

Benefits and costs of investments in preschool education: Evidence from the Child–Parent Centers and related programs

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Abstract

We discuss the evidence on the effectiveness of preschool programs using results from three well-known intervention studies: the Chicago Child–Parent Centers, High/Scope Perry Preschool Program, and the Carolina Abecedarian Project. Results from cost–benefit analyses of other programs for younger and older children also are reported. Given that the Child–Parent Center Program is an established, large-scale preschool program for which a cost–benefit analysis has been recently completed, we focus on this program. We examine the longer-term effects in more detail and we investigate the robustness of estimates used in the cost–benefit analysis. Depending on the assumptions made, our results indicate that the benefit–cost ratio for the preschool program offered by the Child–Parent Centers ranges from \$5.98–\$10.15. We find strong evidence that the consistently positive economic returns of high-quality preschool programs exceed most other educational interventions, especially those that begin during the school-age years such as reduced class sizes in the elementary grades, grade retention, and youth job training.

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1. Introduction

In recent years, policymakers and economists appear captivated by estimates suggesting a high rate of return to early childhood education. The first estimates came from the well-known High/Scope Perry Preschool Program (Barnett, 1985); and while early childhood advocates and policymakers fre-

quently used these results to argue that preschool programs can yield sizeable benefits, there were two major drawbacks. Because the sample size was small and the educational intervention was a researcher-initiated model program, critics argued that it was not clear how these results might generalize to other non-model preschool programs such as those offered by financially constrained public schools or human service agencies. Moreover, until recently there existed no results from other cost–benefit studies of either large- or small-scale early childhood

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programs to offer corroborating evidence. As new evidence has appeared, there has been growing reliance on results of cost–benefit analysis in early childhood research (e.g., Carroll, Ochshorn, Kagan, & Fuller, 2004; Grunewald & Rolnick, 2004; Heckman & Masterov, 2004).

In this paper, we discuss the evidence on the effectiveness of preschool programs using results from three well-known intervention studies. Our primary focus is the cost–benefit analysis of the preschool component of the Chicago Child–Parent Centers (CPC). The federally funded CPCs are located in high-poverty neighborhoods in Chicago and offer an educational intervention to children from preschool through grades 2 or 3. Reynolds, Temple, Robertson, and Mann (2002) conducted a cost–benefit analysis of the program and found that each dollar invested in the program yields a payoff of seven dollars of benefits to society. We also briefly review the findings from the High/Scope Perry Preschool Program (Schweinhart et al., 2005) and the Abecedarian Project (Masse & Barnett, 2002). Because in contrast to these interventions the Chicago CPC Program is a large-scale on-going program, we highlight its findings.

Using data from the Chicago Longitudinal Study (CLS), which follows a large cohort of students who attended public school kindergartens in high-poverty neighborhoods in Chicago in 1985–1986, our research findings suggest that the early intervention offered by the CPC preschool program is associated with a number of positive outcomes measured in later childhood, adolescence and early adulthood (see Reynolds, Temple, Robertson, & Mann, 2001, 2002; Reynolds & Temple, 2004). Children who participated as of age 3 or 4 are less likely to require school remediation services such as special education placement and grade retention; and they are more likely to complete high school and are less likely to commit crimes as juveniles and young adults.

In any study of the effects of educational interventions, the ability to make causal inferences about the relationship between program participation and later positive outcomes requires a study design to address biases due to omitted variables that are correlated with both program participation and the outcomes of interest. Both the Perry program and the Abecedarian project relied on random assignment of children to treatment and comparison groups. In contrast, the CLS employed a quasi-experimental or matched study design where

from the beginning of the study students who participated in the CPC preschool were compared to a matched group of students who enrolled in an alternative intervention offered at other sites. We provide new evidence on the equivalence of the intervention group and the comparison group for the Chicago program on a number of characteristics related to social-economic disadvantage. Using recently obtained administrative data from birth records of the students and the public aid and earnings records of their parents, we demonstrate the strong similarities across many characteristics that may affect the students' school performance, high school completion decisions, and criminal activity. Absent a randomized experiment, our ability to make causal inferences about the effectiveness of preschool programs for children from low-income families is strengthened by a study design in which groups to be compared differ only with respect to participation in the program.

After discussing evidence on the benefits relative to costs of preschool programs for disadvantaged children, we investigate the net benefits for other well-known programs commonly offered as alternatives. These include: health promotion for children from birth to age three; reductions in class sizes in the early grades; policies to retain low-achieving students in grade; and youth job training. Given scarce resources and competing programs intended to benefit disadvantaged children, it is important to consider the impacts of preschool programs compared to other investments that are currently being made.

2. Importance of benefits from preschool programs

Armed with an awareness of potentially sizeable benefits of early childhood programs, policymakers in a number of states have made publicly funded preschool an important part of recent education reforms. The main attractions of preschool programs appear to be their potential for prevention of future labor force and crime problems for participants and the associated reduction in social costs. As described by Heckman and Masterov (2004), the main mechanism through which early education affects labor force productivity and crime is through its effect on cognitive and non-cognitive skills. Prevention of learning problems in the early school years may be more cost effective than waiting until late adolescence or early adulthood to offer costly and less effective treatment or training for those

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