

# [Policy Report]

## Overlooked Benefits of Prekindergarten

by Karen Schulman  
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Numerous studies have shown that high-quality prekindergarten programs can place children on a positive lifetime trajectory. Not only do they better prepare them for school, they increase their chances of academic success and their job prospects. This in turn enables them to be financially independent and avoid welfare and crime, since they have better alternatives. Yet, these are not the only positive impacts of a high-quality preschool experience. There are other, often-overlooked, benefits that extend to numerous aspects of a person's life and can have impacts on their parents and their own children as well.

Studies of several early childhood interventions, including the High/Scope Perry Preschool Program, Abecedarian Project, Chicago Child-Parent Centers, and Parent Child Development Centers, demonstrate that children who participate in a quality early childhood education experience benefit in ways that go beyond the positive outcomes commonly emphasized. These studies suggest that prekindergarten can:

- Strengthen commitment to and attitude toward school.
- Lead participants to take better care of their health throughout their lives.
- Start children on the path to financial stability and independence.
- Increase the likelihood that mothers of participating children get good jobs.
- Enhance the parenting skills of participants' parents.
- Produce positive effects that extend into future generations.

While it may be surprising that these disparate results can stem from a single program, there are overarching lessons that children can learn in preschool that may well tie together these seemingly unconnected outcomes. A good early education experience can teach children not only academic knowledge and skills, but it can shape their attitudes, dispositions, and habits regarding learning and influence their social and emotional development. For example, preschool education can help children begin to understand that there are consequences to their actions and that they can be responsible for what happens to them. As they go through life, successes in school and work and with their families can reinforce the sense that, by working hard and acting responsibly, they can control their own futures.

Research has indicated multiple pathways by which preschool education can shape learning and development. Preschool may have direct effects on cognitive abilities that lead to long-term impacts on children's lives by improving cognitive test scores and enhancing children's chances of academic success.<sup>1</sup> Preschool also may affect children more broadly by fostering their commitment to school and ability to persist in achieving their goals.<sup>2</sup> If this is the case, the most effective preschool programs will not just focus on improving children's cognitive test scores but also will emphasize general approaches to learning and social and emotional development. It also suggests the importance of approaches to the prekindergarten curriculum that provide opportunities for children to learn to take the initiative and make choices in their activities.

## High/Scope Perry Preschool Study

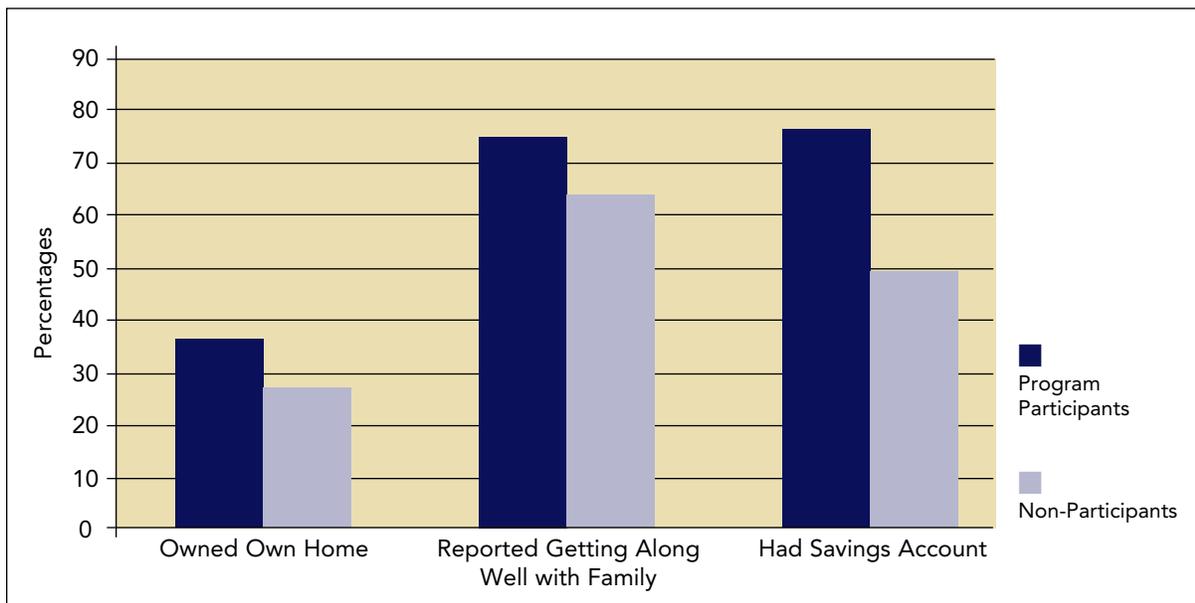
The High/Scope Perry Preschool study followed at-risk children who participated in a high-quality prekindergarten program and tracked how they did in terms of their school careers, family lives, jobs, financial situations, and health as well as other areas.<sup>3</sup> The outcomes for children who participated in the program have been compared with the outcomes for a control group of children from similar backgrounds who did not participate.<sup>4</sup> The most recent report presents results for the Perry Preschool participants through age 40. Many of the benefits of this high-quality early education experience, including improved academic performance, decreased welfare dependency, and reduced crime rates, have been widely discussed. However, the Perry Preschool program also had many other important yet less noticed benefits.

One area found to be positively affected by participation in preschool was children's school careers. The study looked not only at narrow measures of how participants performed on tests in school, but also other indicators of children's relationship to school. Preschool appears to have had a sustained impact on participants' attitude toward school. Teachers for kindergarten through grade 3 rated children who had participated in the preschool program as more motivated and having more potential in school than children who had not participated.<sup>5</sup> At age 15, a significantly higher percentage of the program group than the control group reported that they were required to do homework (68 percent versus 40 percent). When participants reached age 15, their parents were also more likely than parents of non-participants to say their children enjoyed talking about what they were doing in school (65 percent versus 33 percent) and had done as well in school as they would have liked (51 percent versus 28 percent) and hoped their children would get college degrees (55 percent versus 35 percent). At age 19, the program group rated their high school experience significantly better than the control group.

As an indication of the way in which preschool affected commitment to school, female participants were much more likely to graduate from high school even if they became pregnant than non-participants who became pregnant while in school. While female participants and non-participants did not differ significantly in how likely they were to become teenage mothers, 73 percent of teenage mothers who had participated in preschool still graduated from high school or received an equivalent degree, compared to just 15 percent of teenage mothers in the control group.

There is some evidence that willingness to work hard and persist in tasks continued after participants graduated from high school. At age 27, participants were more likely than non-participants to say it was easy to work or study hard all day—47 percent versus 33 percent.

Figure 1. Perry Preschool Program Study At Age 40



Source: Lifetime Effects: The High/Scope Perry Preschool Study Through Age 40; by Lawrence J. Schweinhart, Jeanne Montie, Zongping Xiang, W. Steven Barnett, Clive R. Belfield and Milagros Nores: High/Scope Press. Used with permission.

Participants were more likely than non-participants to own their own homes and cars and be financially independent as well:

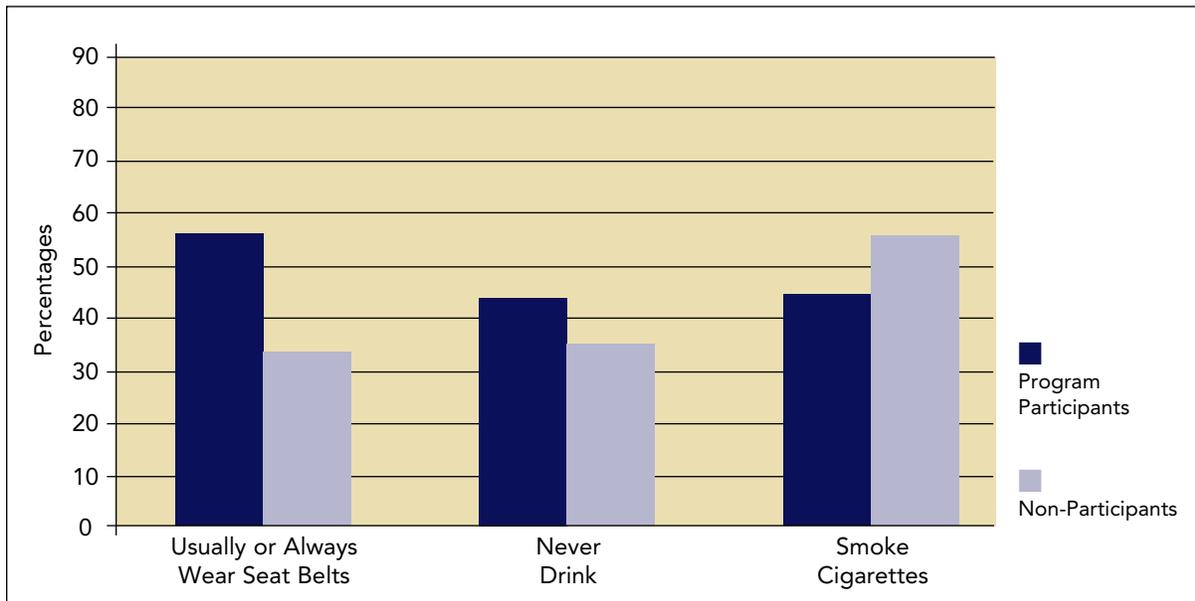
- At age 27, more than one-quarter (27 percent) of participants owned their own home, compared to just 5 percent of non-participants. At age 40, the difference in home ownership was smaller, but participants still maintained an advantage over non-participants (37 percent versus 28 percent).
- A higher percentage of those who had been in the preschool program owned a car than those who had not been in the program (73 percent versus 59 percent at age 27, 82 percent versus 60 percent at age 40).
- At age 27, a significantly greater proportion of participants owned a second car (30 percent versus 13 percent for non-participants).
- At age 27, only 2 percent of participants received regular income from family or friends, compared to 16 percent of non-participants.
- At age 40, about three-quarters (76 percent) of participants had savings accounts compared to only half (50 percent) of non-participants.

Men and women who had participated in the prekindergarten program as children also differed from those who had not participated when it came to decisions about marriage and having children and in their family relationships:

- Women who had participated in the program were much more likely to be married at age 27 than women who had not participated—40 percent versus 8 percent.
- Men who had participated in the program and men who had not participated were equally likely to be married at age 27, but those who had participated had been married an average of 6.2 years by that point compared to 3.3 years for non-participants.
- At age 27, more than half (54 percent) of female non-participants were single mothers compared to only 32 percent of female participants.
- At age 27, female participants had an average of 1.0 out-of-wedlock births compared to an average of 1.7 for non-participants. Fifty-seven percent of births to female participants were out-of-wedlock, while 83 percent of births to non-participants were out-of-wedlock.
- Nearly one-quarter (23 percent) of female non-participants had ever had an abortion by age 27; only 4 percent of participants had done so.
- A higher percentage of male participants than non-participants were raising their own children as of age 40 (57 percent versus 30 percent).
- At age 27, a significantly higher percentage of participants said they found it easy to feel close to family and friends (66 percent versus 48 percent).
- At age 40, participants were more likely to report that they were getting along very well with their families (75 percent versus 64 percent).

Despite these differences in patterns of marriage and childbirth, the children of Perry Preschool participants were similar in many ways to children of non-participants. Still, the children of the two groups differed in some respects. When participants reached age 27, 85 percent of their children regularly used library cards versus 53 percent of children of non-participants (although reading habits did not differ between the two groups). On the other hand, participants were actually less likely than non-participants to say their children were turning out better than expected—28 percent of participants felt this way compared to 55 percent of non-participants. This outcome may be due to the fact that participants had higher expectations of their children from the start.

Figure 2. Perry Preschool Program Study At Age 27



Source: Significant Benefits: The High/Scope Perry Preschool Study Through Age 27; by Lawrence J. Schweinhart, Helen V. Barnes and David P. Weikart: High/Scope Press. Used with Permission.

Other outcomes suggest that participants were more likely to act cautiously and take care of their health and well-being:

- Participants at age 27 were more likely to report usually or always wearing seat belts—57 percent versus 34 percent.
- Participants were less likely to drink. At age 27, 44 percent of participants reported that they never drank, compared to 36 percent of non-participants; 16 percent of participants drank several times a week or daily, compared to 26 percent of non-participants.
- Smoking was less prevalent among participants at age 27, with 45 percent saying they smoked cigarettes compared to 56 percent of non-participants.
- At age 40, participants were less likely than non-participants to report using sedatives, sleeping pills or tranquilizers (17 percent versus 43 percent), marijuana or hashish (48 percent versus 71 percent), or heroin (0 percent versus 9 percent).

At age 27, a higher percentage of participants (30 percent) than non-participants (15 percent) had been hospitalized in the previous 12 months. This may not reflect poorer health among participants but rather greater access to health care, awareness of their health, and ability to pay for treatment.

## Abecedarian Study

The Abecedarian study began in 1972 and with 112 children considered at risk based on their family background. Children were randomly assigned to the preschool program or to a control group.<sup>6</sup> The study followed up with the children, and was able to track down information for 104 of the original participants when they reached age 21. The preschool had low child-teacher ratios and addressed children's comprehensive needs with an emphasis on language development. The study found sustained positive impacts on children's math and reading achievement scores and an increased likelihood that children would attend college. Yet there were many other benefits as well, including positive effects on the mothers of participants and the participants' health later in life.

A benefit of the program that has not gained much attention is a notable, although not statistically significant, difference in rates of smoking between those who had participated in the program as children and those who had not attended. The study found that 39 percent of participants were smokers compared to 55 percent of those in the control group. This outcome is important given the impact smoking has on an individual's health and longevity. A separate study on the effects of smoking determined that being a non-smoker at age 20 increased life expectancy by about 6.5 years.<sup>7</sup>

The Abecedarian study examined a subsample of teenage mothers and found that by the time children attending preschool reached approximately 54 months of age, their mothers were more likely to have graduated from high school and received post-secondary training, were more likely to be able to support themselves, and less likely to have given birth to additional children than teenage mothers whose children did not participate. In addition, mothers with children in preschool were more likely to be employed and to have skilled or semi-skilled jobs. One likely explanation for these results is that the program provided reliable child care that enabled these mothers to go to school and receive training, which in turn helped them get good jobs with decent pay.

## Chicago Child-Parent Centers

A study of children who attended the Chicago Child-Parent Centers, which provide education and family support services to low-income children from ages 3 to 9, also offers evidence of the long-lasting benefits of early intervention.<sup>8</sup> The study, which has thus far followed children through age 21, determined that participants were less likely to have been held back a grade or placed in special education, more likely to have completed high school, and less likely to have been arrested for a crime as a juvenile.<sup>9</sup>

There are additional benefits that have not received as much notice. Children in the preschool group were less likely to have been abused or neglected than children in the comparison group. Only 5 percent of children who had participated in the preschool program had reported incidents of neglect or abuse from ages 4 to 17, compared to 10.3 percent of children in the comparison group. This reduction in child abuse and neglect translates into \$770 in savings per program participant by lowering costs for the child welfare system and for other services for victims. The success the program had in reducing child abuse and neglect may be related to the fact that in addition to offering educational services it also emphasizes intensive family support services.

## Parent Child Development Center Programs

Other shorter-term studies have demonstrated the diverse benefits of quality early education. The Parent Child Development Centers, which offer comprehensive support services for children ages 2 months to 3 years and their mothers, have had a positive impact not only on children's cognitive ability but also on the interactions between mothers and their children and on children's behavior and social skills.

An evaluation of a program site in Birmingham indicated that, compared to a control group, mothers who participated used more positive forms of discipline, including more discussion and less physical punishment. Mothers who participated were also more likely to return to paid employment.<sup>10</sup>

A study of the New Orleans program site showed that mothers who participated had more positive language, more effective teaching skills, and increased sensitivity in their interactions with children at the end of the program. They also were less likely to use restrictive, critical and scolding language for children at age 4.<sup>11</sup>

In Houston, mothers improved their use of affection, praise, criticism, and restrictive control. Children at ages 4 to 7 displayed less destructive, overactive, and negative attention-seeking behavior. At ages 8 to 11, the children were less likely to demonstrate impulsive, obstinate, disruptive, hostile and fighting behaviors, according to their teachers.

## Research on the Multiple Benefits of Education

These findings about the wider benefits of early education are consistent with extensive evidence indicating a close link between education in general and better health and well-being, among other positive results. It is difficult to prove causation—that education itself actually is responsible for the better outcomes, rather than other factors. However, there is increasing support for the argument that it is education itself that is making a difference.<sup>12</sup>

Studies show numerous social benefits of education, even after controlling for characteristics such as income, age, and race.<sup>13</sup> Education is linked to improvements in one's own health as well as the health of one's spouse; efficient consumer choices; adaptability to new jobs; marital choice; savings; attainment of desired family size; charitable giving and volunteer activity; social behavior; and voting. Education also has intergenerational effects, with parents' education having a positive impact on their children's education, cognitive ability, health, and fertility. The children of parents with lower education levels are more likely to bear children as teenagers. Child abuse and neglect has been found to be correlated with parental education levels as well.

While the precise ways in which education and other behaviors are linked will continue to be debated and studied by academics, research has so far provided convincing evidence that these links are wide-ranging and important. The findings summarized in this report linking preschool education to a broad array of positive life changes are entirely consistent with and supported by this larger research literature. The pathways through which preschool education directly or indirectly produces these outcomes is an important topic for future research that can help inform the development of even more effective preschool programs.

## Conclusion

A quality prekindergarten experience can have long-term positive effects on children's lives. Many of these benefits, including impacts on participants' own health, decisions about marriage and family, and financial stability, as well as impacts on their parents and their children, receive little attention. However, it is important to emphasize these findings and structure prekindergarten programs in a way that will most effectively promote such outcomes. This will help ensure that children gain the full range of benefits that early education has the potential to offer.

## Endnotes

- <sup>1</sup> Barnett, W.S. Young, J., & Schweinhart, L.J. (1998). How preschool education influences long-term cognitive development and school success: A causal model. In W.S. Barnett & S.S. Boocock (Eds.) *Early care and education for children in poverty: promises, programs, and long-term results* (pp. 167-184). Albany: SUNY Press.
- <sup>2</sup> Schweinhart, L. J., Barnes, H. V., and Weikart, D. P. with Barnett, W. S. and Epstein, A. S. (1993). *Significant benefits: The High/Scope Perry Preschool study through age 27*. Ypsilanti, MI: High/Scope Educational Research Foundation, p. 18.
- <sup>3</sup> Schweinhart, L. J., Barnes, H. V., and Weikart, D. P. with Barnett, W. S. and Epstein, A. S. (1993). *Significant benefits: The High/Scope Perry Preschool study through age 27*. Ypsilanti, MI: High/Scope Educational Research Foundation; Schweinhart, L. J. (2004). *The High/Scope Perry Preschool study through age 40: Summary, conclusions, and frequently asked questions*. Available at <http://www.highscope.org/Research/PerryProject/perrymain.htm>.
- <sup>4</sup> The original sample included 123 low-income African American children at high risk of school failure. Of that total, 58 were randomly assigned to participate in the preschool program with the remaining 65 children assigned to the control group.
- <sup>5</sup> Weikart, D., Bond, J.T., & McNeil, J.T. (1978). *The Ypsilanti Perry Preschool Project: Preschool Years and longitudinal results through fourth grade*. Teacher ratings on attitudes and behavior reach statistical significance after kindergarten suggesting the possibility that effects are intensified by feedback overtime from the school and as a result of the child' experience of academic success.
- <sup>6</sup> Masse, L. N. and Barnett, W. S. (2002). *A benefit cost analysis of the Abecedarian early childhood intervention*. National Institute for Early Education Research.
- <sup>7</sup> Cutler, D. M, Gruber, J., Hartman, R. S., Landrum, M. B., Newhouse, J. P., and Rosenthal, M. B. (2000). The economic impacts of the tobacco settlement. *National Bureau of Economic Research Working Paper 7760*.
- <sup>8</sup> Reynolds, A. J., Temple, J. A., Robertson, D. L., and Mann, E. A. (2002). *Age 21 cost-benefit analysis of the Title I Chicago Child-Parent Centers*. University of Wisconsin–Madison, Institute for Research on Poverty. Retrieved March 29, 2005. <http://www.ssc.wisc.edu/irp/pubs/dp124502.pdf>.
- <sup>9</sup> The original sample included 989 children who attended preschool and kindergarten in the Child-Parent Centers and 550 children from similar backgrounds who did not attend the preschool but did participate in a full-day kindergarten program. Of this original sample, 841 children who attend the program and 445 children in the control group were able to be assessed at age 20.
- <sup>10</sup> Andrews, S., Blumenthal, J., Johnson, D., Kahn, A., Ferguson, C., Lasater, T., Malone, P., and Wallace, D. (1982). The skills of mothering: A study of Parent-Child Development Centers. *Monographs of the Society for Research in Child Development*, 46 (6) Number 198.
- <sup>11</sup> University of Colorado at Boulder, Institute of Behavioral Science, Center for the Study and Prevention of Violence. (1999). Blueprints promising programs fact sheet: Parent Child Development Center programs. Available at [www.colorado.edu/cspv](http://www.colorado.edu/cspv).
- <sup>12</sup> Wolfe, B. and Haveman, R. (2000). Accounting for the social and non-market benefits of education. Paper for an Organisation for Economic Co-operation and Development (OECD) Symposium on The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being, Quebec City, March 19-21, 2000. Retrieved March 29, 2005. <http://www.oecd.org/dataoecd/5/19/1825109.pdf>.
- <sup>13</sup> Riddell, W. C. (2004). The social benefits of education: New evidence on an old question. Paper prepared for the conference, Taking Public Universities Seriously, University of Toronto, December 3-4, 2004.

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