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Profiles of school readiness among four-year-old Head Start children☆

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ABSTRACT

This study uses the Family and Child Experiences Survey (FACES) data from 1997 to investigate the degree to which child, family, classroom, teacher, and Head Start program characteristics are related to children's school readiness and continued development over the four-year-old Head Start year. Latent class analyses were used to examine the constellation of school readiness competencies within individual Head Start children in both the fall and spring of the four-year-old Head Start year. Multinomial regression analyses examined patterns of association between demographic and program characteristics and profile membership over time. Four distinct developmental profiles were found in the sample in the fall, and three were found in the spring. Furthermore, a substantial proportion of Head Start children (43%) moved from a developmental profile including some risk to a strengths profile between the fall and spring of the Head Start year. Child age, family structure, parental educational attainment, classroom quality and teacher's level of educational attainment emerged as important factors associated with stability and change in profile membership over the four-year-old Head Start year, but receipt of social services through Head Start was not associated with stability or change in profile membership.

1. Introduction

Children's school readiness has long been of interest to educators and policymakers (Meisels, 1999; Rhode Island Kids Count, 2005). For example, federal initiatives such as *Good Start Grow Smart* have led state early childhood administrators to develop early learning guidelines that articulate what children should know and be able to do by the time they reach kindergarten. State and local administrators have also expanded public pre-kindergarten programs in an effort to enhance the school readiness of young children and prepare them for the increased challenges and demands of kindergarten (Wong, Cook, Barnett, & Jung, 2007); and they have launched kindergarten readiness assessments in an attempt to quantify children's school readiness skills (Daily, Burkhauser, & Halle, 2010). Indeed, the recent *Race to the Top – Early Learning Challenge* grants are motivating states to move forward rapidly in developing valid and reliable information on children's kindergarten entry skills and developing systems to link this information to data on early care and education as well as indicators of later school achievement. There have also been updates to national standards for early care and education programs in recent years. However, a major challenge for these initiatives is that children from more disadvantaged backgrounds (e.g., low-income and/or single-parent households) lag behind their more affluent peers in cognitive and social outcomes even before kindergarten (Fryer & Levitt, 2006; Halle et al., 2009). This influences their starting point at kindergarten entry (Denton & West, 2002; Lee & Burkham, 2002; National Research Council & Institute of Medicine, 2000; Vandivere, Pitzer, Halle, & Hair, 2002) and may negatively affect their academic trajectories throughout their school years (Duncan, Brooks-Gunn, & Klebanov, 1994; Duncan et al., 2007; Entwisle & Alexander, 1999; Fryer & Levitt, 2004; McLoyd, 1998).

While readiness for school often implies the mastery of certain skills or abilities that enable a child to function successfully both academically and socially in a school setting, experts assert that school readiness is dependent not only on the qualities that children bring to the learning experience, but also on the contexts in which learning occurs – contexts which include the home and school environments as well as the larger community. Indeed, a comprehensive view of school readiness involves interplay between a child's inherent characteristics and past and present environmental and cultural contexts (Carlton & Winsler, 1999; May & Kundert, 1997; Meisels, 1999; Wesley & Buysse, 2003).

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High-quality, comprehensive early care and education, along with warm and supportive relationships with parents and caregivers, have been found to improve the school readiness and long-term outcomes of disadvantaged children (Brooks-Gunn, Fuligni, & Berlin, 2003). For example, analyses using the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B) indicate that high-quality, non-parental care (both home-based and center-based) has the potential to moderate the effects of demographic risk factors on child outcomes at 24 months (Snyder, 2008). Furthermore, parenting practices and the home environment have been found to largely mediate the relationship between family income and children's cognitive outcomes (Borman & Overman, 2004; Rathbun, West, & Hausken, 2003; Yeung, Linver, & Brooks-Gunn, 2002). For low-income children in particular, it is important to examine the contributions of early care and education, comprehensive services, and home practices to children's school readiness and ongoing development.

One model for early comprehensive services targeted to disadvantaged children is Head Start. The main purpose of the current study is to investigate the degree to which child, family, classroom, teacher, and Head Start program characteristics are related to children's school readiness and change over the four-year-old Head Start year. Specifically, this study examines children's school readiness skills at the beginning and end of the four-year-old Head Start year and examines whether characteristics of the child, home, and Head Start contexts are associated with stability and change in school readiness over the Head Start year. An innovation of the current study is that rather than examine each type of school readiness skill individually, this study investigates whether distinct patterns of school readiness skills coalesce within Head Start children, as has been found in previous research with a national sample of first-time kindergartners (Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006).

1.1. Head Start and school readiness

Head Start was designed as a comprehensive early childhood program that would address the developmental needs of low-income children and their families. As designed, Head Start addresses the needs of the whole child by providing not only a cognitively stimulating and emotionally supportive learning environment for children ages three to five, but also addressing children's health needs by providing health services such as nutritious meals and snacks, hearing and vision screenings, and opportunities for vigorous exercise and rest. In addition, Head Start supports parents in being their child's first and most important teacher and advocate. Examples of such support include parent education classes, English-as-a-second-language courses, computer courses, health fairs, and referrals to social service agencies. Importantly, Head Start services are meant to be responsive to the specific developmental, cultural, ethnic, and linguistic needs of the child and family (Administration on Children, Youth and Families Head Start Bureau, 2006; U.S. Department of Health and Human Services, n.d.).

Findings from nationally representative cohorts of Head Start children in the Family and Child Experiences Survey (FACES) from 1997, 2000, and 2003 indicate that many Head Start children enter the program with cognitive and social skills well below the national average (Administration on Children, Youth and Families Head Start Bureau, 2006; Zill et al., 2001, 2003; Zill, Sorongon, Kwang, Clark, & Woolverston, 2006). Specifically, Head Start children tend to lag behind in vocabulary and early writing and early math skills (Administration on Children, Youth and Families Head Start Bureau, 2006; Zill et al., 2001, 2003; Zill, Sorongon, et al., 2006), as well as early reading (Administration on Children, Youth and Families Head Start Bureau, 2006; Zill, Sorongon, et al., 2006) and letter recognition (Zill et al., 2001, 2003). However, statistically significant gains are made over the Head Start year in several cognitive domains (Administration on Children, Youth and Families Head Start Bureau, 2006; Zill et al., 2001, 2003; Zill, Sorongon, et al., 2006), including vocabulary knowledge, early writing skills, and early math. In terms of social gains, children in the FACES 2000 cohort scoring in the top quartile for shy, aggressive, or hyperactive behaviors showed significant reductions in these behaviors over the program year (Zill et al., 2003). Despite these gains, the majority of Head Start children remain substantially below the national average on these cognitive and social skills at the end of the year (Administration on Children, Youth and Families Head Start Bureau, 2006; Zill et al., 2001, 2003; Zill, Resnick, et al., 2006).

Recent analyses of FACES data indicate links between child and family characteristics and school readiness (Hindman, Skibbe, Miller, & Zimmerman, 2010). FACES data also indicate a relationship between performance over the Head Start year and performance in kindergarten. For example, analyses of FACES 2000 indicate that the larger the gains in cognitive skills during Head Start, the higher achievement scores in kindergarten (Administration on Children, Youth and Families Head Start Bureau, 2006). Similarly, children who have higher levels of social skills and fewer behavioral problems in Head Start have better cognitive and behavioral outcomes at the end of kindergarten (Administration on Children, Youth and Families Head Start Bureau, 2006).

Findings from the Head Start Impact Study (HSIS) indicate that one program year (i.e., 9 months) of Head Start can result in small to moderate impacts on multiple domains of children's development (Administration on Children, Youth and Families Head Start Bureau, 2005). For instance, both three- and four-year-old first-time Head Start children outperformed their peers in the control group on direct assessments of pre-reading, pre-writing, and vocabulary, and on parent report of children's literacy skills; and three-year-olds had fewer parent reported behavior problems and were reported by their parents to have better access to dental health care and better health status than their peers in the control group. However, much of these gains had disappeared by the end of kindergarten and at the end of first grade (U.S. Department of Health and Human Services, 2010). Some children even experienced negative impacts of the Head Start program by the end of first grade. Most notably, three-year-old children whose parents reported moderate depressive symptoms experienced negative impacts of Head Start on cognitive, social–emotional, and health outcomes in first grade (U.S. Department of Health and Human Services, 2010). This latter finding, in particular, highlights the importance of considering home and family characteristics in the full context of children's school readiness.

1.2. Defining school readiness

Research and policy have focused largely on the importance of cognitive skills and emergent literacy for later academic achievement (Kauerz, 2002; Snow, Burns, & Griffin, 1998); however, children's school readiness is viewed as multidimensional, encompassing not only cognitive and language skills, but also social–emotional development and health. The National Education Goals Panel identified five developmental domains associated with early development and learning: physical well-being and motor development, socio-emotional development, approaches to learning, language development, and cognitive and general knowledge (Kagan, Moore, & Bredekamp, 1995). Physical well-being and motor development encompass such characteristics as rate of growth, physical fitness, chronic conditions such as diabetes, disabilities, nutrition, fine and gross motor skills, and self-care abilities. Despite the importance of physical well-being for children's ability to perform well in school, studies of school success often neglect to