

Inequalities in Childhood Learning Skills and Intergenerational Mobility

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Abstract

The close link between economic inequality and intergenerational mobility is widely attributed to the large effects of family background on educational attainment. Alongside long-run increases in the returns to education, the persistence of family background effects may account for a particularly important part of trends in intergenerational mobility. This paper assesses the pathways underlying family background effects by examining the changing importance of achievement, behavior and health during childhood for intergenerational income mobility. A method for decomposing the relative contributions of these three sets of influences on adult attainment is applied using birth cohorts from 1958 and 1970 in the United Kingdom. While mathematics and reading achievement in adolescence contribute the largest shares to estimates of intergenerational income mobility, they also display declining importance. In contrast, measures of introvertedness and attention show large and increasing contributions and early health a stable contribution to intergenerational income mobility.

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1 Introduction

Despite steady gains in occupational and educational mobility spanning the 20th century in the United States (Grusky and DiPrete 1990; Hauser and Featherman 1977; Hout 1988) and England (Ermisch and Francesconi 2004; Goldthorpe and Jackson 2007; Prandy et al. 2002) children’s income in adulthood remains stubbornly tied to their family of origin. The emerging evidence for cohorts born since 1952 in the United States suggests that intergenerational income mobility remained largely constant until the 1980s (Mazumder 2005; Mayer and Lopoo 2005; Lee and Solon 2009) and thereafter began decreasing (Levine and Mazumder 2007; Aaronson and Mazumder 2008). While the evidence of a similar flattening in mobility improvement extending through the 1990s in the United Kingdom is less conclusive (e.g. Ermisch and Francesconi 2004; Ermisch and Nicolletti 2005), there is widespread consensus in both countries that the sustained improvements in income mobility anticipated for the end of the 20th century failed to materialize.

Three coinciding trends occurring in both countries may account the slowdowns in income mobility. First, the sustained increases in the economic returns to education beginning in the 1980s (Goldin and Katz 1999; Silles 2007; Autor et al. 2008) implies similar increases in the returns to parents’ investments in their children. To the extent that family income might influence educational attainment, the greater returns to schooling will strengthen the ties between family background and children’s earnings in adulthood. While the long-run increase in high school graduation rates and college entrance (Goldin and Katz 2010) may have offset this effect (Solon 2004), with particularly large consequences in England (Silles 2007; Dearden et al. 2005), the increasing importance of education for weathering economic downturns adds another dimension to the returns to schooling. Second, the steady increase in income inequality since the early 1980s (Piketty and Saez 2003; Kopczuk et al. 2010) directly affects the distribution of parents’ available re-

sources for investing in their children's schooling.

However, the strong correlates between a wide range of measures of family background with child educational attainment suggest a third important set of factors linking inequalities in family circumstance to slowing income mobility. Since the Coleman Report's emphasis on the close relationship between family socioeconomic status and child schooling, family background consistently ranks among the strongest predictors of numerous child schooling outcomes. Parents' education (Blau and Duncan 1967; Hauser and Featherman 1977), family structure (McLanahan and Percheski 2008), their investment in their children's learning outside of school (Heckman et al. 2006) and the amount of time they spend with their children (Kalil et al. 2012) have all been attributed with important effects on child achievement. Emerging evidence that family income effects on children's educational attainment may have also strengthened over 1980-2000 suggests that family background may be playing a growing role in the change in mobility. Using nineteen nationally representative datasets from the United States, Reardon (2011) shows a steady upward trend in the magnitude of family income effects for children's math and reading skills that has exceeded the well known race gap in achievement and nearly matched the effect of maternal education. Although there is no evidence for a corresponding period of time in England, increasing family income effects over the 1990s (Blanden and Machin 2004) suggest a similar trend. Combined with any corresponding increases in the importance of other attributes of family background for child achievement, parents' ability to invest in their children's schooling presents a potentially large influence on intergenerational mobility.

The substantial changes in these three trends and the possibility for their multiplying effects present a potentially large contribution to changes in income mobility. Given the central role of educational attainment among the pathways linking these trends, much of the analysis of income mobility emphasizes the effects of family socioeconomic status

(SES) on schooling success.² Yet, the importance of family background for many measures of individual development points to a broad range of influences which not only illustrate the mechanisms underlying family SES effects on school success but also an additional set of direct effects on labor market outcomes in adulthood. A wide range of childhood attention and behavior problems which correlate with family socioeconomic status (SES) have also been shown to be critical for success both in school and the labor market. These include measures of attentiveness, persistence, conscientiousness, emotional regulation and anti-social behavior. Such measures have been tied to success in school throughout childhood as well as to higher earnings at multiple periods of adulthood. Family influences on individual health present a second set of potentially wide reaching effects on children's adult attainment. There are large differences between SES groups in both the prevalence and consequences of many child health outcomes, including low birth weight, asthma and ADHD. Among the many health outcomes with sharp SES gradients, these three conditions have been shown to have potentially long-lasting effects on academic achievement.

This paper compares the separate contributions of learning skills, childhood health and educational achievement to the decline in income mobility in the United Kingdom. I examine the importance of a set of attention skills and behavior problems which reflect children's abilities to adapt to the classroom learning environment. These skills include a set of measures which partly reflect the learned adaptation to classroom environments, such as distractedness and restlessness. Additional measures which are more closely tied to personality and mental health, such as introvertedness and feelings of mastery over one's life have been similarly shown to both vary over time and correlate with success in school. Although these measures may be less subject to acquisition via learning, this broad set of measures are referred to as *skills* because only a small and unknown portion of them may be attributable to biological pathways.

²For example, Hauser and Featherman (1977); Harding et al. (2005); Mazumder (2005); Levine and Mazumder (2007); Aaronson and Mazumder (2008); Nicoletti and Ermisch (2008); Lee and Solon (2009); Bhattacharya and Mazumder (2011)

I adapt a method for decomposing intergenerational income elasticities in order to assess the relative importance of learning skills, childhood health and achievement skills along the pathways from parents' income to their children's adult income. The relative importance of these three pathways for the change in intergenerational income mobility is examined by comparing their contributions to income mobility in birth cohorts from the years 1958 and 1970. These two prospective studies include numerous observations of family background and individual development from birth to middle adulthood and collect similar measures of family income and children's adult income at comparable ages. The similarities between these two studies in the measures of family background, child development and labor market outcomes as well as the cohort members' ages when these measures were recorded provide major advantages over many other studies of multiple cohorts.

The following section reviews a set of attention skills and behavior problems which are both unevenly distributed across social classes and closely tied to school and labor market success. This section also reviews inequalities in a select set of child health measures and the evidence that these health outcomes are related to success in school. Section three describes a method for decomposing estimates of intergenerational income mobility in order to evaluate the relative contributions of learning skills, individual health, educational attainment and family background. Section four describes the data, the relevant measures and the procedures taken to ensure comparability of measures across the two birth cohorts. The final sections report estimates of the effects of the three pathways for adult income in both cohorts and examine the changes in their relative importance for income mobility in the two birth cohorts.

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