

The Effectiveness of Early Intervention Programs

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Introduction

Early education programs are the most promising measure to invest in America's schools. It is a method by which the cycle of poverty can be stopped before the detrimental educational, mental, and social effects of living in poverty have time to set in. It also provides the opportunity for children from low socioeconomic backgrounds to build their capability to a level at which they would never achieve if they spent some of their most formative developmental years in the poor-quality preschools that their parents are able to afford. Childhood poverty has been linked to some negative outcomes such as reduced academic attainment, higher rates of non-marital childbearing, and a greater chance for health problems. Deep and persistent childhood poverty also increases the chances that the child will grow up to be poor as an adult, therefore giving rise to the intergenerational transmission of economic disadvantage (Magnuson and Votruba-Drzal). Although there is significant promise in these early intervention education programs, there are still a multitude of problems in the education programs that exist. Head Start is a national program intended to provide a stimulating preschool environment to help underprivileged children enter school at the same level as their more advantaged peers. However, with the startling achievement gap that still exists in America, it is clear that Head Start, and state-run prekindergarten programs like it, is not achieving its goal. Therefore, this paper takes a look at several of the more successful early intervention programs, and drawing on the costs and benefits of each, concludes with recommendations to improve these programs that are the best way to invest in today's children.

Defining the Gap

The United States, which at one point soared above other developed nations in education, is now falling dramatically behind. The U.S. ranks 21st out of 25 developed countries in education achievement for 15-year-olds. Although this statistic concedes that a significant percentile of students are struggling, minorities and poor children are falling the furthest behind. A significant achievement gap persists in schools, and while it is not necessarily getting any larger, it is not shrinking either. It is evident the toll that underdevelopment plays when looking at the scores from standardized tests that schools distribute at the end of each year.

Underdevelopment refers to the lack of capability in terms of social, emotional, and educational development. More than 60 percent of fourth grade public school students' math or reading

skills are below grade level. Even more staggering is that 85 percent of black and 84 percent of Hispanic students are reading below grade level, with similar statistics in math. This indicates

the glaring reality that a large percentage of the students accounting for the lower end of the achievement gap are from low-income minority families. The gap should not only be based on intelligence though, as behavioral problems and soft skills also figure greatly into the disadvantages students from the lower portion of the gap face. Based on the number of suspensions in 2006, 14.982 out of 100 were black students, whereas only 4.76 were white. Hispanics totaled 6.77 out of 100. This indicates that achievement gap may also have a correlation with behavioral problems.

Based on data from the National Assessment of Educational Progress (NAEP), family income plays a role in a child's achievement in school. NAEP uses student eligibility for free or reduced-price school lunch as an indicator of family income (NAEP 10). Even when controlling

for student low socioeconomic status, there is still a significant gap between white and black student test scores. In 2007, there was a 17-point gap between the average 4th grade mathematics score for white and black students. In 8th grade the gap between black and white students eligible for free lunch was even larger at 21 points (NAEP 11). The results for low-income students on reading tests were similar. The gap between average test scores for white and black low-income students in 4th grade was 16 points. In 8th grade the gap increased slightly to 19 points. This shows that simply pulling out low-income student's test scores does not completely account for the gap, meaning that there must be other factors that are more significant. By measuring a student's socioeconomic status on free lunch eligibility, it does not account for family structure, environment, or health, all of which could play a huge role in determining academic success. There are three significant pathways through which child poverty may affect development: family and environmental stress, resources and investment, and cultural backgrounds (Magnuson and Votruba-Drzal 155). These three factors contribute to the development of cognitive, social, and emotional processes, without which, a child is not mentally prepared for school.

Causes of the Gap

Child development plays a pivotal role in setting a course for achievement. The early years are the most critical period for children to develop social, emotional and cognitive competencies that lead to healthy development and behaviors and academic success, especially the period from birth to 5 years old. Childhood poverty is detrimental in every way to the development of children. It is associated with less adequate nutrition which affects growth and health, lower scores on mental tests, higher rates of academic failure, and higher incidences of

school dropout (Campbell 42). The first five years of an infant's life are critical in terms of development and research has shown that children subject to severe stress or emotional trauma have abnormalities in the ambient levels of stress hormones. High levels of stress hormones "have been associated with an inability to pay attention and a lack of self-control in humans" (Currie 221). Once they get behind in these instrumental development years, as well as the early years of elementary school, it is hard for them to gain the skills they are lacking.

Another factor that helps understand the achievement gap is the environment in which the lower achieving students live and go to school. Most students that score poorly on achievement tests go to lower-income, lower-resource schools with high minority populations. A growing point of debate in the United States is the current increasing re-segregation of schools. In 1968, after *Brown v. Board of Education* outlawed school segregation, 77 percent of black students were in predominately minority schools, meaning more than 50 percent of the population were minority students. While that number decreased, reaching a low of 63 percent in 1988, the number has spiked back to 73 percent in 2006, just under what it was in 1968. The majority of these predominately minority schools are in impoverished neighborhoods where teachers are more likely to have less experience, less training and fewer advanced degrees than teachers in more affluent neighborhoods. This further attributes the growing educational gap to environment, especially within the school system. There is very little opportunity to switch schools; therefore, some suggest allowing parents to have a greater selection of schools to send their children to, especially for low-income families, which would give low-income parents "the opportunities that wealthier parents have always had" (Jacobs and Ludwig 283).

It is evident that the gap is cemented within the first few years of a child's life, as a survey of kindergarten teachers by the Carnegie Foundation for the Advancement of Teaching

(1991) reported that only 65 percent of incoming students were ready to learn. Although it would be assumed that teachers were basing readiness on cognitive abilities, however the attributes they found most important were being physically healthy, rested, and well-nourished, as well as communication skills, enthusiasm, curiosity, and ability to pay attention. All of these skills could be lacking in a student coming from a low income family background in which one or both parents work all day, and in return the child receives poor quality childcare.

The Need for Early Intervention

Although the gap is not growing significantly, it is not closing fast enough either. This is where early intervention programs are essential to provide a leg up to underprivileged students who start school at a disadvantage, and continue to struggle throughout their education.

Research in several fields, including neuroscience, developmental psychology, and economics suggest that the early years are a particularly promising time to intervene in the lives of low-income children (Jacob and Ludwig 270). Several risk factors have been associated with low educational attainment, such as low test scores, grade repetition, suspension, expulsion, and retention rate. Risk factors include parents who never graduated from high school, coming from a low-income or welfare-dependent family, living in a single-parent family and parents who speak a language other than English at home (DHHS 7). The National Research Council's (2000) report on early childhood education and intervention classifies skill development into three areas: cognitive skills, school readiness, and social and emotional development (214). All three of these aspects play a huge role in determining the level of school readiness at which students start. The one that has gained legitimacy particularly in the past decade is social and emotional skills. The ability to sit still and pay attention may play a significant role in

developing full formal cognitive skills. This is where early intervention programs can play a crucial role in closing the gap by building capability during the most formative years before the child has an opportunity to fall behind. Early education intervention programs can be studied on the costs they incur compared to the benefits they provide the children. One of the main arguments against government intervention in early intervention education programs is the financial burden that they incur. However, it is important to examine the costs for each program, and then compare that to the benefits for each. The money invested in developing soft skills and educational achievement for at risk students could save money in the long run if it is effective enough to prevent these students from becoming recipients of welfare, or keeps them from ever being incarcerated. A child that eventually ends up on the welfare rolls “imposes a tax burden on other citizens, a cost which may not be considered by the [more affluent] parents when they decide on investments in the child’s human capital” (Currie 216). Early childhood educations also have the potential to prevent future labor force and crime problems for participants, leading to an associated reduction in social costs (Temple and Reynolds 127).

Although there is not enough research, studies that have been conducted clearly indicate the importance of providing comprehensive interventions with an emphasis in language and pre-academic components such as basic literacy skills, proficiency in number and shape recognition, and soft skills such as eagerness to learn and ability to pay attention (DHHS 17-8). For the most part, children from lower socioeconomic backgrounds attend whatever preschool they can afford, no matter what the quality. The only other alternative would be to stay at home, neither of which provides much stimulation and development opportunities for the child.

We will look at several early intervention programs to determine what programs worked and which ones did not, and make a proposal as to the most effective program to help close the

achievement gap. There are several important studies or programs that will be the focus including Carolina Abecedarian, High/Scope Perry Preschool Project, and Chicago Child-Parent Centers. These are the most well-known early intervention programs as they have the most evidence on longer-term benefits (Garces, Thomas and Currie 1000). Head Start is also a major education program, which is especially significant as it shows the success of an intensive education program for impoverished children on a much more expansive scale than stylized model programs. It does not have as conclusive long-term results as it is harder to measure results; however, more studies have been released in the past decade that attempt to analyze the cost and benefits. There are strengths to each program; however, there are many ways in which they could improve. This paper will take a look at each of these programs, and then make suggestions as to what combination of factors would make the most effective early intervention program.

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Early Intervention Programs to Consider

Head Start

Background

Head Start is a preschool program which aims to improve skills of disadvantaged children that will help them be more successful in school and start on a more equal footing with their more advantaged peers. It began in 1965 as part of President Johnson's "War on Poverty," and is now the largest early intervention program serving 800,000 children in predominately part-day programs. It is administered by the Head Start Bureau within the Administration for Children and Families in the U.S. Department of Health and Human Services (Henry, Gordon and Rickman 80). Head Start is a comprehensive early childhood development program serving

children ages 3-5 from low income families aimed at providing education, health and social services to the children and their families (DHHS 2). It serves approximately 50 percent of the eligible three and four-year-old poor children (Currie 213). Eligibility for the program is based on family income, which includes children from families with incomes below the federal poverty line of \$18,400 for a family of four (Henry, Gordon, and Rickman 80). Nationally, Head Start has five main objectives on which it bases performance measures: enhance children's growth and development, strengthen families as the primary nurturers of their children, provide children with health, nutritional, and educational services, link families to needed community services, and ensure well-managed programs that involve parents in decision-making. It achieves these goals by focusing on academic skills needed for school readiness as well as promoting employment and self-sufficiency goals for adults (Henry, Gordon and Rickman 81). It is the most expansive early intervention education program in the United States.

Cost/Benefit Analysis

Funding for Head Start was approximately \$65 million in 1965, but since then funding for the program has increased, totaling \$7.2 billion in 2010 (Bornfreund). In 1998, it cost \$5021 to keep a child in a part-day Head Start preschool program for 34 weeks a year, thus for the two years children are in the program, it would cost approximately \$10,000 (Currie 221). This may seem a steep price to pay for each child, yet Head Start only costs 60 percent of what model programs like Carolina Abecedarian and Perry Preschool intervention, which will both be explored later in the paper (Currie 221). It is easy to measure short-term effects of Head Start, as test scores and attrition are clear indicators of if a student is succeeding. These are two small facets; however, those are at least a start to monitor whether a student is falling behind to the lower end of the achievement gap.

The study conducted by the Department of Health and Human Services collected data on Head Start enrollees from 2002 to 2006, following two years of participants. They found that the children clearly experienced an improved experience during the preschool years. For the 4-year-old group, benefits at the end of one Head Start year were mainly concentrated in language and literacy elements, including increased vocabulary, spelling, pre-academic skills, and parent-reported emerging literacy. For the 3-year-old group, improvements were seen in a much broader range of categories including phonological processing, perceptual motor skills and pre-writing, applied math problems, and several soft skill categories (Head Start Impact Study iv). However, when the children were examined at the end of 1st grade, few significant differences in cognitive development were apparent. Both cohorts only exhibited significantly stronger skills in vocabulary and oral comprehension. However, the 3-year-old cohort showed improved social and emotional skills like hyperactive behavior, positive approaches to learning, and overall problematic behavior. They were also shown to have closer relationships with their parents (HSIS IV). However, certain subgroups of children showed stronger results. Between the two cohorts, subgroups that showed favorable impacts through 1st grade were children with lower cognitive skills, children of parents with mild depressive symptoms, children from higher risk households, and children in non-urban settings. Overall, short term benefits include improved health and nutrition and prevention of abuse and neglect. Medium-term benefits range from the reduction of children in special education programs to benefits that are associated with greater grade retention (Currie 232). These students will again be assessed at the end of 3rd grade to determine the impacts of Head Start on initial school readiness are altered or maintained as children enter pre-adolescence.

Strengths/Weaknesses

Many criticize Head Start for not reaching its full potential. The program has the right intentions, and could better re-allocate its resources to better serve children from low-income families to more adequately prepare them for school. Although the test scores show that Head Start children show progress in cognitive skills and emotional and social development, they still score “significantly below their more advantaged peers once they enter school in areas essential to school readiness, such as reading and mathematics” (DHHS 1). These concerns challenge the justifications for maintaining high levels of funding to Head Start. The research conducted by the Department of Health and Human Services in 2003 concluded that Head Start needs to encourage more emphasis on “pre-reading, language, pre-mathematics and emotional competence as part of school readiness” (DHHS 33).

Test results show that children from all racial backgrounds, there is significant gains in test scores associated with Head Start. However, these effects are shown to taper out during elementary school for African American participants. For whites, the effects are seen to persist longer into early adolescence and have lower rates of grade repetition. It is clear that significant improvements were made during their time in Head Start, yet it is frustrating to see how the progress disappears as soon as 1st grade. This is clearly due to environmental factors in the schools. A higher percent of Head Start children attend “schools with much higher levels of poverty than schools nationwide and were in schools with higher proportions of minority students” (HSIS x).

The most crucial weakness in Head Start is that it gives intensive attention to high-risk students for 2 years, then sends them to elementary school and ends involvement. This allows them to reenter their environments, which detrimentally impacts their cognitive abilities if they are no longer receiving the same stimulation as they had during their time in Head Start. The

children show positive achievement during their time in the program, yet when they leave most of those returns slowly fade out. After one year enrolled in Head Start, 3-year-olds show cognitive improvement in 8 categories ranging from letter-word identification to applied problem solving. Yet by first grade, they only show increased cognitive abilities in one area, oral comprehension (HSIS xiv). Although they don't show significant decreases in these areas, they don't show any further improvement, which shows the effectiveness of the program tapers out. This is where it is essential to establish a follow-up program that continues with the participants through their first few years of elementary school. This will be effective because it will help the child retain the positive growth they obtained in Head Start despite the potential barriers their environment or lower quality education setting may encourage.

The Chicago Child-Parent Center Program

Background

The Chicago Child-Parent Center Program Longitudinal Study followed 1,539 low-income, mostly African American children who attended a CPC center starting in the 1983-1984 school year. The study group consisted of 989 participants and the other 550 were part of the comparison, or control, group. The study followed them 19 years, up to the age of 22, which is when the last update occurred, however data continues to be collected (Temple and Reynolds 130).

CPC provides the most comprehensive out of all the studies in this paper by implementing intensive parent involvement, outreach services, and attention to health and nutrition. It is still functioning today, having been established in the public school system of Chicago (Temple and Reynolds 130). Currently, the Chicago Public Schools operate 11 federal

Title I CPC sites. CPC programming is currently only available to children in preschool. To be eligible to participate in the CPC program, children must attend schools that receive Title I funds. The program still places a strong emphasis on parental involvement, as one of the requirements is that parents must commit to volunteering at a CPC on a weekly basis. The centers conduct outreach activities to recruit families who are in need (Promising Practices Network).

The Chicago Child-Parent Center Program (CPC) addresses some of the crucial problems that Head Start faces. Whereas Head Start is a two-year program, CPC is a program for “low-income minority children in high-poverty neighborhoods in inner-city Chicago...includes half-day preschool for one or two years, full or part-day kindergarten, continuing support services in linked elementary schools, and a parent education program” (DHHS 19). Children are able to participate for up to six years in order to avoid fade-out effects. This covers early childhood development and follows the children through their education and educates parents in ways to better encourage their children. Getting parents involved is an important difference in this program from Head Start because it helps to promote a better home environment, without which any progress the program makes will be nullified. Another significant aspect of CPC is that its teachers are required to have a bachelor’s degree, and are paid at the same level as public school teachers. This is compared to only half of Head Start classroom teachers that are required to have an associate, baccalaureate, or advanced degree in early childhood education (Henry et al. 81). By requiring teachers to obtain a degree, it close to ensures that children in the program will be under the supervision of qualified and quality instructors.

Cost/Benefit Analysis

The average cost per child for 1.5 years of participation is \$6,692 but the estimated returns to society totals \$47,759 per participant. Total benefit per dollar invested was \$10.15, and the total public benefit per dollar invested was \$6.87, which are both impressive levels of return benefits (Temple and Reynolds 132). This is a result of the participants increased earnings capacity due to higher educational attainment, decreased incarceration rates, reduced remedial costs in schools, and averted tangible costs to crime victims (DHHS 20). The National Institute of Health funded a longitudinal study that compared participants in CPC to a non-experimental group of children with similar demographics (DHHS 19). By the end of 3rd grade, participants outscore children of similar demographics by four to six points in reading and mathematics achievement. Even at age 14, significant score advantages were present, averaging 5.5 points for reading and 4.2 for math compared to the control group. Measurable effects are seen up to 10 years out of the program, which is unique in early intervention programs (DHHS 19).

Participation in CPC also showed lower rates of grade retention, 23 percent for participants as compared to 38.4 percent of those in the control group. Results also showed a higher rate of high school completion and lower rates of juvenile arrests (DHHS 20). Although the results were not on par with national averages, they are a considerable step up from the outcomes of children not enrolled in an early intervention program.

Strengths/Weaknesses

CPC is by far the most comprehensive early education program. It involves each participant's parents, which helps merge the gap between the high levels of stimulation in school with the potentially less attention at home. This along with the longevity of the program helps to fix some of the many problems seen in Head Start. However, CPC serves less children and costs

significantly more than Head Start. It is concentrated solely in the Chicago area, therefore it has not been tested on a wider-range audience, leaving the question as to its effectiveness on a larger scale. Out of all the programs, CPC is the most promising. It combines environmental factors such as parental involvement with wide-ranging curriculum that starts early enough to hope to prevent developmental hindrances. By combining these factors, it creates a program that reforms children's lives, much better than Head Start provides. It is important to utilize this method because just having a preschool program for two years will not have lasting effects. Some of these ideas may be less cost-effective, however it is clear that the benefits are worth the investment.

Carolina Abecedarian Project

Background

The Carolina Abecedarian Project, which started in 1972, was a carefully controlled study of infants from low-income families in a small rural town in North Carolina. Fifty-seven infants were assigned to receive high quality early intervention, whereas 54 were randomly assigned to the control group. The program, which included cognitive development activities and focused on emotional and social development, involved full-time educational intervention in a high quality child care setting ran from 18 months to age 5 (DHHS 21). As Head Start does not start until age 3, this program offered intervention programs at a much earlier age. The study allowed for the comparison of children that received different levels of treatment in that there were other groups, one of which provided services for 8 years for pre-school and school-age phases, a 5 year group that only received the preschool treatment, a 3 year group that solely received the school-age phase, and an untreated control group that received no intervention

(Campbell 43). The preschool intervention provided a curriculum to enhance the early child care environment stimulated cognitive development. The school-age treatment focused more on family and school mediation to support early learning in the primary grades (Campbell 43). The study was the most extensive and lengthy out of those discussed in this paper, providing full-day, year round care for high-risk impoverished children for approximately 5 years starting at 6 weeks of age. Medical and nutritional services were also provided (Temple 129-30). Teachers in this program were required to have bachelor's degrees, just as they were in the Chicago program. They conducted follow-ups at ages 12, 15 and 21.

Cost/Benefit Analysis

At age 21, 105 of the original 111 participants were living and eligible for the follow up. One declined to take part in the follow up, so with 104 results monitored, an overall retention rate of 93.7 percent for the duration of the program was recorded (Campbell 45). Economists have estimated that for every dollar spent, the program should return approximately \$3.78.

Public benefit per dollar invested was approximately \$2.69.

It was clear that treated children scored significantly better on reading and math tests. However, test scores were still below national average in the treatment group. When reassessed at age 21, the study found that the treatment group had significantly higher rates of school retention and college attendance, as well as in most every other measurable category. However, the numbers for most were not staggeringly different, although the treatment group had double the number of people attend college than the control group. The treatment group also saw higher rates of employment, although the rates at this point weren't significantly different compared to the control group. One specific improvement was that although there were not significantly

more employed from the treatment group than there were for the control group, however there was a significant difference in the level of employment they reported (51).

Strengths/Weaknesses

This program provided valuable information on the effects of extensive educational intervention on mainly African American children from impoverished backgrounds. One major weakness is the size of the study. A little over 100 children were monitored in this study, which provides somewhat limited results. Also, since 98 percent of the participants were African American from low socioeconomic backgrounds, this study only provides findings for a small segment of the population. This program was the most extensive conducted, therefore had a different set of conclusions to compare the rest of the programs to.

High/Scope Perry Preschool Program

Background

Many of the early intervention programs developed over the past 40 years are based on the findings of the High/Scope Perry Preschool Program. The program, conducted at Perry Elementary School in Ypsilanti, Michigan during the 1960s, consisted of a 2.5-hour preschool program on weekdays, weekend home visits from the teachers, and parent group meetings. It was conducted with 123 3- and 4-year-old black children that were subsequently randomly assigned to a control group and a treatment group. It was conducted with three sequential years of students, the first group of 4-year-olds receiving only one year of schooling, whereas the following two classes of 3-year-olds remained in the program for 2 years (Nores et al. 246). The curriculum heavily emphasized supporting children's cognitive, social, and emotional development through active learning. Participants learned to plan, carry out, and assess their

own activities as well as received encouragement to make choices, problem solve, and engage in activities (Heckman et al. 8). Eligibility was determined by survey findings that located disadvantaged children through measuring IQ scores and a family socio-economic index (Heckman et al. 9). The participants were randomly assigned and placed into either a treatment or control group for 2 years and followed through age 40. As follow-up interviews were conducted at ages 15, 19, 27, and 40, they collected information on earnings, employment, education, and crime as well as several other factors (Heckman et al. 3).

Cost/Benefit Analysis

The program was incredibly expensive because of the intensive nature of the study, and the amount of resources that were allocated to it, as it totals \$17,759 in 2006 dollars (Heckman). However, the societal returns were almost six times the original cost, at \$88,433 per participant set up against higher earnings, reduced crime, and reduced welfare transfers. The total and net benefits for each participant, mainly in terms of higher earnings, were \$18,570 (Belfield et al. 163). When breaking it down even further, the cost/benefit ratio was calculated to be 7 dollars for every dollar spent (Campbell 2 et al. 464). The females in the study achieved the educational achievement encouraged by the Perry program at higher rates. They were more likely to receive less special education, progressed more rapidly through grades, earned higher GPAs, and attained higher levels of education than females in the control group (Heckman 14). Positive impacts were seen in tests leading up to school entry and at age 7, showing that the program did in fact enhance average school readiness. At age 14, participants scored higher than the control group on math, reading, and language achievement tests and at age 19, general literacy skills were better for the treatment group than for non-participants. At age 27, participants earned higher incomes and economic status as well as higher educational achievement levels.

Participants also exhibited lower incarceration rates. Whereas 48 percent of the no-program group had ever been arrested for a violent crime by age 40 in the no-program group, this was only true of 32 percent of the program group (Belfield et al. 170). By age 27, the program showed to be a significant economic investment (DHHS 21).

Strengths/Weaknesses

One of the more important benefits of the program was that it enhanced labor market opportunities either due to enhanced skills, or through higher educational attainment (Belfield et al. 166). The difference in employment levels was higher than that of the control group, although not by much. The significant difference was in the quality of employment between those who had participated in the program and the control group. The participant group saw far better employment opportunities.

Although the findings from the program are beneficial in understanding the effects of early childhood development programs, there are clear holes in the methodology of the study that critics have pointed out since the study began. One of the major concerns is the small sample size of 123 total participants, the lack of substantial long-term improvements in IQ, and the absence of statistical significance for many estimated treatment effects (Heckman et al. 3). There was also significant switching of groups after the randomization at the beginning of the study. This raises concerns as to the results of the study, however there are still significant positive effects related to the Perry Preschool Program despite these errors.

Perry Preschool was also extremely expensive, which is unrealistic when looking to nationalize a program that would receive approval and funding from the federal and state governments. The amount of resources each child received was at a rate that could not be sustained by what funding from the government could sustain. Another impractical part of the

Perry Preschool program, which is also seen in the case of Carolina Abecedarian, is the use of PhDs and several other highly trained professionals trained in early childhood education. Not only is this expensive, but it is also impractical to think there would be enough researchers of that caliber to be placed in Head Start classrooms around the country.

Recommendations

Early intervention is a powerful tool in averting the cycle of poverty for high-risk children in America. These programs provide the opportunity to avert later delinquent behavior and prevent welfare dependence. By preparing students for educational achievement, it gives them the tools they need to be a successful member of society. Most assistance programs later in life, while essential, only help to support impoverished people financially instead of investing in human capital. It also gives them the soft skills as well as cognitive abilities to improve their situation. These statements, while rather idyllic, have validity through the results of the early intervention programs examined in this paper. However, each of these programs has its weaknesses; therefore, the rest of this section will propose a combination of the best elements of each to come up with a suggested plan to improve early intervention programs while keeping it cost effective.

1. Reform Head Start

Carolina Abecedarian, Perry Preschool and Chicago Child-Parent all consisted of more focused study groups, contained to a small region, thus marginalizing the results to some extent. Whereas many aspects of each of these programs are effective, it would be impractical to nationalize all of them. Head Start is the most nationally established program in America, therefore the most logical solution would be to draw on some of the best aspects of each of the

model programs and implement them in Head Start. Currently, Head Start is not eliminating the gap in educational skills and knowledge needed for school because it is not doing enough to enhance the language, pre-reading, and pre-mathematics knowledge and skills that are important for school readiness (DHHS 2). By universalizing Head Start, it would also make it available to more children, which is essential in closing the gap. The fact that only 50 percent of eligible children are able to participate in Head Start is not acceptable.

2. Longer Program Participation

Head Start ends after preschool, therefore allowing children to be reintroduced into their environments, many of which are high-risk, inner city neighborhoods. This increases the likelihood that the students will regress, which may be the reason success rates fade out as children move through school. This is why it is important to establish coverage to correct this problem, examples of which have been seen in CPC and Abecedarian. The Chicago program follows children up to age 9, which could significantly reduce the rate of which they regress.

Following the participants for longer will also help solidify the skills they learn in the one or two years of preschool, since those time frames alone are not enough for the student to miraculously bridge the achievement gap and score on the same level as his or her more advantaged peers from kindergarten on. A way in which this can be achieved is by creating an after school program, which would replace whatever program each school already had with more structured curriculum and activities. However, it is not only important to extend Head Start into elementary school, but it is also important to provide services earlier. Strides are being made in this direction with the creation of Early Head Start. Now it just needs to be more emphasized in terms of the most at-risk children.

3. Further Parental Involvement

Another really important aspect that needs to be further emphasized is parental involvement. Studies have found that for CPC, the greater investment on parental support has shown impressive dividends which are only significant because it far surpasses any Head Start program ever evaluated (Mendel 2004). Children are only at school for 4 or 5 hours a day, leaving the rest to their guardian. If the child is not stimulated at home on the same level as they receive in school, the effects will undoubtedly be marginalized. Parents play a key role in encouraging children, so it is important to get them involved in the program. It would also be significant to provide them with parent education programs, also seen in CPC. This would provide parents with the tools they need to help their children succeed, most of which impoverished parents aren't as commonly aware.

There are by far more things that need to be changed, however these are the most important.

Conclusions

The easiest and most cost effective way in which to achieve these goals is by reforming a program that is already nationally established. Head Start could be a great early education program if some of these reforms are taken into consideration. Significant attention is currently focused on Head Start with a national budget crisis constantly looming overhead, with several politicians suggesting drastic cuts to the program. This would be seriously detrimental and counterproductive because early childhood programs are looking towards the future. These programs, if invested in now, will yield returns that are incredibly worth the cost.

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