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The impact of maternal education on children's enrollment in early childhood education and care

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ABSTRACT

This study examined the influence of maternal education and other child and family characteristics on the enrollment of children in early childhood education and care. Data come from the National Household Education Survey for a 14-year period and include children ages 0–5 years old. Multinomial logit analysis was employed to show the effect of maternal education on the likelihood of being enrolled in a specific type of care arrangement including both formal and informal settings. Findings suggest that more advantaged children, even those under 3 years of age, enroll in higher quality settings, thereby granting them an advantage when they begin school.

1. Introduction

The percentage of children in early childhood education and care programs has risen steadily over the past decades. Today, nearly 12 million children (63% of the 18.5 million children under 5 years) are in some form of regular child care arrangement each week, a 19% increase since 1995 (Smith, 2005). Although the use of non-parental care has grown for all socio-demographic groups, disparities in enrollment persist, with children from more advantaged families being more likely to be enrolled than children from less advantaged families (Meyers & Jordan, 2006).

Research indicates a positive association between the quality of early childhood education and care and a child's development, both cognitively and emotionally (Shonkoff & Phillips, 2000). High quality early childhood education and care programs, typically in centers or preschools, have shown significant effects on children's cognitive and emotional development, effects that are particularly pronounced for children living in poverty (Barnett, 2001; Karoly et al., 1998; Loeb, Fuller, Kagan, & Carrol, 2004). There is also evidence of long-term effects of early childhood education and care quality on children's development through the early elementary school years (Peisner-Feinberg et al., 2001). High quality early education and care programs could, therefore, help narrow gaps in school readiness and achievement among children of different socio-demographic backgrounds (Magnuson & Waldfogel, 2005).

While some studies have focused on maternal education as a predictor of early childhood education and care use, the literature has overwhelmingly focused on preschool-age children and neglected infants and toddlers who are increasingly enrolled in non-parental care. The focus of this paper is to determine to what extent maternal education influences the type of care and education young children receive and whether or not differences exist by age of child. This research question is important because children with more educated parents are at an advantage when they enter school. For example, studies have shown positive associations between mothers' educational attainment and children's test scores and academic outcomes (Magnuson, 2007). If children are also more likely to be in educationally oriented child care settings, this would only compound their advantage.

Using the most recent nationally representative data that is specific to early childhood education and care, this study examines whether and how much maternal education affects children's enrollment, holding other factors constant. The study includes children ages 0–5 years but looks at 0–2 year olds and 3–5 year olds separately because these two groups have very different needs. From a developmental perspective, the first two years of life can provide formative experiences in terms of attachment, language, and cognition. More highly educated parents familiar with a young child's developmental needs may feel that 0–2 year olds require more nurturing, while 3–5 year old children are ready for socialization and education. Secondly, the literature describing the benefits of quality early education is organized according to age and primarily focuses on 3–5 year olds, necessitating attention on infants and toddlers. The evidence that has recently emerged shows that high quality early childhood education and care can have benefits for even the youngest of children provided that they are not in care for long hours (Ackerman & Barnett, 2009; Shonkoff & Phillips, 2000; Waldfogel, 2006). Understanding the role that maternal education plays for both

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age groups has important policy implications as certain types of care may be more beneficial to children and differences in enrollment across groups could lead to the accumulation of advantage over time.

1.1. Background on maternal education

Past research has shown that maternal education is critical to a child's development and well-being. In particular, children whose mothers have more education tend to fare better academically than those who have mothers with less education (Haveman & Wolfe, 1995; Hofferth & Sandberg, 2001; Walker, Greenwood, Hart, & Carta, 1994). The literature suggests that education provides mothers with knowledge about what is needed to help their children succeed academically (Davis-Kean, 2005). Furthermore, maternal education indirectly influences a child's educational achievement through its impact on a parent's beliefs and values surrounding achievement. This in turn is believed to influence how they interact with their children and their ability to provide a more stimulating home environment for them (Davis-Kean, 2005). This can occur in a variety of ways. More highly educated mothers typically use more complex language and vocabulary with their children (Chin & Phillips, 2004; Hofferth & Sandberg, 2001), have more books in the home for children to read, and read to their children more often (Davis-Kean, 2005). As children get older, more educated mothers become more involved in their children's schooling (McNeal, 1999), support more educationally enriching activities such as reading and studying, and discourage television viewing (Hofferth & Sandberg, 2001). Such practices have even been shown to improve as mothers acquire more education (Gennetian, Magnuson, & Morris, 2008). Together, these values, beliefs, and activities place these children at a distinct educational advantage.

For many parents, this process of managing a child's education starts with the selection and management of an early childhood education and care program (Clarke-Stewart & Allhusen, 2005). Although the use of early childhood education and care has grown for all socio-demographic groups (Meyers & Jordan, 2006), more highly educated mothers use non-parental care at a substantially higher rate than those with less education (Bainbridge, Meyers, Tanaka, & Waldfogel, 2005; Fuller, Eggers-Piérola, Holloway, Liang, & Rambaud, 1996). It is believed that maternal education captures a range of factors linked to social class position and beliefs regarding early development and schooling (Fuller, Holloway, & Liang, 1996). This finding has been attributed to a more educated mother having an advanced knowledge of child development as well as her ability to secure higher wages, and, as a result, pay for higher quality care settings. Children with less educated parents, therefore, may be "doubly disadvantaged;" they are less likely to benefit from educational materials and practices that promote school readiness in the home and are less likely to be enrolled in educationally enriching early childhood experiences (Magnuson, Meyers, Ruhm, & Waldfogel, 2004: 118). Even studies focusing on low-income and/or minority children with respect to enrollment in care have found that higher maternal education was associated with a higher likelihood of using non-parental care in general (Hirshberg, Huang, & Fuller, 2005) and center-based care in particular (Liang, Fuller, & Singer, 2000; Huston, Chang, & Gennetian, 2002; Wolfe & Scrivner, 2004).

The literature is organized according to age; previous studies, however, have primarily focused on children ages 3–5 years old. The literature on 0–2 year olds is sparse. Singer, Fuller, Keiley, and Wolf (1998) and Joesch and Heidemann (2002) each found maternal education associated with non-parental child care. Additionally, Singer et al. (1998) found more highly educated mothers who delay childbearing and have smaller families were less likely to place children in non-parental care at younger ages and instead focused their efforts on child-rearing. Using the same data set, Joesch and Heidemann (2002) found that the more years of education a mother had, the more likely she was to place her child in non-parental care.

This study moves beyond current literature by considering the effect of maternal education on multiple types of care arrangements for infants, toddlers, and preschoolers (0–5 years of age) over a 14-year time span, 1991–2005. Both type of care and age are important issues, yet they are not fully addressed in previous research. As a result, this study's findings hold important implications for early childhood education and care policy.

2. Methodology

2.1. Data

The public use data employed for this study originated in the 2005 National Household Educational Survey (NHES) from the National Center for Education Statistics. The NHES is a household-based data set designed to gather data on the educational activities of the U.S. population. It includes surveys on adult education, parent and family involvement, early childhood program participation, school readiness, school safety, and school discipline.

Participants responded to the Early Childhood Program Participation questions (ECPP) in 1991, 1995, 2001 and 2005 as well as to a subset of questions asked in 1999. The ECPP module and the comparable 1999 subset include questions on children's participation in formal and informal non-parental care and education programs including relative care, non-relative care, center-based care and Head Start programs. The interview was conducted with the parent or guardian most knowledgeable about each child's care and education (Hagedorn, Montaquila, Carver, O'Donnell, & Chapman, 2006). Data from each year are pooled and combined into one data set. The data yield a large and nationally representative sample.

The selection of sampled children is random, but the specific probabilities of selection vary by year of survey. In each survey, a household screener is used to enumerate all children in the household. Sampling of the focal child for the extended topical interview was then conducted via computer-assisted telephone interviewing. Sampling is automated and not performed by the interviewer. Depending on the year of the survey, there may be predetermined and preprogrammed unequal probabilities of selection for children of different age groups. These probabilities are based on population and sample size requirements.

This study's sample includes children who, at the time of the survey, were under 6 years of age and not yet in kindergarten. In addition, children without a mother in the household were not included. This age group is chosen because children not yet in school have very different early childhood education and care needs than those of grade school-aged children. School-aged children engage in a wider array of daily experiences, including after-school activities. I analyze 0–2 year olds and 3–5 year olds separately because their early childhood education and care arrangements and the factors that affect those arrangements are likely to differ. In addition, data on the 3–5 year olds are available from all survey years, but data on the 0–2 year olds are available only from 1995 onward. Sample sizes per survey year range from 4488 to 7373 children. If each year's sample is broken down by age, sample sizes range from 3043 children to 4042 children per age group in a particular year.

2.2. Measures

2.2.1. Outcome variable

The outcome variable is the child's main type of non-parental care arrangement. The NHES tracks early education and care enrollment by asking respondents whether or not children receive care on a "regular basis" (regularly scheduled at least once each week) from someone