested for violent crime in their teens,” comments Sanford Newman, president of Fight Crime, Invest in Kids.⁷

A Note on Economic Benefit:

Art Rolnick, Senior Vice President and Director of Research at the Federal Reserve Bank of Minneapolis, published an article in 2003, with Rob Grunewald, Regional Economic Analyst, which reviewed the longitudinal studies cited above. Rolnick and Grunewald concluded that “the return on investment from early childhood development is extraordinary, resulting in better working public schools, more educated workers and less crime.”⁸

Moreover, Rolnick and Grunewald suggested that while the finding of an 8-to-1 benefit-to-cost ratio was impressive, it would be more persuasive and accessible to the business community if the benefit were expressed as a rate of return on investment. Rolnick and Grunewald proposed using the internal rate of return, which is the interest rate received for an investment consisting of payments and revenue that occur at regular periods.

Rolnick and Grunewald estimated the real internal rate of return for the Perry School program at 16 percent. “Real” indicates that the rate of return is adjusted for inflation.

While program participants directly benefited from their increase in after-tax earnings and fringe benefits, these benefits were smaller than those gained by the general public. Based on present value estimates, about 80 percent of the benefits went to the general public (students were less disruptive in class and went on to commit fewer crimes), yielding over a 12 percent internal rate of return for society in general. Compared with other public investments, and even those in the private sector, high-quality early childhood education seems like a good buy.

⁶ The Annie E. Casey Foundation, “Chicago’s Child-Parent Centers: Proving the Value of Early Childhood Education in the Real World,” *Advocasey*, Volume 4, Number 1 (Spring 2002) p. 20-27.

⁷ Ibid.

⁸ Federal Reserve Bank of Minneapolis, “Early Childhood Development: Economic Development with a High Public Return,” *fedgazette*, (March 2003) <http://minneapolisfed.org/pubs/fedgaz/03-03/earlychild.cfm>