The Evolution of Birth Order Effects through Generations: Evidence from the U.S.

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Extended abstract

Despite the theoretical ambiguity in the net effect of birth order on individuals’ outcomes, most empirical studies find a sizeable and significant negative relation between higher birth order and key outcomes such as IQ, educational attainment, and wages (Behrman and Taubman 1986, Kessler 1991, Hanushek 1992, Kantarevic and Mechoulan 2006, Black, Devereux and Salvanes 2005, Black, Devereux and Salvanes 2007, Lehmann, Nuevo-Chiquero and Vidal-Fernandez 2016). However, in contrast to these findings from the U.S., U.K., Australia, and Norway, Ejrnæs and Pörtner (2004) and De Haan, Plug and Rosero (2014) show that exceptions to the negative impact of birth order on education outcomes can be found in developing countries. Using data from Philippines and Ecuador, respectively, they show that birth order is associated with a positive impact on years of completed education. Their findings suggest that the worse outcomes of latter-born individuals in developed countries cannot be simply explained by a natural, biological phenomenon that advantages the first-born, but that they may be related to systematic differences in within-family resource allocations or child-rearing practices.

A recent study by Lehmann et al. (2016) shows that parental behavior and interactions with children can play a significant role in contributing to these birth order differences. They find that birth order differences in cognitive outcomes start early in life and that these differences persist through school and into adulthood. The study also provides evidence of large and significant birth order differences in early parental inputs even during pregnancy and children’s first year of life and

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show that variations in parental behavior can explain a large portion of birth order differences in cognitive abilities before school entry. Their findings suggest that broad shifts in parental behavior are plausible explanation for the observed birth order differences in education and labor market outcomes.

In view of these contrasting findings from developed and developing countries and recent evidence on the critical role that parents play in shaping differences across children of varying birth order, we examine how birth order effects in the U.S. have evolved over time as economic conditions and family structures have changed. Specifically, we document the evolution of birth order effects on education and labor market outcomes through three different sets of generations in the U.S.: birth cohorts from the mid to late 1800s, the early to mid 1900s, and the late 1900s. We first examine the heterogeneity in birth order effects across regions in the U.S. and families of different socioeconomic status. We then examine historical data to assess whether latter-born children in the U.S. has always had worse education and labor market outcomes than children born earlier in the family. Next, we examine birth order effects through time to assess whether and when U.S. has experienced a transition from a positive to negative birth order effects to better understand the sources such differences and transitions.

We rely on three different datasets covering a wide range of generations of Americans from the 1800s to late Twentieth Century: U.S. Historical Linked Census, the Health and Retirement Survey (HRS), and the National Longitudinal Survey of the Youth (NLSY79). These datasets contain information on adult education and labor market outcomes for Americans who were born at drastically different economic and social environments. Preliminary results using the U.S. Historical Linked Census on cohorts born between 1830 and 1880 show higher birth order was associated with better education and occupational outcomes. On average, individuals with a higher birth order were more likely to have an occupation with a higher prestige, had higher harmonized measures of income and occupational status, and were more likely to be literate. These results appear to be driven by children born between the 1860s and 1870s.
References


