



Social Sciences

Investing in Early Childhood Education Pays Dividends

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Abstract

This literature review explores the economic and social impacts of investments in early childhood education (ECE) programs across the United States, including publicly funded pre-kindergarten, Head Start, and other early care initiatives. The findings demonstrate that investments in ECE yield significant returns on investment, with estimates ranging from \$2 to \$18 for every dollar spent, driven by increased parental employment, higher lifetime earnings, and reduced public spending on education, health, and criminal justice. Social benefits include improved educational attainment, positive behavioral outcomes, and mitigation of adverse childhood experiences. However, challenges such as inconsistent program quality and sustainability of early gains highlight the need for strategic design and long-term support. Overall, the review concludes that expanding access to high-quality ECE programs represents a cost-effective public policy strategy with the potential to enhance economic stability and societal well-being for the long term.

Introduction

Investments in early childhood education (ECE) programs, including publicly funded pre-kindergarten (pre-k), Head Start programs, private child care centers, and home-based child care programs that care for children from birth to age five, have been shown to yield both financial and social benefits, positively impacting children, families, and society. The literature review

aims to explore the economic impact associated with investments in ECE, including how these programs can have a positive influence on workforce participation, productivity, and lead to long-term financial outcomes for individuals and society overall.

In addition to the economic impacts previously mentioned, investment in early childhood education programs is also

associated with important social outcomes. This literature review synthesizes evidence regarding economic and social outcomes related to investment in early childhood education programs in the United States. While early childhood education investments contribute to fostering child development, providing families with opportunities, and bolstering economies, investing in young children continues to represent a modest and decreasing portion of federal expenditures, despite the compelling evidence for these investments (Lou et al., 2023). Together, these economic and social dimensions highlight the importance of continued investment in ECE in the United States.

Economic Impacts of Early Childhood Education

High-quality early learning experiences enhance cognitive and social-emotional skills, which support academic achievement and higher graduation rates (Lou et al., 2023). Longitudinal research suggests that participation in high-quality early childhood education programs has been shown to positively impact children's future academic achievement and workforce earnings (Reynolds et al., 2011).

Researchers have studied the return on investment (ROI) of early childhood education programs for decades. The benefits of early childhood education extend beyond individual families to the broader economy. Dr. James Heckman, one of the first researchers to focus on this topic, found a 7% to 13% per year ROI, through increased school and career achievement as well as reduced costs in special education, health, and criminal justice system expenditures (García et al., 2017). Higher lifetime wages, which increase future tax revenues and reduce reliance on public assistance programs, are one of the primary drivers of Heckman's estimated ROI (Lou et al., 2023). When parents can access reliable child care,

labor force participation increases, supporting economic growth (Lou et al., 2023). In the long term, these investments contribute to a more skilled workforce and a stronger, more resilient economy (Lou et al., 2023).

Research by economist Arthur Rolnick demonstrates that investments in high-quality early childhood education programs generate substantial societal returns, including an 18% ROI through enhanced workforce participation, lower crime rates, and improved population health outcomes. His research emphasizes the importance of increasing access to high-quality early childhood education programs that have opportunities for parent engagement and can be scaled to reach large numbers of children and families, particularly families with low incomes (University of Minnesota, 2023).

Universal pre-kindergarten programs, which are free, accessible, and high-quality, have been linked to improved parental earnings and employment increases. A New Haven, Connecticut, study from the National Bureau of Economic Research found that parents of universal pre-k-enrolled children saw a 21.7% increase in revenues due to reduced child care costs and greater workforce participation. The study concluded that for every \$1 invested, there was a \$10.04 return, primarily driven by higher parental income (Humphries et al., 2024). Similarly, Washington, D.C.'s universal pre-k program, which was implemented in 2009 and offers two years of universal, full-day preschool through public schools and private child care programs, has been associated with an increase in maternal workforce participation. This was particularly true among women in families with incomes below the federal poverty level, whose participation in the workforce increased by 15% (Malik, 2024). In a study of 10 states and major cities across the United States that offer pre-k enrollment to all four-year-olds, including Alabama,

Georgia, and Florida, these areas experienced a 3.2% increase in maternal employment compared to regions without universal pre-k programs (First Five Years Fund, 2024). Furthermore, private-sector employment increased by 1.26% in the areas with universal pre-k programs (First Five Years, 2024). The number of new businesses and applications for new businesses was also higher in the regions with universal pre-k programs (First Five Years Fund, 2024).

Recent findings further support the broad economic and societal benefits of investing in children, emphasizing that well-funded early childhood education programs contribute to higher future earnings, lower dependency on government assistance, and improved public health outcomes over time (Maag, 2023). Studies have indicated that Head Start participation can lead to increased educational attainment, including a higher likelihood of earning a four-year college degree, which correlates with improved long-term economic success (Bauer, 2019).

The 2014 report, *The Economics of Early Childhood Investments* by the President's Council of Economic Advisers emphasizes societal returns from early childhood development programs, demonstrating that these interventions yield long-term benefits including increased cognitive abilities, higher earnings, and parental employment, as well as reduced criminal justice involvement. According to this analysis, every dollar invested in early childhood programs has the potential to yield an estimated \$8.60 in benefits to society, primarily in the form of enhanced future earnings (President's Council of Economic Advisers, 2014).

Insufficient access to child care for families of infants and toddlers costs the nation \$122 billion in lost earnings and revenue each year (ReadyNation, 2025). A cost-benefit analysis of the American Families Plan's proposed investment in a nationwide public preschool

program indicates that long-term economic gains from increased parental employment and higher future earnings of children would more than offset the initial costs of the program (Bivens et al., 2021).

A nationwide comprehensive review of 115 prenatal and early childhood programs—including those involved with early care and education, home visiting, parent education, and transfer programs providing cash or in-kind family benefits, such as vouchers for food, child care, housing, or health care to families—demonstrates positive economic returns. Benefit-cost analyses were conducted for 19 of these programs and indicated beneficial return-on-investment ratios ranging from \$2 to \$4 for every \$1 invested. This research demonstrates varying degrees of long-term economic impact and reveals that the programs with the most resources and longer-term follow-up practices yield the greatest returns on investment (Cannon et al., 2018).

Social Impacts of Early Childhood Education

A 20-year study of Tulsa, Oklahoma's universal pre-k program found that participants were 12% more likely to enroll in college and more likely to graduate from high school. This study found that high school students who had attended pre-k were more likely to take advanced courses, less likely to fail classes, improved their cognitive and social-emotional skills, and had lower rates of absenteeism (Georgetown University, 2024).

Another study found that participation in Head Start programs can lead to long-term benefits, which include an increase in educational attainment and positive behavioral outcomes, such as enhanced self-control and self-esteem (Bauer, 2019). Additionally, long-term research has been conducted to measure adult outcomes of children enrolled in Head Start; this research

has been associated with increased positive parenting practices, thus potentially benefiting subsequent generations (Bauer, 2019).

Adverse childhood experiences, commonly referred to as ACEs, can lead to decreases in physical and mental health and development (Centers for Disease Control & Prevention, 2021). This may be especially relevant for Mississippi children and families; ACEs are reported to be experienced by Mississippi children at a higher rate than the nationwide rate (Children's Foundation of Mississippi, 2024). For example, for 51.5% of Mississippi's children, it is difficult for their families to cover basic expenses like food and housing, compared with 41.8% of children nationally (Children's Foundation of Mississippi, 2024). It has been shown that when early childhood education programs cultivate secure, encouraging learning settings that promote resilience and nurturing relationships, the effects of adverse childhood experiences can be lessened (Britto et al., 2017).

Challenges and Considerations

Differences in program implementation and quality can lead to varying student outcomes (McCoy et al., 2017; Vermeer et al., 2016). A meta-analysis by McCoy et al. (2017) examined the medium- and long-term educational impacts of ECE programs. The study found that, while ECE participation generally led to positive outcomes, the magnitude of these effects varied based on program quality and the populations served (McCoy et al., 2017). These critiques underscore the importance of considering program design, target demographics, and evaluation methods when interpreting the effectiveness and returns on investments in early childhood education initiatives.

While many studies highlight positive returns on investment from early childhood education programs, some studies

demonstrate a more complicated picture. An evaluation of Tennessee's pre-kindergarten program revealed that initial academic improvements typically diminished by third grade, suggesting that early gains may not be sustained without ongoing academic and financial support (Lipsey, 2018).

A Head Start impact study from the Administration for Children & Families found that while the program initially improved cognitive outcomes, these gains "faded by first grade" (Bauer, 2019). Critiques of this study include inconsistencies in the treatment and control groups, as the researchers were not able to completely control program participation (Bauer, 2019). For example, some of the students enrolled in Head Start disenrolled during the study, and some of the students in the control group (not Head Start students) ended up enrolling in Head Start during the study (Bauer, 2019). Newer analyses suggest that children enrolled in Head Start experience "meaningful school readiness improvements" (Bauer, 2019).

Conclusion

Research demonstrates that investing in early childhood education programs can serve dual purposes of supporting strong economic outcomes and positive societal impacts. The provision of child care is an essential part of the economic infrastructure, as it supports parents and caregivers' access to the workforce. Rigorous studies also demonstrate that access to early childhood education programs supports positive outcomes for children by leading to improved long-term cognitive and social development and health outcomes.

Investing in early childhood is a strategic economic action for states, as it can enhance workforce participation and earnings, leading to increased tax revenues and reduced expenditures on health care and

other services (Bivens et al., 2021). Investments in high-quality, early childhood education programs have shown high economic returns on investment, making them a cost-effective public policy tool for reducing inequality and strengthening the economy as well as families' health and well-being. Expanding access to early childhood education has the potential to increase family economic stability and enhance societal well-being for generations to come.

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