



State of Wisconsin Department of Public Instruction

Elizabeth Burmaster
State Superintendent

Mailing Address: P.O. Box 7841, Madison, WI 53707-7841
125 South Webster Street, Madison, WI 53702
(608) 266-3390 TDD (608) 267-2427 FAX (608) 267-1052
Internet Address: www.dpi.state.wi.us

Select Reports and/or Research Related to Pre-Kindergarten and 4-Year-Old Kindergarten Economic Investment and Impact

This collection of articles, compiled by Jill Haglund and summarized by John Philips, comes from a variety of sources and is intended for use by the Department of Public Instruction. For more information on early childhood, contact Jill Haglund, Early Childhood Consultant, 608-267-9627, jill.haglund@dpi.state.wi.us.

Belfield, Clive R. **"The Early Childhood Education: How Important Are the Cost-Savings to the School System?"** *Teachers College, Columbia University*. New York, NY, 2004.
http://www.winningbeginningny.org/databank/documents/belfield_report_000.pdf.

The author reviews the return-on-investment literature from well-resourced, good quality early childhood education programs for a reasonable period of time (including Perry Preschool, Head Start, Abecedarian, Chicago study) and outlines short, medium and long-term benefits and cost savings. Medium-term cost-savings of from \$2,591 to \$9,547 per child result from reducing the incidence of special education, lowering grade repetition rates, improving educational productivity and enhancing children's well-being. Between 41 and 62 percent of an initial invest in early childhood education would be offset by medium-term saving elsewhere in the education system.

Belfield, Clive R. **"The Fiscal Impact of Universal Pre-K: Case Study Analysis for Three States."** *Committee for Economic Development*. Invest in Kids Working Group, Working Paper No. 6, Washington, DC, 2005.
http://www.ced.org/docs/report/report_ivk_belfield2005.pdf.

This study applies an investment appraisal technique to pre-K provision. The technique allows for a full consideration of where additional funds should be invested and what the fiscal consequences are. Using national and state-specific data, these impacts are calculated for Massachusetts, Wisconsin, and Ohio. Each state already has some pre-K provision, and the proposal is to extend that opportunity to all children. Although a large financial commitment is necessary, economic modeling indicates that – given current patterns of spending, the educational pathways students follow, and government revenue sources and expenditures – the net present value should be strongly positive.

Belfield, Clive R. **"The Pre-K Payback."** *Center for Early Care and Education*. Albany, NY, 2004.
http://www.winningbeginningny.org/brochure/documents/belfield_execsummary.pdf.

While most everyone agrees that early education benefits child, parent, and society, Pre-K's critics often decry adding a year of free prekindergarten to public school as an unaffordable luxury. An education economist's report analyzing Pre-K costs and benefits shows otherwise. Clive R. Belfield, reviewed 19 published research studies of early childhood education programs from around the nation, and analyzed their outcomes relevant to New York State school spending. He concludes that making quality prekindergarten universally available to the state's 4-year-olds would result in later savings in remedial costs and other school services that would pay back 41% to 62% of the Pre-K investment.

Belfield, Clive R. and Winters, Dennis K. **"The Economic Returns to the Education System from Investments in four-year-old kindergarten for Wisconsin."** *Trust for Early Education (TEE)* research paper, New York, NY and Madison, WI, 2004.

This paper considers the economic impact to the K-12 education system in the state of Wisconsin and in the district of Milwaukee from expanding provision of pre-kindergarten. For Wisconsin, expanding the 4K program by a factor of three would allow 32,102 extra four-year old children to participate each year (in other states, around 70% of families take advantage of high-quality pre-kindergarten). For these new places for children, the total investment cost would be \$207 million, less than 3% of annual expenditures on education in Wisconsin.

The focus here is on the consequences of expanding 4K for K-12 educational budgets in Wisconsin. The education system is affected because children progress more efficiently through their schooling as a result of early childhood programs. State-specific data, published research, and new evidence are used to estimate these fiscal benefits to the school system.

With expanded 4K programs fiscal benefits to the K-12 school system would come from: lower grade retention; lower special education placement; higher job satisfaction for teachers; more teachers retained by the public schools; fewer substitute teachers; reduced spending on school safety; and reduced pressure on student aid services. In total, these benefits amount to \$140.96 million.

The net economic impact of comprehensive state-wide pre-schooling is calculated as a benefit-cost ratio. For each cohort of four-year olds, the benefits of investment in comprehensive 4K offset 68% of the costs. For every dollar committed to 4K, 68 cents would be returned in savings.

The analysis is also performed for the Milwaukee school district. This district has higher K-12 per-student expenditures, and higher rates of grade repetition and special education. Accordingly, the K-12 cost-savings are found to be higher. The benefits of investment in comprehensive 4K for Milwaukee would offset 76% of the costs of the program, when only K-12 educational budgets are considered.

When all benefits are accounted for, there is a clear economic motive for investment in four-year-old kindergarten across the state of Wisconsin.

Brandon, Richard N. **"Financing Access to Early Education for Children Age Four and Below: Concepts and Costs."** *Human Services Policy Center*, working draft (permission required for citation) prepared for The Brookings-University of North Carolina Conference "Creating a National Plan for Education of 4-Year-Olds," 2004.
<http://www.brookings.edu/dybdocroot/es/research/projects/wrb/200411Brandon.pdf>

The author argues that the most cost-effective policy is to make high quality early care and education available for all children birth through five. A financing approach that combines a subsidy to providers, that is not related to the income of particular children, with an income-related voucher for parents can make early learning experiences affordable for all families at a relatively modest national commitment — an investment equivalent to from 3 to 13 percent of current public elementary and secondary education spending.

Carnevale, Anthony P., Desrochers, Donna M. **"Standards for What? The Economic Roots of K-16 Reform."** *Educational Testing Service*, Princeton, NJ, 2003.
http://www.ets.org/research/dload/standards_for_what.pdf

The authors offer a powerful analysis of the forces that have stimulated the and sustained education reform since the 1980s, forces certain to be a decisive influence on the future of American education. Focusing on standards and their implementation, they identify and describe the societal trends that are redefining the contemporary educational landscape. Educators may find their attention drawn to the suggested mismatch between the jobs and careers of the new economy and the current core high school curricula and pedagogy.

Cobb, Kathy. **"The ABCs of ECD: Conference Explores the Latest Research on the Economics of Early Childhood Development."** *The Region*, Federal Reserve Bank of Minneapolis, December, 2003
<http://minneapolisfed.org/pubs/region/03-12/ecd.cfm>.

The Economics of Early Childhood Development: Lessons for Economic Policy conference provided a rare opportunity for economists, public policy analysts, medical professionals and educators to share their research on early childhood development. The conference, hosted by the Minneapolis Fed and Minnesota's McKnight Foundation, in cooperation with the University of Minnesota, focused largely on the economics of early childhood development, but economists' findings were supported by sociological and biological evidence presented by other speakers.

Diefendorf, Martha and Goode, Sue. **"Minibibliography. Long Term Economic Benefits of High Quality Early Childhood Intervention Programs."** *NECTAC Clearing House on Early Intervention and Early Childhood Special Education*, University of North Carolina at Chapel Hill, 2004, www.nectac.org/~pdfs/pubs/econbene.pdf.

An extensive body of research indicates that high quality early intervention for at-risk infants, toddlers and young children and their families is a sound economic investment. Studies have found a number of long-term cost savings in terms of decreased grade repetition, reduced special education spending, enhanced productivity, lower welfare costs, increased tax revenues, and lower juvenile justice costs. This 9-page mini-bibliography by Martha Diefendorf and Sue Goode provides a selection of articles, reports, and book chapters that review some of the major findings on this topic. Some of the included studies focus on services for young children with disabilities, although most address early intervention for children who are at risk for adverse developmental outcomes due to poverty and other environmental factors.

Dugger, Robert. **"American Kids, Workforce Quality and Fiscal Sustainability: A Multi-Year Plan for the Invest in Kids Working Group,"** Working Paper No. 4, *Invest in Kids Working Group*, revised January 2005.
http://www.ced.org/docs/report/report_ivk_dugger_2005.pdf

Initial evidence suggests that spending on early nurturing, health, and education has tangible economic returns as high as or higher than alternative options. Early childhood development appears to be essential to maximizing the number of future American workers who can compete effectively in a global marketplace. Successful youth human capital development would instill the kind of long-term thinking necessary to achieve needed spending compromises. This together with stronger growth would make it easier to achieve fiscal sustainability and avoid crisis.

"The Early Childhood Education and Care: Challenges Facing Wisconsin." *Wisconsin Departments of Public Instruction and Workforce Development and UW Waisman Center*, Madison, WI, 2003. <http://www.wisconsin.edu/summit/papers/earlyChildhood.pdf>.

This working paper provides a state leaders with a context for viewing the economic challenges facing Wisconsin. It seeks to stimulate thoughtful reflection and substantive discussion on the relationship between the quality of Wisconsin's early childhood programming and the future growth of our state's economy. This paper advances the argument that any efforts toward building the state's future economic capacity must start with providing high quality early childhood education and care for our youngest residents. The major premise is that consideration of public policy issues associated with early childhood education and care must be included in any comprehensive economic planning effort intending to improve Wisconsin's future economic conditions.

Fay, Juliette, Gilbert, Jennifer and Wrean, Katherine. **"Building Villages to Raise Our Children: Funding and Resources."** *Harvard Family Research Project*, Cambridge, MA, 1993.
<http://www.enterprisefoundation.org/model%20documents/912.Building%20Villages%20o%20Raise%20our%20Children.doc>

This booklet is one of a series of six based on the theme "it takes a village to raise a child." The Introduction clarifies that the book is not about how to write grants, but states, "we will discuss general principles of financing strategy, potential funding sources, tips on finding and maintaining those sources, and marketing and public relations." One section of the book discusses designing a funding plan, including clarifying the reason for funding, how to present plans to potential funders and effective public relations. Another section presents the varied array of funding sources and how to find them. The final section discusses the various issues involved in managing a resource base and then presents six case studies which illustrate a range of funding strategies and the lessons learned. Programs profiled are in: Brattleboro, VT; Cedar Rapids, IA; Polk and Scott Counties, IA; Gainseville, FL; Minneapolis, MN; and Barberton, OH. The booklet concludes with a Bibliography and a Federal Funding Information Resources guide.

"Federal Reserve Economist Urges Much Wider Public Investment in Preschool: Expert Says Preschool Pays Public up to 15 Percent on Every Dollar Spent." *Preschool Matters* (Vol. 1, No. 3). National Institute for Early Education Research. New Brunswick, NJ, 2003
<http://nieer.org/resources/printnewsletter/Dec2003.pdf>

Art Rolnick, head of research for the Federal Reserve Bank in Minneapolis, wants to create a new trust fund, a \$1¼ billion endowment, to pay for prekindergarten for all of Minnesota's low-income three- and four-year-olds. He says that it is a bargain compared to other investments, such as a sports stadium; \$1¼ billion is equivalent to the cost of two sports stadiums. Investment in pre-K returns \$7 for every \$1 spent, far outdistancing the return on investment for a sports stadium, factory or Target store. "What I am proposing is an endowment for public preschool, like Harvard of Yale has, that will represent a permanent commitment by the people of Minnesota to its children."

Flynn, Margaret and Hayes, Cheryl D. **"Blending and Braiding Funds To Support Early Care and Education Initiatives."** *The Finance Project*, Washington, DC, 2003.
http://www.financeprojectinfo.org/Publications/FP%20Blending%20Funds%201_24.pdf.

The authors highlight the successes and lessons learned in blending early childhood funding streams. They present financing strategies that state and local policy makers, community leaders, and program coordinators can employ to align, coordinate, and integrate discrete, categorical funding streams. When used effectively, these strategies can help reduce duplication, increase the efficient use of resources, reduce the administrative burden of multiple categorical programs, and fund early childhood supports and services that are more integrated and coordinated.

Leaders at the federal, state, local, and community levels are striving to link the discrete, fragmented supports and services that have developed over a number of years into a system of early childhood supports and services that makes sense for families and providers. Critical to the success of these efforts are financing strategies that enable program developers and community leaders to use categorical funding streams in more flexible and coordinated ways. For these efforts to be most successful, the ground-level work of program leaders to braid and blend a variety of funding sources must be supported by policy making that increases the flexibility of and aligns funding streams.

Heckman, James J. and Masterov, Dimitriy V. **"The Productivity Argument for Investing in Young Children: Working Paper 5."** *Invest in Kids Working Group, Committee for Economic Development*, Washington, DC, 2004.
http://www.ced.org/docs/report/report_ivk_heckman_2004.pdf.

On productivity grounds alone, it appears to make sound business sense to invest in young children from disadvantaged environments. An accumulating body of evidence suggests that early childhood

interventions are much more effective than remedies that attempt to compensate later in life for early neglect.

U.S. labor force skills are generally poor. Labor force quality has stagnated and already reduced American productivity growth. If current trends continue, the U.S. economy will add many fewer educated persons to the workforce in the next two decades than it did in the past two decades. "This is a major drag on U.S. competitiveness and a source of social problems."

Ability gaps between disadvantaged and other children open up early, before schooling begins. Conventional school-based policies start too late to completely remedy early deficits, although they can do some good. Children who start ahead keep accelerating past their peers, widening the gap.

Studies of early education interventions directed towards children in low-income families with long-term follow up find that these programs can greatly help reduce (but not completely eliminate) that gap. Participants experienced increased achievement test scores and high school graduation, and decreased grade retention, time in special education, experience with crime and delinquency. These gains persist into adulthood, contradicting the perception that they fade within a very few years. These programs benefit not only the participants, but their own children and society at large.

Children who have quality early education will start on a better life trajectory that means they are not only more successful in the early years, but will be better able to use higher education and job training later in life. Workers who need to change careers or just acquire new skills will benefit from better learning abilities acquired early in life.

Liu, Zhilin. Ribeiro, Rosaria and Warner, Mildred. **"Child Care Multipliers: Analysis from Fifty States."** *Linking Economic Development and Child Care Research Project*, Ithaca, NY, 2004. <http://government.cce.cornell.edu/doc/pdf/50StatesBrochure.pdf>.

Economists and planners are recognizing the important contributions the early care and education sector makes to the economy in both the short and long terms. Across the country, states and localities are using regional economic analysis to estimate the size of the early care and education sector and the extent of its linkages in the broader regional economy. A complete data base of these studies is found on the Cornell Linking Economic Development and Child Care project website. This research brief presents a summary of the regional linkages of child care in all 50 states and the District of Columbia.

Regional economic analysis shows child care is a good economic development investment, both for its direct effects on employment and its relatively high linkage effects in the regional economy. The relative rank and size of this economic linkage calls for greater economic development attention be given to the child care sector. This, in addition to the sector's importance as social infrastructure supporting parent workers and human development of the future workforce, makes it a worthy target for economic development policy.

Lynch, Robert G. **"Exceptional Returns: Economic, Fiscal, and Social Benefits of Investment in Early Childhood Development"** *Economic Policy Institute*, Washington, D.C., 2004. [http://www.epinet.org/books/exceptional/exceptional_returns_\(full\).pdf](http://www.epinet.org/books/exceptional/exceptional_returns_(full).pdf).

This study demonstrates that providing all 20% of the nation's three- and four-year-old children who live in poverty with a high-quality early childhood development (ECD) program (initial cost about \$19 billion/year) would have a substantial payoff for governments and taxpayers in the future. As those children grow up, costs for remedial and special education, criminal justice, and welfare benefits would decline. Once in the labor force, their incomes would be higher, along with the taxes they would pay back to society.

Within about 17 years, the net effect on the budget would turn positive (for all levels of government combined). Within 30 years, the offsetting budget benefits would be more than double the costs of the ECD program (and the cost of the additional youth going to college).

Reynolds, Arthur J., Temple, Judy A., Robertson, Dylan L. and Mann, Emily A. **"Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Center Program."** *University of Wisconsin Waisman Center, Madison, WI, 2001.*
<http://www.waisman.wisc.edu/cls/cbaexecsum4.html> or
<http://www.waisman.wisc.edu/cls/index.html>.

This study conducted the first cost-benefit analysis of the federally financed Title I Chicago Child-Parent Center (CPC) Program. The major question addressed was: Do program benefits exceed costs? The CPC program is a school-based preschool and early school-age intervention for low-income children that emphasizes parent involvement and the development of literacy skills. Previous studies have indicated that program participation beginning in preschool is independently associated with higher school achievement, higher rates of school completion through age 20, lower rates of school dropout, lower rates of juvenile arrest for violent and non-violent charges, and with less need for school remedial services.

Relative to the comparison group, results showed preschool participants had a 29% higher rate of high school completion, a 33% lower rate of juvenile arrest, a 42% reduction in arrest for a violent offense, a 41% reduction in special education placement, a 40% reduction in the rate of grade retention, and a 51% reduction in child maltreatment. School-age participation and extended program participation for 4 to 6 years were associated with 30 to 40% lower rates of grade retention and special education placement. Compared to children with 1 to 3 years of participation, extended program participants also had higher achievement test scores in adolescence and lower rates of child maltreatment by age 17.

Results of the cost-benefit analysis indicated that each component of CPC program had economic benefits that exceeded costs. With an average cost per child of \$6,730 (1998 dollars) for 1.5 years of participation, the preschool program generated a total return to society at large of \$47,759 per participant. The largest benefit was program participants' increased earnings capacity projected from higher educational attainment. Economic benefits of the preschool program to the general public (taxpayers and crime victims), exclusive of increased earnings capacity, were \$25,771 per participant. The largest categories of public benefits were increased tax revenues associated with higher expected earnings capacity (28%), criminal justice system savings due to lower rates of arrest (28%), savings on tangible costs for crime victims (24%), and savings on school remedial services (18%). Overall, \$7.10 dollars were returned to society at large for every dollar invested in preschool. Excluding benefits to participants, the ratio of program benefits to costs for the general public was \$3.83 for every dollar invested. The ratio of benefits to costs for government savings alone was \$2.88 per dollar invested.

Rolnick, Art, Grunewald, Rob. **"Early Childhood Development: Economic Development with a High Public Return."** *fedgazette*, Federal Reserve Bank of Minneapolis, March, 2003.
<http://minneapolisfed.org/pubs/fedgaz/03-03/earlychild.cfm>.

Early childhood development programs are rarely portrayed as economic development initiatives, and we think that is a mistake. Such programs, if they appear at all, are at the bottom of the economic development lists for state and local governments. They should be at the top. Most of the numerous projects and initiatives that state and local governments fund in the name of creating new private businesses and new jobs result in few public benefits. In contrast, studies find that well-focused investments in early childhood development yield high public as well as private returns.

Schellenback, Karen. **"Child Care & Parent Productivity: Making the Business Case."** *Linking Economic Development and Child Care Project*, Cornell University, Ithaca, NY, 2004. <http://government.cce.cornell.edu/doc/pdf/ChildCareParentProductivity.pdf>.

Child care breakdowns leading to employee absences cost businesses \$3 billion annually in the United States. Fifty-four percent of employers report that child care services had a positive impact on employee absenteeism, reducing missed workdays by as much as 20% to 30%. Furthermore, a child care program can reduce turnover by 37% to 60%. Employee retention is a key driver of customer retention, which in turn is a key driver of company growth and profits. One study showed that a 7% decrease in employee turnover led to increases of more than \$27,000 in sales per employee and almost

\$4,000 in profits per employee. Companies with childcare programs or who are considering them need to be able to measure the value of these programs as a return on their investment.

Schweinhart, Lawrence J. **"The High/Scope Perry Preschool Study Through Age 40. Summary, Conclusions, and Frequently Asked Questions"** *High/Scope Educational Research Foundation*, <http://www.highscope.org/welcome.asp>.

The major conclusions of this midlife phase of the study is that high-quality preschool programs for young children living in poverty contribute to their intellectual and social development in childhood and their school success, economic performance, and reduced commission of crime in adulthood. The study confirms that the long-term effects are lifetime effects and that the return to the public on its initial investment in such programs is not only substantial but larger than previously estimated.