

## **Long-Term Outcomes of Early Childhood Programs: Evidence on Head Start, Perry Preschool Program, and Abecedarian**

Karl Jancart, Justine Vecchiarelli, Anna Marie Paolicelli, and Kara McGoey

Overall, research on early childhood care and education (ECCE) indicates that programs meeting high-quality standards can lead to positive results in the domains of student academic success and overall life outcomes. Further, these findings suggest that this may be particularly true for children from low-income or minority backgrounds (Barnett et al., 2013; Belfield et al., 2006; Gormley & Gayer, 2005; Reynolds et al., 2002; Weiland & Yoshikawa, 2013). Long-term outcomes of programs including Head Start (Garces et al., 2002), Perry Preschool, and Abecedarian programs (Yoshikawa et al., 2013), demonstrate the potential for investment in high-quality early education to yield positive results for children in early academics that may persist through adulthood. However, the quality of early childhood education programs, even within a specific program, is not consistent, which may play a role in the outcomes of these programs. This article outlines research that demonstrates the positive outcomes of these ECCE programs, as well as factors which may potentially contribute to inconsistencies in outcomes.

### **Academic and Cognitive Outcomes**

- Early childhood education programs over the last 50 years show improvement in students' cognitive outcomes (average effect size of .23-.30 standard deviations) upon program completion (Camilli et al., 2010; Li et al., 2020).
- Meta-analysis of Head Start effectiveness shows a significant short-term impact on students' cognitive and academic skills (Shager et al., 2013).
- Both the Perry Preschool and Abecedarian programs produced large initial impacts on achievement test scores (Yoshikawa et al., 2013).
- While primarily found in girls, the Perry Preschool program enhanced academic motivation, which translated into positive academic outcomes on long-term achievement test scores (Heckman et al., 2013).
- Random assignment to Head Start has been shown to improve math, language, and literacy skills prior to kindergarten (Puma et al., 2010). However, these impacts were no longer observed by third grade (Puma et al., 2012).
- Children who participated in Head Start for 2 years prior to kindergarten entry displayed higher scores in math, science, and reading in comparison to children who had been enrolled for 1 year (Lee, 2011).
- Students who received the Abecedarian programming were observed to make moderate to large increases in cognitive test scores during the preschool years (Ramey & Campbell, 1984).
- Students who received Abecedarian instruction during preschool had better academic outcomes in reading and math in comparison to students who received the instruction only during elementary school years (Ramey et al., 2000).
- Results from a longitudinal study on the Abecedarian program suggest positive influences on cognitive and academic skills (Campbell & Ramey, 1991), which were maintained through middle school and into the early high school years (Campbell & Ramey, 1994, 1995).
- Results of a prospective randomized trial follow-up study revealed that students who received Abecedarian instruction in preschool obtained significantly higher math and reading scores from preschool years through early adulthood in comparison to a control group (Campbell et al., 2001).

- Perry Preschool outcomes demonstrated large program effects on schooling attainment (i.e., high school graduation rate; Schweinhart et al., 2005).
- Participation in classroom-based early childhood education programs leads to significant decreases in rates of special education placement and grade retention and increased high school graduation rates (McCoy et al., 2017).
- Abecedarian positive outcomes include improved grades, decreased need for special education placement, and mitigates chance of grade retention in the elementary school years (Ramey et al., 2000).
- Children who participated in Head Start were less likely to require special education services and to be identified for special education services in kindergarten (Barnett & Hustedt, 2005).
- Head Start has a positive impact on cognitive outcomes for children with multiple physician-diagnosed disabilities. While children enrolled in Head Start were more likely to have multiple disabilities overall, children who received an IEP continued to have lower cognitive outcomes than those who did not (Lee & Rispoli, 2016).
- Children with multiple disabilities who participated in Head Start demonstrated higher language, reading, and math scores in comparison to children with multiple disabilities who had not participated in Head Start (Lee & Rispoli, 2016).
- Children enrolled in high-quality Head Start programs had higher cognitive test scores than those enrolled in low quality Head Start programs; Black children, and children with a greater number of risk factors, were more likely to attend a low-quality Head Start program, while White children were more likely to attend a high-quality Head Start program (Lee, 2019).
- Children from English-speaking and higher income households who attended Head Start programs demonstrated increased cognitive outcomes (Lee & Rispoli, 2016).
- Gender gaps in reading and mathematics performance were closed from first through third grade for students who attended Head Start programs (Kreisman, 2003).

### **Social-Emotional and Behavioral Outcomes**

- Observed reductions in problem behaviors as a result of ECCE were most significant when the program quality was above a certain threshold (Burchinal et al., 2009, 2011).
- Children who attended high quality Head Start, such as REDI (Research-based, Developmentally Informed) Head Start centers, demonstrated more improvement in social-emotional outcomes (Bierman et al., 2014).
- Random assignment to Head Start has been shown to improve children's social-emotional skills prior to kindergarten (Puma et al., 2010).
- Participation in the Perry Preschool program was found to reduce children's externalizing behavior problems in elementary school (Heckman et al., 2013).
- Male children who participated in Head Start displayed less frequent behavioral problems at ages 12 and 13 (Ginja & Carneiro, 2014).
- Students who receive Abecedarian instruction in preschool were less likely to smoke marijuana and become parents during their teenage years (Campbell et al., 2002).
- Children who participated in Head Start demonstrated lower rates of depression in adolescence (Ginja & Carneiro, 2014).
- As young adults, students who had received the Abecedarian intervention were less likely to report depressive symptoms in comparison to students in a control group who did not receive the instruction (McLaughlin et al., 2007).
- Externalizing behaviors, including aggressive, antisocial, and rule-breaking behaviors, were improved by the Abecedarian program, ameliorating labor market outcomes and reducing criminal activities as a result (Belfield et al., 2006; Heckman et al., 2010).

## Adulthood Outcomes

- Both the Perry Preschool and Abecedarian early childhood programs are part of two of the most well-known randomized experimental tests of preschool interventions with long-term outcome data on behavioral, health, and educational outcomes that continue into adulthood (Yoshikawa et al., 2013).
- The Perry Preschool program significantly enhanced adult outcomes in the domains of employment, earnings, marriage, health, and participation in healthy behaviors and reduced involvement in crime (Heckman et al., 2010; Schweinhart et al., 2005).
- The Longitudinal Perry Preschool program results indicate that participants who experienced the program were more likely to graduate from high school, hold a job, and have higher earnings (Yoshikawa et al., 2013).
- Students who received the Abecedarian program during preschool achieved a greater number of years of education (Campbell et al., 2002).
- While primarily observed in White participants, Head Start students were more likely to graduate from high school and attend college, increasing their earning potential in early adulthood (Garces et al., 2002).
- At age 21, students who were in the Abecedarian program were more likely to be enrolled in a 4-year postsecondary program or have a job that requires specialized training than control group participants who only received the intervention during elementary school or did not receive intervention at all (Campbell et al., 2002).
- Young adults who had participated in Head Start demonstrated reduced likelihood of engaging in criminal activity and idleness (Garces et al., 2002; Ginja & Carneiro, 2014).
- The Perry Preschool program played a significant role in reducing overall arrests, property and drug crimes, and prison/jail sentences over study participants' lifetimes up to age 40 (Schweinhart et al., 2005).

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