

Preschool Education Studies: A Bibliography Organized by Research Strengths

W. Steven Barnett (sbarnett@nieer.org)

In education, as in medicine and other fields where research seeks to inform practice, the media are confronted with an array of research studies with sometime confusing and at least apparently contradictory results. This bibliography provides a list of important research studies organized into 5 categories in order of their strengths. One or two recent citations are provided for each study, but some studies have many publications, especially those with long-term follow-ups.

When ethical and feasible, a randomized trial (Categories 1 & 2) is the best method for answering well-defined questions about “what works.”¹ Even small, local randomized trials can provide more accurate information than large nonexperimental studies, particularly when results can be compared across multiple small trials with somewhat different programs, populations, and contexts. Such replication is important for understanding how program outcomes depend on what is provided, who is served, and other circumstances (for example, K-12 policies or economic conditions).

Next best are studies with quasi-experimental designs (Category 3) where steps have been taken to ensure comparability of treatment and control groups. Such studies are specifically designed to disentangle family influences from program influences. Following are prospective longitudinal studies specifically designed to study natural variation in programs and children’s participation (Category 4)—typically data are directly collected on programs and children, with data on the abilities of children attending and not attending when they begin preschool education and not just after the program.

Last on the list are studies using survey data where preschool program participation is based on retrospective parental report (Category 5). These studies commonly produce estimates of the effects of programs like Head Start that are contradicted by results from nationally representative randomized trials. In other words, they fail the best available test of their ability to produce accurate estimates of program outcomes. Such studies are poor sources of information about causal questions (e.g., what works). The specific citations listed in Category 5 are illustrative, as researchers have employed these data sets in numerous studies.

No study stands alone, and public policy should take into account all of the research literature weighing each study’s contributions to an overall conclusion. Comprehensive overviews of preschool research with a focus on what it reveals about long-term effects are provided by two reviews, one traditional and the other a statistical summary (meta-analysis):

Barnett, W. S. (2008). *Preschool education and its lasting effects: Research and policy implications*. Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieve from: <http://epicpolicy.org/publication/preschooleducation>

Camilli, G., Vargas, S., Ryan, S., & Barnett, W.S. (2010). Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record*. Retrieve from: <http://www.tcrecord.org/Content.asp?ContentID=15440>

¹ Feuer, M., Towne, L. & Shavelson, R.J. (2002). Scientific culture and educational research. *Educational Researcher*, 31(8), 4-14.

1. True experiments with model or small-scale public programs and long-term follow-up

| Study Name and References | Pop Served* | Age |
|--|-------------|-----------|
| <p>Abecedarian Program- Campbell, F. A., Pungello, E. P., Miller-Johnson, S., Burchinal, M., & Ramey, C. (2001). The development of cognitive and academic abilities: Growth curves from an early childhood educational experiment. <i>Developmental Psychology</i>, 37, 231-242; Barnett, W. S., & Masse, L. N. (2007). Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications, <i>Economics of Education Review</i>, 26, 113-125. For more information see http://www.fpg.unc.edu/~abc/</p> | Disadv | <1 thru 4 |
| <p>Brigham Young University-Larsen, J. & Robinson, C. C. (1989). Later effects of preschool on low risk children. <i>Early Childhood Research Quarterly</i>, 4, 133-144.</p> | Adv | 3 & 4 |
| <p>CARE- Wasik, B. H., Ramey, C. T., Bryant, D. M., & Sparling, J. J. (1990). "A Longitudinal Study of Two Early Intervention Strategies: Project CARE," <i>Child Development</i>, 61(6), 1682-1696. EJ 426 160. For more information see http://www.fpg.unc.edu</p> | Disadv | <1 thru 4 |
| <p>Consortium for Longitudinal Studies- Consortium for Longitudinal Studies (1983). <i>As the twig is bent... Lasting effects of preschool programs</i>. Hillsdale, NJ: Lawrence Erlbaum.</p> | Disadv | 3 & 4 |
| <p>High Scope Curriculum- Schweinhart, L.J. & Weikart, D.P. (1997). The High/Scope preschool curriculum comparison study through age 23. <i>Early Childhood Research Quarterly</i>, 12(2), 117-143. Available at http://www.highscope.org/Research/homepage.htm</p> | Disadv | 3 & 4 |
| <p>Houston Parent Child Development Center- Johnson, D. & Walker, T. (1991). A follow-up evaluation of the Houston Parent Child Development Center: School performance. <i>Journal of Early Intervention</i>, 15(3), 226-236.</p> | Disadv | 1-3 |
| <p>Infant Health and Development Program (IHDP) McCormick, M.C., Brooks-Gunn, J., Buka, S.L., Goldman, J., Yu, J., Salganik, M., Scott, D.T., Bennett, F.C., Kay, L.L., Bernbaum, C., Bauer, C.R., Martin, C., Woods, E.R., Martin, A., & Casey, P.H. (2006). Early intervention in low birth weight premature infants: Results at 18 years of age for the Infant Health and Development Program. <i>Pediatrics</i>, 117, 771-780. Available at http://www.pediatrics.org/cgi/content/full/117/3/771.</p> | LBW | <1 thru 2 |
| <p>Mauritius Study- Raine, A., Mellingen, K., Liu, J., Venables, P., Mednick, S. A. (2003). Effects of environmental enrichment at ages 3-5 years on schizotypal personality and antisocial behavior at ages 17 and 23 years. <i>American Journal of Psychiatry</i>, 160(9), 1627-1635.</p> | Disadv | 3 & 4 |
| <p>Milwaukee Project- Garber, H.L. (1988). <i>The Milwaukee Project: Prevention of mental retardation in children at risk</i>. Washington, DC: American Association on Mental Retardation.</p> | Disadv | <1 thru 4 |
| <p>Perry Preschool Program- Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Nores, M. (2005). <i>Lifetime effects: The High/Scope Perry Preschool study through age 40</i> (Monographs of the High/Scope Educational Research Foundation, 14). Ypsilanti, MI: High/Scope Educational Research Foundation. Available at http://www.highscope.org/Research/PerryProject/perrymain.htm</p> | Disadv | 3 & 4 |

*Population abbreviations- Disadv -Disadvantaged, Adv-Advantaged, LBW- Low birth weight

2. True experiments with large-scale public programs

| Study Name and References | Pop Served* | Age |
|---|-------------|------------|
| <p>Early Head Start- Love, J. M., Kisker, E.E., Ross, C. M., Schochet, P.Z., Brooks-Gunn, J., Paulsell, D., Boller, K., Constantine, J., Vogel, C., Fuligni, A. S., & Brady-Smith, C. (2002/2004). <i>Making a difference in the lives of infants and toddlers and their families: The impacts of Early Head Start. Volume I: Final technical report.</i> Princeton, NJ: Mathematica Policy Research Inc. Available at http://www.mathematica-mpr.com/publications/pdfs/ehsfinalvol1.pdf</p> | Disadv | 0-3 |
| <p>Even Start (Family Literacy)- St. Pierre, R.G., Layzer, J.I. & Barnes, H.V. (1998). Regenerating two-generation programs. In W.S. Barnett & S.S. Boocock (Eds.) <i>Early care and education for children in poverty: Promises, programs, and long-term results</i>, (pp.99-121), Albany, NY: SUNY Press.</p> | Disadv | Wide range |
| <p>Head Start- Abbott-Shim, M., Lambert, R., & McCarty, F. (2003). A comparison of school readiness outcomes for children randomly assigned to a Head Start program and program's waiting list. <i>Journal of Education for Students Placed at Risk</i> 8(2), 191-214.</p> | Disadv | 3-4 |
| <p>Head Start National Impact Study- Puma, M., Bell, S., Cook, R., Heid, C., Lopez, M., Zill, N., Shapiro, G., Broene, P., Mekos, D., Rohacek, M., Quinn, L., Adams, G., Freidman, J. & Bernstein, H. (2005). <i>Head Start impact study: First year findings.</i> Washington, DC: US Dept. of Health and Human Services, Administration for Children and Families. Available at http://www.acf.hhs.gov/programs/opre/hs/impact_study/reports/first_yr_finds/first_yr_finds.pdf</p> | Disadv | 3-4 |

*Population abbreviations- Disadv -Disadvantaged, Adv-Advantaged, LBW- Low birth weight

3. Quasi-experiments

| Study Name and References | Pop Served* | Age |
|--|----------------|-------|
| <p>Chicago Child Parent Centers- Temple, J. A., & Reynolds, A. J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child-Parent Centers and related programs. <i>Economics of Education Review</i>, 26(1), 126-144. Reynolds, A.J., et al. (2007). Effects of a school-based, early childhood intervention on adult health and well-being: A 19 year follow-up of low-income families. <i>Archives of Pediatrics and Adolescent Medicine</i>, 161(8), 730-739.</p> | Disadv | 3 & 4 |
| <p>Michigan School Readiness Program- Xiang, Z. & Schweinhart, L. (2002). Effects five years later: The Michigan School Readiness Program evaluation through age 10. High/Scope Educational Research Foundation. Available at http://www.highscope.org/Research/MsrpEvaluation/msrp-Age10-2.pdf</p> | Disadv | 3 & 4 |
| <p>NIEER 5 State Study- Barnett, W.S., Jung, K., Wong, V, Cook, T., & Lamy, C. (2007). The effects of state prekindergarten programs on young children's school readiness in five states. http://nieer.org/docs/index.php?DocID=129</p> | All/ Disadv | 4 |
| <p>NY Experimental Pre-K- Irvine, D. J., Horan, M. D., Flint, D. L., Kukuk, S. E. & Hick, T. L. (1982). Evidence supporting comprehensive early childhood education for disadvantaged children. <i>Annals of the American Academy of Political and Social Science</i>, 461(May), 74-80.</p> | Disadv | 4 |
| <p>South Carolina- Barnett, W.S., Frede, E.C., Mobasher, H., & Mohr, P. (1987). The efficacy of public preschool programs and the relationship of program quality to efficacy. <i>Educational Evaluation and Policy Analysis</i>, 10(1), 37-49; Frede, E. & Barnett.W.S. (1992). Developmentally appropriate public school preschool: A study of implementation of the High/Scope Curriculum and its effects on disadvantaged children.</p> | Disadv | 4 |
| <p>Tulsa Oklahoma Study- Gormley, W. T., Gayer, T., Phillips, D., & Dawson, B. (2005). The effects of universal pre-k on cognitive development. <i>Developmental Psychology</i>, 41(6), 872-884. Available at http://content.apa.org/journals/dev/41/6/872</p> | All | 4 |

*Population abbreviations- Disadv -Disadvantaged, Adv-Advantaged, LBW- Low birth weight

4. Large statistical studies designed to study pre-k where program is observed

| Study Name and References | Pop* | Age |
|--|------|----------|
| Cost, Quality, and Outcomes Study- Peisner-Feinberg, E., Burchinal, M., Clifford, R., Yazejian, N., Culkin, M., Zelazo, J., Howes, C., Byler, P., Kagan, S., & Rustici, J. (1999). <i>The children of the Cost, Quality, and Outcomes Study go to school</i> . Chapel Hill, NC: University of North Carolina, Frank Porter Graham Child Development Center. | All | 4 |
| Effective Provision of Pre-School Education (EPPE)- Melhuish, E., et al. (2008). Preschool influences on mathematics achievement. <i>Science</i> , 321(5893), 1161-1162. Sammons, P., et al. (2008). <i>Effective pre-school and primary education 3-11project: Influences on children's cognitive and social development in Year 6</i> . London: DCSF. http://www.dcsf.gov.uk/research/data/uploadfiles/DCSF-RB048-049.pdf | All | 3 & 4 |
| NICHD- Vandell, D.L. (2004). Early child care: The known and the unknown. <i>Merrill-Palmer Quarterly</i> , 50(3), 387-414. NICHD ECCRN (2006). Child care effect sizes for the NICHD study of early child care and youth development. <i>American Psychologist</i> , 61(2), 99-116. Belsky et al. (2007). Are there long-term effects of child care? <i>Child Development</i> , 78(2), 681-701. | All | 1 thru 4 |
| Northern Ireland- Melhuish, E., Quinn, L., Hanna, K., Sylva, K., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2006). <i>Effective pre-school provision in Northern Ireland (EPPNI) Summary report. No. 41</i> . Department of Education: Northern Ireland Statistics & Research Agency. | All | 3 & 4 |

*Population abbreviations-Disadv-Disadvantaged, Adv-Advantaged, LBW- Low birth weight

5. Large, general purpose data sets used to study preschool. Articles listed are examples.

| Study Name and References | Pop* | Age |
|---|--------|-------|
| ECLS-K- Denton, K.L., West, J., & Reaney, L.M. (2001). <i>The kindergarten year: Findings from the Early Childhood Longitudinal Study, Kindergarten class of 1998-99</i> . NCES 2001-023. Washington, DC: National Center for Educational Statistics; Magnuson, K., Meyers, M., Ruhm, C., & Waldfogel, J. (2004). <i>Inequality in preschool education and school readiness</i> . American Education Research Journal, 41, 115-157. | All | 3 & 4 |
| National Education Longitudinal Study- Ludwig, J. & Miller, D.L. (2007). Does Head Start improve children's life chances? Evidence from a regression discontinuity design. <i>Quarterly Journal of Economics</i> , 122(1), 159-208. Draft of earlier version at: http://www.econ.ucdavis.edu/working_papers/05-34.pdf ; Fukahori, S. (2000). <i>The long term effects of Project Head Start: A national-scale longitudinal study</i> . Available at http://digitalcommons.libraries.columbia.edu/dissertations/AAI9970194/ | Disadv | 3 & 4 |
| National Longitudinal Study- Currie, J. & Neidell, M. (2007). Getting inside the "black box" of Head Start quality: What matters and what doesn't. <i>Economics of Education Review</i> , 26(1), 83-99. Aughinbaugh, A. (2001). Does Head Start yield long-term benefits? <i>Journal of Human Resources</i> , 36(4), 641-665. | Disadv | 3 & 4 |
| Panel Study on Income Dynamics- Garces, E., Thomas, D., & Currie, J. (2002). Longer-term effects of Head Start. <i>American Economic Review</i> , 92(4), 999-1012. | Disadv | 3 & 4 |

*Population abbreviations-Disadv-Disadvantaged, Adv-Advantaged, LBW- Low birth weight