

Investing in Early Childhood Development is Smart Economic Development

by Arthur Rolnick

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When governments invest in high-quality early childhood education, they are investing in economic development—the future workforce of their economy—with an extraordinarily high public return. Careful studies have demonstrated that for every \$1 invested in high-quality early childhood programs, there is a return of \$4 to \$16. It is primarily society that benefits from these returns through higher worker productivity, lower education costs, reduced crime, and less government assistance. Investments that reap such high returns should be a top economic development priority for state policymakers. However, it remains a challenge to scale up the types of high-quality programs that produce such large returns. To address that challenge, the Minnesota Early Learning Foundation funded and evaluated two flagship programs: a market-based, 4-star rating system to improve the quality of early childhood programs, and a parent choice scholarship program for low-income families that supports parent mentoring and tuition for children to attend highly-rated programs.

For well over 20 years, state and local governments have been deeply engaged in efforts to promote economic development. Unfortunately, many economic development strategies are at best a zero-sum game. For example, virtually every state in the union has tried to create jobs by luring new companies with government subsidies. These bidding wars are shortsighted because jobs are not created, they are only relocated; nationally, the public return is at most zero.¹ Any local economic gains are suspect because they might have happened without the subsidies. In other words, what often passes for economic development and sound public investment is neither.

Many economic development strategies are a zero-sum game because jobs are not created, only relocated.

The Economic Case for Investing in Early Childhood Development

If business subsidies are a flawed approach to promoting economic growth, what is an alternative? Answering this question starts with an understanding that markets generally allocate scarce resources to their most productive use. Consequently, governments should only intervene in markets in which there is a market failure. Market failures can occur for a variety of reasons, such as when goods have external effects on society or when they have public attributes. Education has long been recognized as a good that has both external effects and public attributes. Education not only benefits those who have more schooling through higher wages, but educated people benefit all of society since they are more likely to participate in civic institutions, including voting, and are less likely to commit crime. Without public support, markets produce too few educated workers.

Government has generally supported public funding for education because it breeds economic success for those being educated and also for the overall economy. For example, prior to 1983, the wages of a worker with an undergraduate degree exceeded a worker with a high school degree by roughly 40%. A decade later, that difference was close to 60%. The wage premium for an advanced degree has grown even more. Prior to 1985, the wages of a worker with a graduate degree exceeded those of a worker with a high school degree by roughly 60%. That difference has grown to over 100%. This so-called education premium is expected to grow even larger over the next 30 years.

Investments in early childhood development—society’s future workforce—yield exceptionally high public returns.

Yet knowing that we need a highly educated workforce does not tell policymakers where to invest limited public resources. The economic case for investing in K-12 and higher education has been well established. However, recent studies show that dollars invested in early childhood development—society’s future workforce—yield exceptionally high public returns.

The promise of early childhood development programs is based on fundamental facts about early human development. Children’s quality of life and their contributions to society as an adult can be traced back to their earliest experiences. The basic architecture of the brain begins forming prenatally, and undergoes tremendous growth during the first five years of life. Although the brain continues to develop into adulthood, early experiences are crucial to establishing the strong foundation necessary for future learning and healthy development. The brain is also most flexible early in life, so promoting healthy development when people are younger is more efficient and effective than waiting until they are older.²

The brain’s growth and flexibility during the first few years also means that early adverse experiences can produce profound and lasting damage to development. Research on early brain development has shown how chronic exposure to toxic stress, stemming from persistent abuse, neglect, or poverty, for example, can damage the developing brain. Exposure to toxic stress leads to the underdevelopment of neural connections that form the foundation for cognitive, social, and emotional skills that are essential on the job and in life.³

Without adequate nurturing during these early years, a child is more likely to drop out of school, depend on welfare benefits, and commit crime—thereby imposing significant costs on society. With adequate nurturing during the early years, children are more likely to succeed in school, become productive workers, and contribute to society.⁴ Research has shown that well-designed early childhood interventions can provide the types of support necessary to foster healthy brain growth and to buffer children from the effects of adverse childhood experiences.

Economic Returns of Early Childhood Programs

Early childhood programs recognize the potential of providing children with a good start in life and the risk of neglecting to do so. Early childhood programs encompass home visiting, home- and center-based child care, and preschool programs that supplement and enhance the ability of parents to provide a solid foundation for their children. Some have been initiated on a large scale, such as

federally funded Head Start; other small-scale and often more expensive model programs have been implemented locally.

Are we directing enough funding to early childhood programs? I make the case that we are not. Careful academic studies demonstrate that tax dollars spent on early childhood development provide extraordinary returns compared with other investments in the public and private sectors. Some of the benefits are private gains for the children involved, in the form of higher wages later in life. But the broader economy also benefits, because those who participate in high-quality early childhood programs develop enhanced skills and become more productive workers. Recent research shows that over three fifths of Americans will continue to live and work in the same state where they grew up. Thus, the long-term returns from early childhood investments are likely to accrue to the state or region making the investment.⁵

Cost-Benefit Analyses of Early Childhood Programs

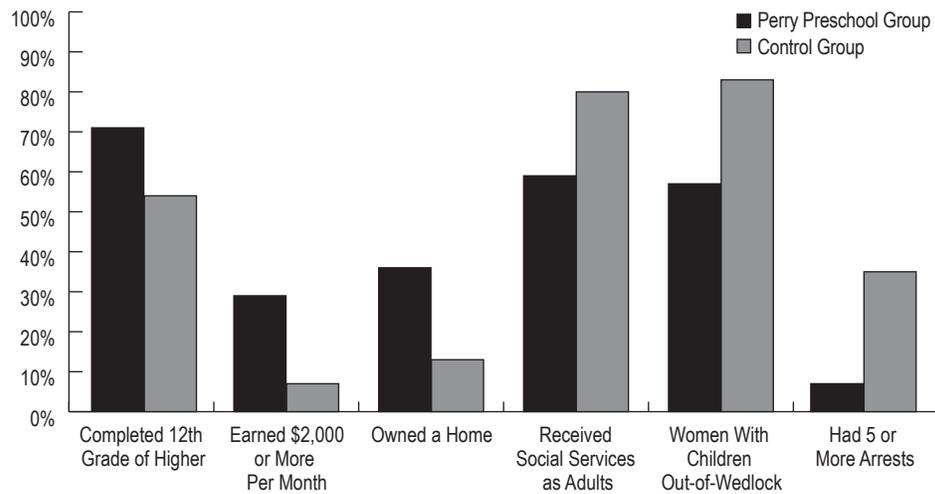
How much confidence can we have in the research on the benefits of early childhood investments? Several early childhood programs have been evaluated using the “gold standard” of research designs—where children are randomly assigned to treatment and control conditions and followed well into adulthood. The return on early childhood programs that focus on at-risk families far exceeds the return on most economic investments, both public and private. Cost-benefit analyses from rigorous studies including the Perry Preschool Program, Abecedarian Project, Chicago Child-Parent Centers, and Elmira Prenatal/Early Infancy Project, showed returns ranging from \$4 to \$16 for every dollar invested. Annual internal rates of return, adjusted for inflation, range between 7% and 18%.

One often-cited study is the High/Scope Perry Preschool project in Ypsilanti, Michigan. During the 1960s, the Perry Preschool program provided 3- and 4-year-old children with daily classroom sessions each morning, followed by family home visits in the afternoons. The program targeted low-income, African American children considered to be at high risk of school failure. Teachers were certified in elementary, early childhood, and special education with salaries comparable to school teachers. One teacher was on staff for every six children. Researchers tracked the performance of 58 children who participated in the program and compared the results to a randomly assigned control group of 65 children who did not participate.⁷

At age 27, 117 of the original 123 subjects were interviewed. Researchers found significant positive outcomes for the Perry Preschool participants in adulthood compared to the control group. After a few years, program participants lost their advantage in IQ scores over nonparticipants, which suggests that a key factor of the program’s success stems from development in executive function, including the ability for self-regulation, task persistence, and motivation. As shown in Figure 1, Perry Preschool participants were more likely to finish high school, have higher earnings, and own a home; they were also less likely to receive social services, bear a child outside marriage, or be arrested for crime. Perry Preschool participants had significantly higher achievement scores at age 14, spent half as much time in special education programs, and had half as many arrests compared to nonparticipants.⁸

The return on early childhood programs for at-risk families far exceeds the return on most economic investments, both public and private.

Figure 1. Significant Effects of the Perry Preschool Program



Source: Schweinhart, L. J. (1993).

Other studies of early childhood programs also show improvements in scholastic achievement and reductions in crime. For example, the Syracuse Preschool Program provided support for disadvantaged children from prenatal care through age five. Ten years later, problems with probation and criminal offenses were 70% less among participants compared with a control group.⁹ The Abecedarian Project in North Carolina offered low-income children a full-time, high-quality, educational program from infancy through age five. Compared to nonparticipants, the program improved participants' reading and math achievement into young adulthood, and reduced incidences of grade retention and special education placements by age 15.¹⁰

Internal Rate of Return of the Perry Preschool Program Versus Other Investments

For every \$1 invested in the Perry Preschool Program, over \$16 in benefits was returned to the program participants and society.

The High/Scope Perry Preschool study conducted a cost-benefit analysis by converting the benefits and costs found in the study into monetary values expressed in constant dollars. For every \$1 invested in the program during the early 1960s, over \$16 in benefits was returned to the program participants and society as a whole.

These are impressive returns, but how do they compare to other economic development strategies? Another measure, the internal rate of return (a measure of the annual return on investment), can be used to compare the expected profitability of different projects. My colleagues and I have estimated the real (adjusted for inflation) internal rate of return for the Perry Preschool program at 18%.

Program participants directly benefited from their increase in after-tax earnings and fringe benefits. Yet based on present value estimates, about 80% of the benefits went to the general public. Reduced costs (e.g., education and crime) yielded over a 16% internal rate of return for society. Compared with other public and even private investments, early childhood programs seem like a good buy.

As with all studies, there are caveats to the High/Scope Perry Preschool findings. On one hand, this study may overstate the results we would achieve today. Sources of toxic stress—neglect, parental drug use, neighborhood crime, fragile families—are more prevalent for many children today than they were 45 years ago. Nevertheless, even when we adjust our estimates to be more conservative, the return on investment remains large.

On the other hand, the High/Scope Perry Preschool study may understate the results we could achieve today. For example, with increased education and earnings, participants' children—the next generation—would be less likely to commit crime and more likely to achieve higher levels of education and income than nonparticipants' children. A chain of poverty may have been broken.

Bringing Early Childhood Development Programs to Scale: The Minnesota Early Learning Foundation Pilot Projects

These findings establish the promise for small-scale early childhood programs to improve child outcomes, but can their success be reproduced on a much larger scale? In 2005, the Minnesota Early Learning Foundation invested \$20 million of private funding to pilot research-based approaches for improving early childhood education in several Minnesota communities. Based on a careful review of past and current programs, pilot projects were designed to incorporate key features that would ensure effectiveness, quality, scalability, and sustainability:

- early intervention,
- parent involvement and empowerment,
- focus on the most at-risk children,
- educational support,
- quality assurance, and
- outcome orientation.

The Foundation developed and funded two flagship programs that, together, encompass these features: the Parent Aware quality rating and improvement system for early childhood program providers, and the Saint Paul Early Childhood Scholarship Program for low-income families.^{11,12} The design of the system was two-pronged: families were empowered to make informed choices about early childhood care, and programs were encouraged to enhance quality through evaluation and competition within the provider market.

Parent Aware is a 4-star rating system for evaluating the quality of early childhood programs. Unique from quality rating systems in other states, it emphasizes using market forces to drive up the quality of early childhood programs. During implementation, high priority was placed on informing parents about the importance of program quality and making the rating system highly visible and easily accessible to parents. Program providers were incentivized to participate in the voluntary rating system through quality improvement coaches and grants to help them implement best practices. Also, aggressive marketing efforts made families aware of the system and how to use it.

Parent involvement and empowerment is one key to the effectiveness, quality, scalability, and sustainability of early childhood programs.

Minnesota's approach was two-pronged: improving child care quality and providing low-income families with tuition support to high-quality programs.

The Saint Paul Early Childhood Scholarship Program provided parents access to tuition support for early childhood programs, and to home visiting mentors to help parents determine for themselves what would be best for their child's development. Families were eligible if their incomes were below 185% of the federal poverty level and if they lived in one of the targeted Saint Paul neighborhoods. Given the importance of early intervention, mentoring began prenatally or during infancy. Scholarships were offered when children were 3 and 4 years old. Parents could select from a mix of public and private providers including preschool, center-based, and home-based programs. To ensure quality, scholarships could only be used toward programs rated as high quality by Parent Aware. Paperwork was minimized for the family and provider.

Evaluation Results from the Parent Aware and Scholarship Programs

As part of their initiative, the Minnesota Early Learning Foundation invested a significant amount of funding into program evaluation to determine what worked and what could be improved.^{13,14}

- The programs increased access for low-income children to attend high-quality early childhood programs. Prior to the program, 57% of program children were in unlicensed care; with the scholarship, 100% of these children were in highly-rated early childhood programs.
- Parent Aware ratings effectively encouraged providers to improve quality. Over two years, the supply of highly-rated early childhood programs increased by over 55% in the targeted areas. There was a steady increase each year in the number of participating providers and those receiving the top rating. Improvements were seen across a range of program types.
- Program providers made the most progress in the category of fostering family partnerships; they had the most work to do to improve the use of research-based teaching materials and effective adult-child interaction techniques.
- Children attending programs with high Parent Aware ratings showed significant gains on measures of language, early literacy, and social competence by kindergarten. Gains were especially high for low-income children, many of whom went from very low performance before the program to age-level performance at kindergarten entry. Such gains have been shown to predict later school achievement and success.
- Implementation data indicated that the scholarship program could be successfully scaled up and replicated in other communities. Program participants, including families, funders, administrators, program providers, and parent mentors reported positive experiences and outcomes with the program. The system was well streamlined and easy to use.¹⁵
- Advertising campaigns were essential for raising awareness of the Parent Aware system and prompting families to visit the website. Results suggested the importance of ongoing, multi-year marketing efforts to fully tap into the power of market forces.

Conclusion

Strong and growing evidence has confirmed that investments in high-quality early childhood programs provide exceptionally high returns to society. These returns are on the order of \$4 to \$16 for every dollar invested. The public return on investment from early childhood programs for low-income families is extraordinary—resulting in better working public schools, a more educated workforce, and less crime, all which contribute to a stronger economy.

Why have we missed this connection between early education and the social and economic well-being of society? Perhaps because the research on the economic benefits to society is recent. Also, we tend to create policy in silos—education under one roof, corrections in another, and health care in yet another. In reality, however, they are closely connected.

The Minnesota Early Learning Foundation created a successful model for investing in early childhood development that is relatively easy to scale up, that emphasizes program quality, that empowers families, and that improves children’s learning. Indeed, early childhood development is like a low-risk, blue chip stock that pays extraordinary dividends that are long-lasting.

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This chapter was adapted from the following sources:

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Endnotes

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The public return on early childhood programs is better working public schools, a more educated workforce, and less crime.

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