Early Childhood Research Quarterly 36 (2016) 91–105

Contents lists available at ScienceDirect

Early Childhood Research Quarterly

Comparing public, private, and informal preschool programs in a national sample of low-income children

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ARTICLE INFO

Article history:
Received 10 November 2014
Received in revised form 22 October 2015
Accepted 8 November 2015
Available online 4 January 2016

Keywords:
Early childhood education
Preschool
Head Start
Public pre-K
School readiness

ABSTRACT

Recent research has found that center-based early education and care (EEC) programs promote gains in cognitive skills for low-income children, but knowledge is limited concerning diverse types of EEC arrangements. This paper contrasts the primary EEC arrangements (Head Start, public centers, private centers, and home care) attended by economically disadvantaged children in the US with data on 4250 low-income children from the nationally-representative ECLS-B cohort. Results found public centers and Head Start programs provided children with the most educated and highly trained teachers and with the most enriching learning activities and global quality, with private centers showing moderate levels and home EEC very low levels of quality. Nonetheless, after adjusting for differential selection into EEC through propensity score weighting, low-income children who attended private EEC centers showed the highest math, reading, and language skills at age 5, with children attending Head Start and public centers also showing heightened math and reading skills in comparison to children experiencing only parent care. No differences were found in children's behavioral skills at age five in relation to EEC type. Results support enhanced access to all center preschool programs for low-income children, and suggest the need for greater understanding of the processes through which EEC affects children's school readiness skills.

1. Introduction

The use of nonparental care for children prior to school entry has grown dramatically in recent decades, driven by increased needs of parents in the workforce as well as enhanced provision of publicly supported early education programs. As rates of maternal employment and single-parent families expanded, an increasing proportion of families required alternate care providers for their young children. At the same time, evidence grew regarding the potential for early education and care (EEC) programs, particularly high-quality center-based programs in the year or two prior to kindergarten, to improve the school readiness skills of children (Yoshikawa et al., 2013), that is, the nascent language, literacy, math, and behavioral skills that are essential for a positive transition to kindergarten and continued educational success (Snow, 2006). Much of this evidence focused on the efficacy of center-based preschool programs to bolster the school readiness skills of economically disadvantaged children, offering a potential mechanism to reduce the expanding achievement gaps between poor and advantaged children (Magnuson, Waldfogel, & Washbrook, 2012; Reardon, 2011). As such, policy makers and scholars have increasingly turned to early education programs as a mechanism for supporting the nascent skills of economically disadvantaged children, helping them to prepare for future educational and economic success.

And yet, with the plethora of EEC programs and funding models that have emerged in the US, there is a dearth of information regarding which EEC settings are most effective in supporting the school readiness skills of children from low-income families. This study seeks to provide a careful analysis of the EEC settings attended by low-income children in the US, using a nationally representative sample of children followed prospectively from early childhood through kindergarten entry. By comparing children attending home-based, private center, public center, and Head Start programs, this study seeks first to provide a detailed description of diverse EEC arrangements and second, using quasi-experimental analysis techniques, to assess how diverse EEC arrangements support the school readiness skills of economically disadvantaged children.

1.1. The early education and care landscape

A great diversity of EEC programs are used by low-income families in the US, including Head Start programs, public preschool

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http://dx.doi.org/10.1016/j.ecresq.2015.11.002
0885-2006/

centers, and private childcare or preschool centers, as well as home-based care. A recent report on a national sample of children in 2012 found that more than 76% of 3–5 year-old children used non-parental care at least one day a week, with 60% in center-based EEC programs and 36% in home-based care, with some children in more than one care type (Mamedova & Redford, 2015). Within the arena of center-based EEC programs, a growing proportion of children are attending publicly-funded programs. National estimates suggest that 29% of 4-year-olds in 2012–2013 were in state-funded preschool programs, with an additional 3% served by special education public programs and another 10% served by federally-funded Head Start (Barnett, Carolan, Squires, Clarke Browne, & Horowitz, 2015). The high use of publicly-supported EEC reflects the dramatic surge in such programs in recent years, although it is important to note that funding levels and access have vacillated due to budget shifts at both federal and state levels, with large waiting lists often reported for child care subsidies as well as public preschool and Head Start slots (Barnett & Carolan, 2013; Schulman & Blank, 2013).

In short, a wide variety of funding streams and program models have emerged to provide EEC services to low-income children, with an equally broad range of regulatory mechanisms targeting structural and process quality features. Nearly all states in the US have implemented or are developing quality rating and improvement systems (QRIS) to track quality of EEC programs and provide information to parents, practitioners, and policy makers (Tout et al., 2010). And yet, regulations and quality indicators remain highly variable across EEC arrangements. Home-based EEC in particular has variable and limited regulations, and numerous studies have found low levels of both structural (e.g., teacher training and education) and process (e.g., the quality of the materials and teacher-child interactions) quality across home EEC programs (Coley, Li-Grining, & Chase-Lansdale, 2006; Fuller, Kagan, Loeb, & Chang, 2004). On the other end of the spectrum, Head Start is highly regulated. Head Start programs are required to serve primarily poor children and children with disabilities; to provide health services, family services, and family involvement programs in addition to early education; and to use research-based curricula to promote children's learning and development. Teacher education requirements have been less rigorous, and although they increased in the past decade, data from the most recent cohort of the Head Start Family and Child Experiences Survey (FACES) found that less than half of Head Start teachers had a bachelor's degree and slightly more than half had training in early childhood education (Hulsey et al., 2011).

Public and private EEC centers do not have the uniformity of quality regulations that Head Start does, but public preschool programs in particular have been found to have numerous indicators of high quality. Using data from the National Center for Early Development and Learning's (NCEDL) Multi-State Pre-Kindergarten Study, Clifford and colleagues reported that nearly 70% of teachers in public preschool programs had a bachelor's degree or higher, more than three-quarters of the programs offered additional services for families and children, and essentially all used a learning curriculum (Clifford et al., 2005). Other work has directly compared public and private centers, finding that publicly-operated EEC programs had teachers with greater education and training, higher pay, and more stability than private centers (Bellm, Burton, Whitebook, Broatch, & Young, 2002).

Research also has contrasted global program quality, assessed through measures such as the ECERS-R and FDCERS, across different EEC arrangements serving low-income preschool children. Such research has found that Head Start programs showed higher ratings of global quality than other centers, which in turn were higher than homes (Li-Grining & Coley, 2006; Fuller et al., 2004). This research did not, however, distinguish between public versus private center-based programs. It is also important to note that global quality measures such as the ECERS-R have come under increased scrutiny, with recent research finding validity weaknesses and limited connections to students' school readiness skills in large national samples (Gordon, Fujimoto, Kaestner, Korenman, & Abner, 2013; Sabol, Soliday Hong, Pianta, & Burchinal, 2013; Votruba-Drzal, Coley, Koury, & Miller, 2013; Weiland, Ulvestad, Sachs, & Yoshikawa, 2013). Indeed, a recent assessment of the type of quality indicators used in state QRIS systems found that most indicators showed no substantial association with children's functioning (Sabol et al., 2013), raising additional concerns over the quality measures used in many policy and assessment systems. In contrast, a number of recent evaluations of curricular models in Head Start and public preschool programs found positive causal impacts on low-income children's early reading and math skills (Assel, Landry, Swank, & Gunnweig, 2007; Clements & Sarama, 2007; Fantuzzo, Gadsden, & McDermott, 2011; Lonigan, Farver, Phillips, & Clancy-Menchetti, 2011), highlighting the importance of structured literacy and math learning activities in EEC programs.

Together, past research suggests that Head Start and publicly-funded EEC programs are likely to show higher quality than private centers and home-based EEC. Although research has highlighted some differences in quality indicators across EEC arrangements, much of this work has taken a piecemeal approach, often assessing only one type of EEC at a time or using local samples, and knowledge remains limited concerning how diverse regulations may translate into quality features of varied EEC programs across the country. One of the goals of this study is to expand this comparative view, using a nationally representative sample of children to compare quality characteristics across the four major types of EEC programs attended by low-income preschool-age children: Head Start, public centers, private centers, and home care.

1.2. EEC settings and children's school readiness

The second goal of this research is to test associations between EEC arrangements and children's development. A host of research studies have found that center-based EEC programs in the year or two prior to kindergarten can help raise the school readiness skills of economically disadvantaged children (Yoshikawa et al., 2013). Center EEC is associated with heightened reading, math, and language scores in comparison to parent or home care, although results have been more mixed in relation to behavioral skills (Coley, Votruba-Drzal, Miller, & Koury, 2013; Gormley & Gayer, 2005; Gormley, Gayer, Phillips, & Dawson, 2005; Loeb, Bridges, Bassok, Fuller, & Rumberger, 2007; Magnuson, Meyers, Ruhm, & Waldfogel, 2004; Votruba-Drzal et al., 2013). A primary limitation in this research base is the restricted attention to differences across subtypes of center-based EEC. Given the diversity of teacher qualifications, classroom quality, and access to other services and supports across Head Start, public, and private EEC programs (Smith, Kleiner, Parsad, & Farris, 2003), we might expect that public EEC programs may be most effective at supporting the development of low-income children, and private programs least effective. Prior research has not adequately addressed these hypotheses, either because studies have combined diverse EEC program types into broader categories, have used reports of EEC setting with significant validity concerns, or simply have not conducted tests comparing the effectiveness between different EEC types.

For example, a number of recent experimental and quasi-experimental studies have assessed impacts of public preschool or Head Start programs on children's school readiness skills. In a set of rigorous studies, Gormley and colleagues (2005; Gormley, Phillips, Newmark, Welti, & Adelstein, 2011) assessed Oklahoma's universal public preschool program, finding that the program led to increases in children's language, literacy, and math skills, and to no meaningful changes in behavioral skills. Evaluation of the Boston public preschool program found similar results, with