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Socioeconomic inequality at school entry: A cross-cohort comparison of families and schools

Mimi Engel, Ph.D. [a,*], Amy Claessens, Ph.D. [b], Tyler Watts, M.A. [c], Susan Stone, Ph.D. [d]

[a] Peabody College, Vanderbilt University, Peabody #414, 230 Appleton Place, Nashville, TN, USA
[b] Harris School of Public Policy Studies, University of Chicago, 1155 E. 60th Street, Chicago, IL, USA
[c] School of Education, University of California at Irvine, 3200 Education, Irvine, CA, USA
[d] School of Social Welfare, University of California at Berkeley, 120 Haviland Hall, Berkeley, CA, USA

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ABSTRACT

The widening income gap between the wealthy and the disadvantaged in the United States has been well documented and has coincided with a near doubling of the income-achievement gap among school-age children. Motivated by calls for approaches to research that enable comprehensive accounts of change in the social ecologies of children, we leverage recently released data from the National Center for Education Statistics (NCES) to compare two nationally representative samples of kindergartners. Using multiple indicators reflecting children's family and school ecologies, we document a substantial and widening divide between kindergarteners from high- and low-income households. We show that kindergartners from families with low-income are more disadvantaged in 2010, following the Great Recession than they were in 1998 on a number of measures of well-being including higher levels of maternal unemployment and greater food insecurity. We also document a dramatic increase in the proportion of school administrators reporting a decline in school funding as well as increased student mobility in the latter time period. Our results raise concerns that schools may not be prepared to compensate for the widening gap between the rich and the poor.

1. Introduction

Rapidly rising income inequality, radical changes to the structure of the social safety net, and important shifts in early childhood education have all been documented over the past two decades. Such trends have been described in isolation, potentially obscuring the extent to which the broad social ecologies, including both family and school domains, have changed for young school-age children. Researchers and practitioners have been urged to move beyond investigations of single domains (e.g., family income and home conditions, schools and school-related programming) to include comprehensive sets of indicators across these domains (Fiscella & Kitzman, 2009). This framing is aligned with theories that posit that children's development is a product of their interactions with and support from the family, school, and the wider social institutional contexts in which they live (Bronfenbrenner & Morris, 2006; Ungar, 2002). Generating new evidence across these domains also increases the potential for identifying promising policy levers—which likely occur at the intersection of education and social policy domains—to promote positive child development (Fiscella & Kitzman, 2009).

Rising wage and income inequality in the United States are well documented (Autor, Katz, & Kearney, 2008; Fisher, Johnson, & Smeeding, 2013) and have received considerable attention from the press (Applebaum, 2014), policy makers (Congressional Budget Office, 2014), and scholars (McCall & Percheski, 2010). Although increased income equality, in particular, has been noted since 1980, growth in the income gap appears to have accelerated since the Great Recession (Applebaum, 2014). Evidence indicates that the benefits accrued from post-recession economic recovery were largely experienced among the affluent. In fact, between 2010 and 2013, average income declined by 8% for families in the bottom 20% of the income distribution according to the Federal Reserve (Applebaum, 2014). Further, according to the Center on Budget and Policy Priorities, in 2016, nearly 3 million families are living in deep poverty, defined as below 50% of the Federal Poverty Line.[1]

These broad economic trends are even more troubling when considered in light of a body of research which provides evidence of robust links between family income and a variety of indicators of child well-being (Duncan & Brooks-Gunn, 1999; Pickett & Wilkinson, 2015; Shonkoff & Phillips, 2000). Thus, it is notable that rising levels of income inequality coincided with a near doubling of the income-achievement

* Corresponding author.
E-mail addresses: mimi.engel@vanderbilt.edu (M. Engel), aclaessens@uchicago.edu (A. Claessens), twatts@uci.edu (T. Watts), sistone@berkeley.edu (S. Stone).

[1] http://www.cbpp.org/research/family-income-support/chart-book-tanf-at-20.

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gap among children born between 1943 and 2001 (Reardon, 2011). This gap is now almost twice as large as the black-white achievement gap and is particularly worrisome given that educational performance is seen as a key indicator of individual and population well-being among children (Braveman, Egerter, & Williams, 2011). The growth in the income-achievement gap is potentially explained, in part, by increased investment in children's cognitive development by high-income parents (Reardon, 2011).

Rising levels of income inequality and the income-achievement gap coincide with substantial shifts in the goals, structure, and participation trends in the social welfare safety net and anti-poverty programs and policies in the United States. For example, the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 ended cash assistance as an entitlement for low-income families with children. Key programs aimed at serving families with low income include Temporary Assistance to Needy Families (TANF), a joint federal and state program that couples time-limited cash assistance and services to encourage labor force participation; the Supplemental Nutrition Assistance Program (SNAP), and the Earned Income Tax Credit (EITC). TANF cash assistance caseloads fell precipitously between 1996 and 2011 and only rose slightly in response to unemployment associated with the Great Recession (Pavetti, Finch, & Schott, 2013). On the other hand, both spending on SNAP and SNAP receipt have risen over time; nearly one in seven U.S. residents received SNAP between 2011 and 2014. The number of families claiming the EITC has also risen over time (Ben-Shalom, Moffitt, & Scholz, 2011; Shaefer & Edin, 2013; Ziliak, 2015).

Over the same time period, many education policy makers and researchers have turned their attention to early childhood education, including preschool and kindergarten, with the goal of reducing or eliminating achievement gaps through the expansion of public preschool programming and curricular changes. A growing body of evidence finds that early childhood educational experiences changed substantially in recent years, suggesting that the first years of formal schooling have become more academic in focus. For example, preschool attendance rose substantially over the past several decades (Barnett & Yarosz, 2007) and states reported record levels of enrollment and spending on public preschool during the 2014–2015 school year (Barnett et al., 2016). Recent studies also find a slight narrowing of the income-related achievement gap in school readiness between 1998 and 2010 (Bassok & Latham, 2014; Reardon & Portilla, 2015). These recent studies suggest that the widening in the income-achievement gap that was observed throughout the second half of the 20th century may have stabilized. It is unclear whether this is the result of increased public investment in early childhood education or other factors.

As students' school-entry academic competencies have risen, so too have kindergarten teachers' expectations. Results from cross cohort comparisons of nationally representative samples of kindergarteners indicate that in recent years teachers report spending more time on academic subjects, having higher expectations regarding what students need to learn during the first year of school, and placing more emphasis on advanced academic content (Bassok, Latham, & Rorem, 2016; Engel, Claessens, Watts, & Farkas, 2016).

Taken together, the confluence of broad economic trends, shifts in social welfare policy, and changes in schooling suggest that the social ecologies of many young school-age children are in flux. The current study, thus, provides a first examination of how the social ecologies of kindergarteners both at home and in school have changed between 1998 and 2010. Kindergarten is an important year for many children, marking the transition into elementary school and formal schooling. Understanding the changing social ecologies of kindergarteners has important implications for a wide audience including policy makers, practitioners, teachers, and parents.

Responding to calls for research that is informative across social-ecological domains and at the intersection of social welfare and education policy (Fiscella & Kitzman, 2009; Ungar, 2002), we leverage data from the National Center for Education Statistics (NCES) to compare two nationally representative samples of kindergartners; the Early Childhood Longitudinal Studies Kindergarten Cohort (ECLS-K) and the ECLS-K:2011. We choose key indicators previously identified as salient within family, school, and social institutional domains. These indicators include (1) family socio-economic status, maternal characteristics (e.g., age, education), and home conditions including home language and number of books in the home (Duncan, Brooks-Gunn, & Klebanov, 1994; Fryer & Levitt, 2006); (2) family participation in poverty reduction programs such as family use of Food Stamps and TANF (Ben-Shalom et al., 2011); and (3) school-level compositional, structural, and funding characteristics (Baker, 2016; Konstantopoulos, 2005). Specifically, we address the following questions:

- How have indicators of socioeconomic status and home conditions changed, on average, for children who entered school in 1998–99 compared with 2010–11?
- How have school-level indicators of socioeconomic well-being changed during this time?
- How have these indicators changed for children whose families are at the bottom and the top of the income distribution?

2. Methods

Information regarding the participants, data collection procedures, and sampling schemes for both cohorts of the ECLS-K has been widely reported, and details regarding the datasets can be found in published NCES data documentation (Tourangeau et al., 2009; Tourangeau et al., 2015). For the current study, a few characteristics of these datasets are particularly salient. First, for each cohort NCES drew a nationally representative sample of students who were in kindergarten in the fall (of 1998 or 2010, respectively). Thus, our results are representative of and reflect changes among families with children in kindergarten during these periods, but may not be representative of all families in the U.S. at these points in time.

Second, NCES collected data directly from kindergarten students and also interviewed students' parents, teachers, and school administrators. Our study draws on information collected from all of these sources. In order to account for non-response across the various surveys, NCES created sampling weights. In the analyses that follow, we used all available data for each measure investigated, and we used the NCES sampling weights to account for both the sampling design and non-response.

We use restricted data from the baseline year for each cohort. In accordance with regulations for using restricted data, all sample sizes reported are rounded to the nearest 10. The descriptive statistics we report for each cohort were weighted using the appropriate weight for each variable. We used the "svyset" commands in Stata 13.0 (StataCorp, 2013) and use the specific kindergarten year weights designed for either teacher, parent, or school administrator responses in both the 1998–1999 and 2010–2011 cohorts, respectively.[2] The weights are designed to produce nationally representative estimates.

We used all of the non-missing cases for each variable to calculate means and standard deviations and use casewise deletion. While this method may result in a loss of power compared with multiple imputation methods, it requires the same assumptions as multiple imputation, and it performs comparably with regard to possible bias (Acock, 2012; Allison, 2001). In order to account for missing data on each item, we relied on the NCES sampling weights, which were designed to account for non-response (Tourangeau et al., 2009). Thus, our approach to missing data follows NCES recommendations, as we adjust each specific variable for non-response in order to recover nationally representative estimates.

[2] We used the following weights: teacher variables (1998: B1TW0; 2010: W12T0), parent variables (1998: C1PW0; 2010: W12P0), and school administrator variables (1998: S2SAQ0; 2010: W2SCH0).