

How to Take the High/Scope Perry Preschool to Scale

A Paper by Lawrence J. Schweinhart

High/Scope Educational Research Foundation

For the

National Invitational Conference of the

Early Childhood Research Collaborative

Minneapolis, December 7-8, 2007

Abstract

The High/Scope Perry Preschool Study examined the lives of a sample of 123 young African American children living in poverty who were randomly assigned to a program group that received a high-quality preschool program at ages 3 and 4 or a no-program group. Data were collected regarding them at 14 times from ages 3 through 40. The program group significantly surpassed the no-program group in school success, adult employment rates and earnings, and half as many lifetime arrests and convictions for crime. The economic return to society was \$16.14 per dollar invested.

This study has enjoyed great attention and, along with similar studies, motivated many influential people to advocate and invest public and private money in preschool programs, particularly for young children living in low-income families. However, few if any of these programs, have achieved the structural and process characteristics of the original Perry Preschool program. This paper focuses on defining the characteristics of the program that led to its phenomenal success and considers what policies it would take to achieve such success in today's programs.

Summary of the High/Scope Perry Preschool Study

The High/Scope Perry Preschool Study is a scientific experiment that has identified the short- and long-term effects of a high-quality preschool education program for young children living in poverty (Schweinhart, Montie, Xiang, Barnett, Belfield, & Nores, 2005). From 1962 through 1967, David Weikart and his colleagues in the Ypsilanti, Michigan, school district operated the preschool program for young children to help them avoid school failure and related problems. They identified a sample of 123 African American children living in poverty and assessed to be at high risk of school failure and randomly assigned 58 of them to a group that received a high-quality preschool program at ages 3 and 4 and 65 to a group that received no preschool program. Because of the random assignment strategy, children's preschool experience is the best explanation for subsequent group differences in their performance over the years. Project staff collected data annually on both groups from ages 3 through 11 and again at 14, 15, 19, 27, and 40, with a missing data rate of only 6% across all measures.

Table 1
Statistically Significant Differences in Group Outcomes

Characteristic	Ages	Program Group	No Program Group
Intellectual performance (Stanford-Binet)	4-7		
Nonverbal and language test performance	4-5		
School achievement	9, 10, 14		
Literacy	19, 27		
Ever diagnosed as mentally impaired		15%	35%
Graduated from regular high school		65%	45%
Females graduated from regular high school		84%	32%
Attitudes toward school	15, 19		
Parents' attitudes toward school	15		
Employed	27	27%	5%
	40	37%	28%
Mean annual earnings	27	\$12,000	\$10,000
	40	\$20,800	\$15,300
Home ownership	27	27%	5%
	40	37%	28%
Males raised own child	40	57%	30%
5 or more arrests by	40	36%	55%
Arrested for violent crime by	40	32%	48%
Arrested for property crime by	40	36%	58%
Arrested for drug crime by	40	14%	34%
Convicted and sentenced by	40	28%	52%
<i>Cost-benefit analysis through age 40</i>			
Program cost		\$15,166	
Program cost per year		\$8,540	
Public return, total		\$195,621	
Public return, per dollar invested		\$12.90	
Societal return, total		\$244,812	
Societal return, per dollar invested		\$16.14	

As shown in Table 1, the program group outperformed the no-program group on various intellectual and language tests from their preschool years up to age 7; school achievement tests at 9, 10, and 14; and literacy tests at 19 and 27. Fewer of the program group than the no-program group were diagnosed and treated for mental impairment (15% vs. 35%). More of the program group than the no-program group graduated from regular high school (65% vs. 45%), specifically, more program females than no-program females (84% vs. 32%). At 15 and 19, the program group had better attitudes toward school than the no-program group, and program-group parents had better attitudes toward their 15-year-old children's schooling than did no-program-group parents. More of the program group than the no-program group were employed at 27 (69% vs. 56%) and 40 (76% vs. 62%). The program group had higher median annual earnings than the no-program group at 27 (\$12,000 vs. \$10,000) and 40 (\$20,800 vs. \$15,300). More of the program group than the no-program group owned their own homes at 27 (27% vs. 5%) and 40 (37% vs. 28%). More program than no-program males raised their own children (57% vs. 30%). By 40, fewer of the program group than the no-program group were arrested 5 or more times (36% vs. 55%); fewer were arrested for violent crimes (32% vs. 48%), property crimes (36% vs. 58%), and drug crimes (14% vs. 34%); and fewer were sentenced to prison or jail (28% vs. 52%).

Cost-benefit analysis indicates that, in constant 2000 dollars discounted at 3%, the economic return to society for the program was \$244,812 per participant on an investment of \$15,166 per participant— \$16.14 per dollar invested. Of that return, 80% went to the general

public and 20% went to each participant in the form of increased lifetime earnings. Of the public return, 88% came from crime savings, and 1% to 7% came from each of three sources – education savings, increased taxes due to higher lifetime earnings, and welfare savings. Remarkably, 93% of the public return through age 40 was due to males because of the program’s large reduction of male crime, and only 7% was due to females.

The Changing Context of Poverty

U.S. poverty today resembles U.S. poverty in 1962 in some ways and differs from it in others. It is still defined as the lack of money and material possessions. The federal poverty threshold has existed with modest modifications since 1965, increasing primarily with inflation. The welfare reforms of recent years have transformed programs such as Aid to Families with Dependent Children into the streamlined Temporary Assistance to Needy Families.

The cycle of poverty is the idea that the connection from schooling to poverty within lifetimes becomes an intergenerational connection from families’ poverty to children’s schooling (Solon, 1992). Children born in poverty perform more poorly in school, a smaller percentage of them graduate from high school, and then schooling affects economic success. For example, 1997 U.S. poverty rates were 22% for high school dropouts, 9% for high school graduates, and 2% for college graduates (U.S. Census Bureau, 2003).

The U.S. crime rate in general has doubled from the time of the High/Scope Perry Preschool Program to now, even though it has dropped in the last two decades. According to the Federal Bureau of Investigation’s Uniform Crime Reports of arrests throughout the U.S., the crime index rate per 100,000 inhabitants was 2,020 in 1962, peaked at 5,950 in 1980, and was

4,124 in 2000 (The Disaster Center, 2004). The violent crime rate was 162 in 1962, peaked at 758 in 1991, and was 506 in 2000. The much higher crime rate has changed our society in general and poor neighborhoods in particular.

Preschool Program Research

The preschool research tradition flourished through the 1960s and 1970s, with additional studies of preschool and parent education programs, compared to no program and comparing various types of programs. The principal investigators brought a dozen of the best of these studies together to form the Consortium for Longitudinal Studies (1983) in the late 1970s. Collaboration in data collection and analysis, the Consortium found robust evidence of preschool program effects on children's intellectual performance at school entry, reduced need for placements in special education, and reduced need for retention in grade. The longest-lasting of the studies found that a greater percentage of preschool program graduates became high school graduates.

In addition to the study reported here, two preschool program follow-up studies stand out for their duration and methodological quality – the Carolina Abecedarian Project study and the Chicago Child-Parent Centers study. These three studies offer the best recent evidence of the long-term effects of good preschool programs. The Carolina Abecedarian Project (Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002) randomly assigned 57 infants from poor families to a special program group and 54 to a typical child care group that used the child care arrangements in homes and centers that were prevalent there in the 1970s. This was the first study to find preschool program benefits on participants' intellectual performance and academic achievement *throughout* their schooling. Achievement scores at age 15 were higher. Fewer of the

program group than the no-program group had been retained in grade or received special services. More of the program group graduated from high school or received a GED certificate, and more attended a 4-year college. Fewer in the program group became teen parents. However, the program and no-program groups did not differ significantly in arrests by age 19 (Clarke & Campbell, 1998). Cost-benefit analysis indicates that, in 2000 dollars discounted at 3% annually (converted from the 2002 dollars reported), the program cost \$34,476 per child (\$13,362 per child per year) and yielded benefits to society of \$130,300 – \$3.78 return per dollar invested (Masse & Barnett, 2002).

Beginning in 1985, the Chicago Longitudinal Study, conducted by Arthur Reynolds and his colleagues examined the effects of the Chicago Child-Parent Centers (CPC) program offered by the nation's third largest public school district (Reynolds, Temple, Robertson, & Mann, 2001). This program was citywide – much larger in scale than the research programs of the Perry Preschool and Abecedarian studies. Hence, the study sample was larger, with 1,539 low-income children, 989 who had been in the CPC program and 550 who had not. Families in this study went to their neighborhood schools, and children were not randomly assigned to groups. Preschool-program group members attended a part-day preschool program when they were 3 and 4 years old, while the no-preschool-program group did not. The preschool-program group did significantly better than the no-preschool-program group in educational performance and social behavior, with lower rates of grade retention and special education placement, followed by a higher rate of high school completion and lower rates of school dropout and juvenile arrests. Analysis of the costs and benefits of the program indicates that, in 2000 dollars discounted at 3% annually (converted from the 1998 dollars reported), the program cost \$6,956 per child and yielded benefits of \$49,564 per participant, \$7.10 return per dollar invested (Reynolds, Temple,

Robertson, & Mann, 2002).

Recent short-term early childhood program studies have examined the effects of typical and enhanced Head Start programs (e.g., Administration for Children and Families, 2005; Goodson, Layzer, St. Pierre, Bernstein, and Lopez, 2000), state preschool programs (Barnett, Lamy, and Jung, 2005; Gilliam & Zigler, 2001), and typical child care centers (e.g., NICHD Early Child Care Research Network, 2005). The consensus finding of these studies is that typical and even special publicly funded early childhood programs have no more than modest effects on children's literacy and social skills and parents' behavior, clearly not as large as the effects found for model programs. The lesser magnitude of recent effects casts serious doubt on whether these short-term studies, if extended in time, would identify long-term effects and return on investment.

Discussion

Because of the random assignment and low attrition, this study has strong internal validity. The external validity or generalizability of the study findings extends to those programs that are reasonably similar to the High/Scope Perry Preschool program. A reasonably similar program is a preschool education program run by teachers with bachelors' degrees and certification in education, each serving up to 8 children living in low-income families. The program runs two school years at 3 and 4 years of age, uses the High/Scope educational model, with daily classes of 2½ hours or more and teachers visiting families at least every two weeks. The High/Scope Preschool Curriculum Comparison Study (Schweinhart & Weikart, 1997a, 1997b), which immediately followed the High/Scope Perry Preschool Study, suggests that curriculum had a lot to do with the findings. This study found that young people born in poverty

experience fewer emotional problems and felony arrests if they attended a preschool program that used High/Scope rather than scripted direct instruction.

Programs inspired by the High/Scope Perry Preschool program have seldom if ever replicated it. Inadequate funding and other conceptions of early childhood programs have conspired to prevent its full replication by Head Start and state preschool programs. Compared to the Perry program, Head Start splits public school teacher salaries between teachers and family service workers, requires only two home visits a year rather than weekly ones, and uses the High/Scope curriculum in only 10% of its programs. A few state preschool programs require state-certified lead teachers, but none require regular home visiting or use of only validated curriculum models. Recent research on Head Start and similar programs, such as the National Head Start Impact Study, has found they have only modest initial effects. It seems reasonable that preschool programs that replicate the Perry Preschool program on a wider scale would have large initial effects, long-term effects, and return on investment.

The tension between replication and application is due to changing social conditions as well as political compromises. Critical applications include whether typical practices in Head Start, various state preschool programs, and child care centers have the same findings and whether the Perry program would have the same findings for a general population of children not limited to those in poverty. Nonetheless, minimizing these differences will maximize the probability of success.

Replicating the program means focusing a program on children whose parents lack schooling and skilled jobs. The program itself must meet four qualifications. Some leeway might be accepted in these characteristics as long as they are substantially in place.

1. It serves children 3 and 4 years old living in poverty.
2. It employs state-certified early childhood teachers so that each class has a certified teacher, an assistant teacher, and no more than 16 children.
3. Teachers and assistant teachers have taken a substantial preschool curriculum course or the equivalent and use the High/Scope curriculum or another validated curriculum model in their programs.
4. Teachers and assistant teachers engage in extensive parent outreach, including weekly visits to children in their homes or elsewhere.

The simple implication of this study is that all young children living in low-income families should have access to preschool programs that have features reasonably similar to the High/Scope Perry Preschool Program. This study and others reviewed herein have motivated policymakers to invest in preschool programs. But because policymakers practice the art of compromise and must address a variety of contexts, these programs have seldom met the reasonable similarity standard. This study is a symbol of what government programs can achieve and inspires the passionate belief of those who want to believe in what government can accomplish and the passionate disbelief of those who want to believe that government cannot accomplish much of anything. But ultimately the public is not served by beliefs that are either too optimistic or too pessimistic. While the study can serve as grounds for debate, it is better to see it as a challenge. It shows what can be done, and the challenge is to do it. The High/Scope Perry, Abecedarian, and Chicago studies and other such studies lay down the same challenge: to do what we know how to do to prevent poverty from being a malevolent birthright handed down from generation to generation by the very schooling established to stop it. The challenge is to

provide high-quality preschool programs that include low-income children so that these children get a fair chance to achieve their potential to contribute to society.

References

Administration for Children and Families, U.S. Department of Health and Human Services. (2005). Head Start impact study: first year findings. Washington, DC: Author. Available online at www.acf.hhs.gov/programs/opre/hs/impact_study/reports/first_yr_finds/first_yr_finds.pdf.

Barnett, W. S. Lamy, C., & Jung, K. (2005). The effects of state prekindergarten programs on young children's school readiness in five states. New Brunswick, NJ: National Institute for Early Education Research, Rutgers University. Available online at nieer.org/docs/index.php?DocID=129.

Campbell, F. A., Ramey, C. T., Pungello, E. P., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian project. Applied Developmental Science, *6*, 42-57.

Clarke, S. H., & Campbell, F. A. (1998). Can intervention early prevent crime later? The Abecedarian Project compared with other programs. Early Childhood Research Quarterly, *13*, 319-343.

Consortium for Longitudinal Studies. (1983). As the twig is bent...lasting effects of preschool programs. Hillsdale, NJ: Erlbaum.

Disaster Center, The (2004). United States crime index rates per 100,000 inhabitants. Available online at <http://www.disastercenter.com/crime/uscrime.htm>.

Gilliam, W. S., & Zigler, E. F. (2001). A critical meta-analysis of all evaluations of state-funded preschool from 1977 to 1998: Implications for policy, service delivery, and program implementation. Early Childhood Research Quarterly, *15*, 441-473.

Goodson, B. D., Layzer, J. I., St. Pierre, R. G., Bernstein, L. S., & Lopez, M. (2000). Effectiveness of a comprehensive, five-year family support program for low-income families: Findings from the Comprehensive Child Development Program. Early Childhood Research Quarterly, *15*, 5-39.

Masse, L. N., & Barnett, W. S. (2002). A benefit-cost analysis of the Abecedarian early childhood intervention. In Levin, H. & McEwan P. (Eds.), Cost effectiveness analysis in education: Methods, findings and potential. 2002 Yearbook of the American Education Finance Association. Available online at <http://nieer.org/resources/research/AbecedarianStudy.pdf>.

NICHD Early Child Care Research Network. (2005). Early child care and children's development in the primary grades: Follow-up results from the NICHD Study of Early Child Care, American Educational Research Journal, 42 (3). Information available online at <http://secc.rti.org>.

Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. Journal of the American Medical Association, 285, 2339-2346.

Reynolds, A. J., Temple, J. A., Robertson, D. L., Mann, E. A. (2002). Age 21 cost-benefit analysis of the Title I Chicago child-parent centers. Educational Evaluation and Policy Analysis, 4, 267-303. Version available online at <http://www.ssc.wisc.edu/irp/pubs/dp124502.pdf>.

Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). Lifetime effects: The High/Scope Perry Preschool Study through age 40. Ypsilanti, MI: High/Scope Press.

Schweinhart, L. J., & Weikart, D. P. (1997a). Lasting differences: The High/Scope Preschool Curriculum Comparison Study through age 23. (Monographs of the High/Scope Educational Research Foundation, 12). Ypsilanti, MI: High/Scope Press.

Schweinhart, L. J., & Weikart, D. P. (1997b). The High/Scope Preschool Curriculum Comparison Study through age 23. Early Childhood Research Quarterly, 12, 117-143.

Solon, G. (1992, June). Intergenerational income mobility in the United States," American Economic Review, 82, 393-408.

U.S. Census Bureau, Housing and Household Economic Statistics Division. (2003). Table 5. Transitions Into and Out of Poverty, by Selected Characteristics: 1996-1997. Available online at <http://www.census.gov/hhes/www/sipp96/table059697.html>.