

## Quality Early Childhood Interventions: A New Hope for Addressing the Academic Achievement Gap

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Over 50 years after *Brown v. the Board of Education* officially ended segregation, educational outcomes for African American students are still substantially lower than those for students of other races. Current interventions, most of them aimed at K-12 programs, have failed to close this gap. However, model early childhood programs show much promise in addressing these disparities.



### INTRODUCTION

Information from the 2007 National Center for Education Statistics's *Status and Trends in the Education of Racial and Ethnic Minorities* indicates that, although the gaps have closed somewhat since the early 1970s, on average, African American students' achievement test scores are below the level of other races. Moreover, African American students are retained at a higher rate than those in other groups and only Hispanic students drop out of school at a higher rate than African American students (KewalRamani, Gilbertson, Fox, & Provasnik, 2007).

Although their participation in Advanced Placement exams and college admissions tests have increased, African American students' scores remain, on average, the lowest of all racial/ethnic groups (KewalRamani, Gilbertson, Fox, & Provasnik, 2007; Kobrin, Sathy, & Shaw, 2007). While minority undergraduate college enrollment has increased, African American undergraduate students' college enrollment increased at the lowest rate (KewalRamani, Gilbertson, Fox, & Provasnik, 2007).

Several nationally based programs have been implemented to address the achievement gap such as Head Start, Title I, and the No Child Left Behind Act of 2001 (NCLB). Currently, there is limited evidence of the long-term success of these programs (Currie & Thomas, 1995; Darling-Hammond, 2007; Farkas & Hall, 2000; Lee, 2006)

### IMPLICATIONS OF THE ACADEMIC ACHIEVEMENT GAP

Many of the benefits associated with higher earnings are primarily outcomes of education (Carneiro & Heckman, 2003). Therefore, it is reasonable to conjecture that the abiding racial difference in academic achievement may negatively impact many of the 37 million (U.S. Census Bureau, 2005) African Americans in the United States. The persistent achievement gap may also translate to a persistent opportunity gap in America (Carneiro & Heckman, 2003). Conversely, positive changes in educational outcomes and earnings for African Americans would serve to reduce current racial differences in important areas such as family structure, crime, and health care (Jencks & Phillips, 1998).

### A DIFFERENT APPROACH TO CLOSING THE GAP

The failure of current interventions to narrow the achievement gap may indicate that the remedial approach presently utilized in America's educational system is not working optimally. While it is becoming increasingly clear that school-based interven-

tions begin too late and are unable to repair shortcomings in early skill development (Heckman & Masterov, 2007), quality early childhood interventions may be an approach to closing the achievement gap. Furthermore, this approach has shown to be both effective and efficient in producing cost effective, long-term positive outcomes for children who come from low-income or single-parent families or from families in which the mother has less than a high school education (Barnett, 1995; Heckman & Masterov, 2007; Karoly, Kilburn, & Cannon, 2005; RAND Corporation, 1998; Schweinhart, n.d.)

**Table 1**  
**Some Positive Outcomes of Model**  
**Early Childhood Interventions**

- **Higher test scores**
- **Reduced grade retention**
- **Fewer special education assignments**
- **Improved high school completion rates**
- **Lower rates of juvenile arrest**
- **Higher employment**
- **Higher incomes**
- **Less time on welfare**
- **More likely to have health insurance**
- **Less likely to have depressive symptoms**

Research suggests that quality early childhood programs are associated with a variety of improved educational and social outcomes for low-income and minority children (See Table 1) (Barnett, 1995; Carneiro & Heckman, 2003; Heckman & Masterov, 2007; RAND Corporation, 1998). Several model programs that serves predominantly African American participants such as the Carolina Abecedarian program, the Chicago Child-Parent Center Program, and the High/Scope Perry Preschool Program have been studied extensively by researchers (Barnett, 1995; Campbell & Ramey, 1995; RAND Corporation, 1998; Reynolds, Temple, Robertson, & Mann, 2001; Schweinhart, n.d.).

While no one program yields in the entire range of desirable outcomes, these model programs produce a wide variety of significant positive results, especially in the areas of education and cognitive and emotional development (Carneiro & Heckman, 2003; Heckman, 2006; RAND Corporation, 1998; Reynolds, Temple, Robertson, & Mann, 2001). The Carolina Abecedarian program resulted in statistically significant short term improvement in IQ, both long and short term improvement in educational achievement and reduction in special education placement and grade retention. The Chicago Child-Parent Center Program significantly improved both long and short term achievement and decreased grade retention (RAND Corporation, 1998). Longer term studies of the Chicago Child-Parent Center Program showed participants having higher rates of educational attainment and health insurance and lower rates of criminal behavior and depressive symptoms (Reynolds et al., 2007).

Significant improvements in High/Scope Perry Preschool Program participants included short term IQ, both long and short term achievement, special education placements, high school graduation, higher income and less reliance on welfare (RAND Corporation, 1998). By age 40, participants in this program had completed more schooling, were more likely to be employed with higher median incomes, and more of them owned their own homes (Schweinhart, n.d.).

Not only do early intervention programs produce positive results for disadvantaged children they are more cost effective overall when compared with later, remedial interventions such as job training and high school equivalency programs (Carneiro & Heckman, 2003; Heckman, 2006; RAND Corporation, 1998). Estimates of savings for the High/Scope Perry Preschool Program were approximately \$244,812 per participant on an investment of \$15,166. Of these savings, \$195,621 accrued to the general public and included reduced crime, better education outcomes, taxes from higher incomes, and reduced use of welfare (Schweinhart, n.d.).

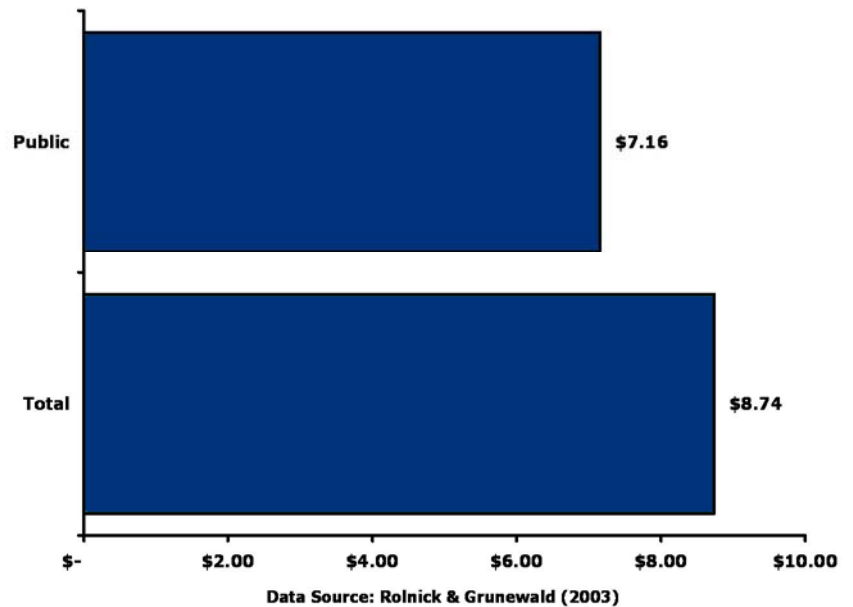
## **IMPORTANT ISSUES FOR EARLY CHILDHOOD INTERVENTIONS**

Opinions about the scope of public early childhood programs differ substantially. Some propose universal preschool for all children, much like the current K-12 system. Others recommend targeting only disadvantaged students for services (Barnett, Brown, & Shore, 2004).

Public early childhood intervention programs that target the neediest students would be both less expensive and more efficient than universal programs. Serving fewer children reduces costs while targeting those who benefit most ensures the most efficient use of available funds (Barnett, Brown, & Shore, 2004; Currie, 2001). Programs that target relatively small numbers of students are also better able to provide quality programming that is essential to improving outcomes, especially for disadvantaged children. Lastly, the smaller budget needed for these programs is more likely to draw public support (Barnett, Brown, & Shore, 2004) especially in times of economic downturn when budgets are strained.

Another issue for early childhood programs is the difference between model programs and large scale, public programs. Researchers vary in their opinions as to whether model programs can be effectively implemented on a large scale given that model programs usually have smaller classes, more staff members, better educated staff members as well as better supervision (Barnett, 1995; Currie, 2001). On the other hand, if Head Start produced even 25% of the long term gains generated by model programs, the program would pay for itself in future benefits (Currie, 2001). Additionally, economists estimate the rate of return for early intervention programs targeting disadvantaged children are approximately 16%; 12% of which returns to society at large (Rolnick & Grunewald, 2003) (See Figure 1).

**Figure 1. Estimated Return for Each \$1 Invested in the Perry Preschool Program**



Although research indicates that early childhood interventions are highly effective, especially for disadvantaged children, these programs require considerable investment. While costs accumulate immediately and some benefits are recognized within a relatively short time frame, other benefits may not be realized for many years after leaving the program (RAND Corporation, 1998). The decision to pursue early childhood interventions will need the support and commitment of not just various political entities but successive administrations at both state and federal levels.

Funding for public education is based on the understanding that everyone benefits from an educated workforce. Thus, it may be difficult to reflect on the relevance of a new program when so many of this nation's schools are already underfunded. Yet to pursue traditional avenues of educational improvement simply continues the same trends that have shown to be ineffective.

## RECOMMENDATIONS

- Implement and rigorously study model early childhood programs to determine which can be effectively and efficiently operated on a large scale.
- Develop an economically and politically sound basis for operating these programs.
- For best results, high-quality early childhood programs must be followed by sustained, high-quality learning experiences (Carneiro & Heckman, 2003; Currie & Thomas, 2000; Heckman, 2006).

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