



Summary of Major Longitudinal Studies on the Benefits of Early Childhood Education

National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development:

The NICHD study has been tracking over 1,300 children since 1991, following them from birth through sixth grade (thus far) at ten research sites throughout the United States. Children were placed by their parents in a variety of child care arrangements, ranging from care with relatives to high-quality center-based programs. There was no control group or random assignment. Researchers monitored the number of hours children spent in care, as well as the quality of care received.

The researchers, who are from universities across the country and are affiliated with the National Institute of Child Health and Human Development (NICHD), found that children in higher quality care scored higher on tests of vocabulary, short-term memory and attention. These children also got along better with their peers. Results also showed that children who experience long hours of care over the first four years of life are at greater risk for being perceived by adults as having behavior problems, particularly aggression. The quality of child care and sensitivity of the mother both helped lessen the effect of hours in child care on children's behavior. The study also established the positive relationship among staff training, low child-to-staff ratios and better outcomes for children.

For more information: <http://secc.rti.org/home.cfm>

Chicago Child-Parent Centers Evaluation:

This longitudinal study tracked 1,539 low-income children, 989 of whom participated in Chicago's Child-Parent Center's high-quality early education program in 1985-1986, was conducted by researchers at the University of Wisconsin and published in the Journal of the American Medical Association in 2001. The Child-Parent Centers (CPC) provide half-day preschool for children ages three to four, half- or full-day kindergarten, and school-age services in linked elementary schools for children ages six to nine, in addition to family and health services. This follow-up study measured children's school readiness and achievement, grade retention, special education placement, and delinquency over 16 years. Results showed that children who participated in the CPC preschool intervention for at least one to two years had a higher rate of high school completion, more years of completed education, and lower rates of juvenile arrest, violent arrest and school dropout through age 20. By age 13, school achievement scores were 60% higher in the CPC group than in the control group. At age 20, preschool participants had a significantly higher rate of high school completion and a lower dropout rate. Participating children were 40% less likely to be placed in special education or be held back a grade. They were also 30% more likely to graduate from high school, and more than twice as likely to go to college. Researchers found that for every dollar invested in the preschool programs, \$7.14 (in 1998 dollars) was returned to society in increased earnings for participants and reduced costs to society for remedial education and crime.

For more information: <http://jama.ama-assn.org/cgi/content/full/285/18/2339>

The Abecedarian Project:

In 1972, 111 infants from low-income North Carolina families were placed in high-quality child care with individualized education interventions or a comparison group. Children in the child care group attended full-day programs five days per week year-round from infancy through age 5. The annual program cost was \$10,000 per child. Children's development was monitored over time and measured at ages 12, 15, and 21. Evaluations revealed benefits including increased IQ by age 12, lower grade retention rates, higher reading and math scores and decreased use of special education services. Participants were also more likely to complete more years of education and to attend a four-year college.

In 2002, a follow-up benefit-cost analysis of data from the Abecedarian Project was conducted by researchers at the National Institute of Early Education Research (NIEER). The researchers found a four-to-one return on taxpayers' initial investment and that participants and their mothers could be expected to have lifetime earnings far exceeding those of non-participants. Researchers also found that school districts could expect to save more than \$11,000 per child as result of reduced need for special education and remediation. (Non-discounted 2002 dollars)

For more information: <http://www.fpg.unc.edu/~abc/summary.cfm>

High/Scope Perry Preschool Project:

This study, begun in 1962 in Ypsilanti, Michigan, tracked 123 high-risk three- and four-year-olds who were each randomly assigned to either a high-quality preschool program based on High/Scope's active learning approach or to a comparison group that did not attend preschool. The comprehensive preschool program included education, health and family support and ran five days per week, 2.5 hours per day, at a cost of \$14,400 (2001 dollars, discounted annually at 3%) per child for two years. Conducted by the High/Scope Educational Research Foundation, the study measured use of special education services, juvenile delinquency, teen pregnancy, employment history and post-secondary education attainment, among other indicators. These children were studied every year from ages 3 through 11, and again at ages 14, 15, 19, 27 and 40 to measure use of special education services, juvenile delinquency, teen pregnancy, employment history and post-secondary education attainment, among other indicators.

The study showed that preschool participants had higher educational achievement, as well as more socially responsible behavior. The study found that adults at age 40 who participated in a high-quality preschool program in their early years have higher earnings, are more likely to hold a job, have committed fewer crimes, and are more likely to have graduated from high school. For every dollar originally invested in the high-quality early childhood education program, the public saved \$17 in reduced special education, criminal justice and welfare costs and increased revenues from taxes on participants' increased income.

For more information: <http://www.highscope.org/Research/PerryProject/perrymain.htm>

Cost, Quality and Child Outcomes Study:

Beginning in 1993, 401 full-day, full-year preschools in Colorado, Connecticut, California, and North Carolina were assessed for quality levels, including teacher practices, teacher sensitivity, teaching style and the physical environment. The progress of 826 children served by the centers was tracked until the children reached the second grade.

Researchers found correlations between the quality of care and cognitive and language development, as well as a correlation between the student-teacher relationship and the child's social-emotional development. Children with higher quality care and better teacher relationships had better language and math skills and fewer problem behaviors by the second grade. The positive effects of quality child care had the greatest impact on children from low-income families (Helburn, 1995).

In 2000, the Massachusetts Department of Education (Early Learning Services) initiated its own study of cost and quality of early care and education in the state, conducted by Wellesley College Center for Research on Women and Abt Associates. The study examined structural (e.g., class size, teacher education) and process characteristics (e.g., teacher-child interactions, program structure) of quality which can affect children's early learning experiences. The study also examined the cost of services and the relationship between quality and costs.

Findings from the first year of the study, examining private preschools, highlighted the variability in the quality of care and education of Massachusetts' preschool classrooms. More than two-thirds of classrooms studied did not provide the rich language environment research shows is essential to children's language and cognitive development and later school success. Additionally, the study showed that low- and moderate-income families are less likely to have access to high-quality early education and care in Massachusetts.

For more information: <http://www.wcwonline.org/earlycare/>