Children and Youth Services Review 79 (2017) 368–384

Contents lists available at ScienceDirect

Children and Youth Services Review

journal homepage: www.elsevier.com/locate/childyouth

Family poverty and neighborhood poverty: Links with children's school readiness before and after the Great Recession

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ARTICLE INFO

Keywords:
Neighborhood poverty
The Great Recession
School readiness
Early childhood development
Family poverty

ABSTRACT

This paper examines how neighborhood and family poverty predict children's academic skills and classroom behavior at school entry, and whether associations have changed over a period of twelve years spanning the Great Recession. Utilizing the Early Childhood Longitudinal Study–Kindergarten 1998 and 2010 cohorts and combined with data from the U.S. Census and American Community Survey, we find that the proportion of kindergarten children living in moderate and high poverty neighborhoods increased from 1998 to 2010, and that these increases were most pronounced for non-poor and white children. Using OLS and fixed effects regression analyses and holding family poverty constant, we find that children in neighborhoods with higher levels of poverty start school less ready to learn than their peers. Specifically, children from the highest poverty neighborhoods start school almost a year behind children from the lowest poverty neighborhoods in terms of their academic skills. In addition, we find that the academic skills gap between poor- and non-poor children within neighborhood poverty categories grew from 1998 to 2010, particularly in high poverty neighborhoods. These findings appear to be explained both by changes in the composition of families within neighborhood poverty categories and income increases among non-poor families. The findings indicate that neighborhood poverty may be a useful proxy to identify children and families in need of additional support.

1. Introduction

Low-income families reside in many types of communities, but some neighborhoods have much higher concentrations of poor families than others. After declines in the proportion of Americans living in neighborhoods with concentrated poverty in the 1990s—from 20.0% in 1990 to 18.1% in 2000—this trend reversed during the ensuing decade, climbing during the Great Recession. From 2000 to 2010, the proportion of people living in high-poverty neighborhoods rose to 25.7% (Bishaw, 2014), and this trend was most pronounced among families with children (Owens, 2016). This occurred against the backdrop of increasing economic segregation fueled at least in part by increasing income inequality among families with children (Owens, 2016).

Increasing numbers of children residing in neighborhoods with concentrated poverty is a concerning trend. For children and youth, experiencing higher rates of neighborhood poverty has been associated with less favorable outcomes, including low levels of school readiness (Brooks-Gunn & Duncan, 1997; Caughy & O'Campo, 2006; Ensminger, Lamkin, & Jacobson, 1996; Kohen, Leventhal, Dahinten, & McIntosh, 2008; Leventhal & Brooks-Gunn, 2000; Wodtke, Harding, & Elwert, 2011). School readiness, children's early academic and behavioral skills, in turn is a robust predictor of long-term achievement and wellbeing (e.g., Duncan et al., 2007; Jones, Greenberg, & Crowley, 2015).

Income-based achievement gaps in children's school readiness skills widened in the 1990s (Reardon, 2011). While recent work suggests this gap narrowed slightly in subsequent years, it is still large—around 0.5 standard deviations for behavioral measures and over one standard deviation for early math and reading skills (Reardon & Portilla, 2016). Research on income-based achievement gaps has focused solely on family income without attention to other dimensions of economic disadvantage. The spatial concentration of economic disadvantage in residential neighborhoods is increasingly recognized as a potentially important context that creates burdens on families beyond their own individual economic circumstances (Chetty, Hendren, & Katz, 2016), but has not yet been explored as an aspect of disadvantage that may play a unique role in predicting early achievement gaps.

This paper considers the accumulation of neighborhood economic disadvantage during the first decade of the 21st century and its consequences for children's school readiness over a period of 12 years

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http://dx.doi.org/10.1016/j.childyouth.2017.06.040
Received 16 February 2017; Received in revised form 20 June 2017; Accepted 21 June 2017
Available online 23 June 2017

spanning the Great Recession. Using the Early Childhood Longitudinal Study-Kindergarten Cohorts (ECLS-K) from 1998 and 2010, we analyze how the distribution of poor and nonpoor families with kindergarten children across neighborhoods has changed, and how family and neighborhood poverty predict children's academic skills and classroom behavior at school entry. Although the analyses are correlational in nature, understanding the strength of neighborhood poverty's predictive power is important from a standpoint of assessing whether children in high poverty neighborhoods might face potential challenges when they enter school and thus need additional supports.

1.1. Background and theoretical motivation

A large body of research has focused on understanding poverty as a key determinant of children's wellbeing (Duncan, Magnuson & Votruba-Drzal, 2015; Yoshikawa, Aber, & Beardslee, 2012). Compared with their more affluent peers, poor children have lower levels of school achievement and attainment, worse health, and are rated by teachers and parents as having worse classroom behaviors (Duncan et al., 2015). In studies of poverty, family-level economic resources, rather than community or neighborhood resources, are often privileged as the key determinants. This is based on the assumption that families have a choice in where they reside, even if their selection of residential neighborhoods is constrained by their incomes (Yinger, 2002).

Yet, increasingly theory and empirical evidence point to the importance of "place" in understanding economic fortunes (Chetty et al., 2016). Indeed, neighborhood contexts may play a significant role in shaping the experiences of children, such as the safety and quality of residential neighborhoods, as well as the quality of institutions and institutional resources available (Leventhal, Dupere, & Shuey, 2015). For young children specifically, parents living in disadvantaged neighborhoods have few options for high-quality child care and education that are both enriching and accessible (Burchinal, Nelson, Carlson, Brooks-Gunn, & J., 2008; Dupere, Leventhal, Crosnoe, & Dion, 2010; Leventhal et al., 2015; McCoy, Connors, Morris, Yoshikawa, & Friedman-Krauss, 2015; Reardon & Bischoff, 2011). High-poverty neighborhoods can also affect young children directly through exposure to more toxins, noise pollution, and other aspects of stressful environments (Evans, 2004, 2006; Evans & Kim, 2007). Finally, neighborhood poverty may also indirectly affect children because of its negative influence on parental wellbeing (Kohen et al., 2008; Ross, 2000), which in turn, can affect interactions with children (Paschall & Hubbard, 1998; Pinderhughes, Nix, Foster, & Jones, 2001).

In considering how family and neighborhood poverty shape families' lives and children's development, it is important to understand how race and ethnicity affects residential experiences. Economic and racial segregation "are distinct but overlapping phenomena" (Lichter, Parsai & Taquino, 2012, p. 383). Sharkey (2014) demonstrates that neighborhood contexts are especially salient in the lives of African-American children residing in poor urban areas, because of the way in which multiple generations' experience of concentrated neighborhood poverty has affected their family lives. African-American children are not only more likely to be poor, but their poverty is compounded by their parents having been raised in the context of poor and racially segregated communities, which through disinvestments have remained in decline. In addition, even middle-class African-Americans tend to live in neighborhoods which are significantly poorer and have higher concentrations of minority residents relative to their middle-class white counterparts (Adelman, 2004; Pattillo, 2005).

When considering change in exposure to concentrated poverty over time, however, racial and ethnic trends are more complicated. Although after the Recession more Americans live in neighborhoods of concentrated poverty, the increase in exposure to neighborhood poverty was not equally shared. Whites saw the highest percentage gains in exposure to neighborhood poverty, as poverty shifted to the suburbs and to the Midwest and South (Bishaw, 2014). In fact, between 1980 and 2010, the black-white gap in neighborhood poverty declined, not because blacks made gains but because more poor whites were living in poor neighborhoods (Firebaugh & Acciai, 2016). Thus the growth in living in concentrated poverty was larger among whites, despite the fact that urban residents and African-Americans are still much more likely to live in concentrated poverty (Kneebone, Nadeau, & Berube, 2011). Though not a central focus of this study, these recent changes in the residential circumstances from the perspective of young children, and their potential link to school readiness, deserve further exploration.

1.2. Children's school readiness and early neighborhood contexts

School readiness refers to foundational skills and behaviors that prepare children to meet learning expectations in the first year of formal schooling. Children's skills at school entry are robust predictors of later performance on reading and math skill tests, with the strongest predictors of later achievement including both early academic skills and attention-related behaviors (Duncan et al., 2007). Differences in early skills by family income or education, often referred to as "achievement gaps," are consequential for children's educational trajectories because these differences persist and accumulate over the course of schooling (Alexander, Entwisle, & Olson, 2007; Heckman, 2006; Jordan, Kaplan, Ramineni, & Locuniak, 2009), with implications for later economic outcomes and social inequalities.

Though the role of family income in predicting early achievement gaps is well documented (Reardon, 2011; Reardon & Portilla, 2016), research focusing on the role of neighborhoods contexts is both more limited and less conclusive. Research on the consequences of the economic characteristics of neighborhoods tends to overlook young children in favor of studying older youth, despite the fact that preschool-age children and their parents spend considerable time in their residential neighborhood (Sampson, Sharkey, & Raudenbush, 2008; Shonkoff & Phillips, 2000). After reviewing studies of children and adolescents, Leventhal et al. (2015) concluded that high-neighborhood SES predicts better school readiness, academic achievement, and educational attainment among children, whereas lower neighborhood SES predicts worse behavior and mental health outcomes among children. However, they found that neighborhood SES (high or low) generally explains only 5% to 10% of the variance in developmental outcomes—a small effect—after accounting for child and family background characteristics.

Studies addressing the effects of the neighborhood economic conditions specifically on developmental outcomes in early childhood are limited to a few, and only one dataset used in these studies had a nationally representative sample of U.S. infants or preschoolers (Leventhal & Brooks-Gunn, 2000). A community study of Head Start attendees found that neighborhood disadvantage predicted preschoolers' math and letter–word skills but not their receptive vocabulary or social outcomes (Hanson et al., 2011). Vaden-Kiernan et al.'s (2010) examination of a nationally representative sample of Head Start attendees found a slightly different pattern of associations: low neighborhood SES predicted lower receptive vocabulary and math skills and higher levels of parent-reported problem behavior, but not letter–word identification skills or teacher-reported behavior problems. Finally, a Canadian study found that having ever lived in a poor neighborhood during early childhood predicted lower vocabulary scores at age five (Jones & Shen, 2014). These studies show that neighborhood disadvantage predicts some dimensions of children's school readiness, but suggest that the strength of these associations may differ across the specific measures and populations studied. Quantifying the average strength and robustness of the associations is complicated by the studies' differing samples, measures of neighborhood SES, and selection of covariates.

Given the large empirical and methodological challenges to identifying the causal effects of neighborhood poverty on children's outcomes (Subramanian, 2004), most studies in this area, including those