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Trends in the Intergenerational Association between Mother's Education and Adult Subjective Health

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Abstract

As a result of the twentieth century's demographic and social changes, individuals from different birth cohorts have grown up under the influence of diverse family, social, and socioeconomic dynamics. Yet there is considerable heterogeneity in this experience. Changes have disproportionately benefited families with better-educated mothers, leading to "diverging destinies" that may have lingering consequences over the life course. Using data from the 1972-2010 General Social Survey, I examine the trends in the intergenerational relationship between mother's education and offspring's adult self-rated health. Factors believed to contribute to this relationship have been reshaped through the demographic transition. Contrary to expectations, however, I find relative stability in the association despite sweeping macrosocial changes; the strength of the association only weakly depends on birth cohort. Furthermore, this stability persists in the face of various sociodemographic groups' differential exposure to changes. Factors affecting mother's educational opportunities nonetheless continue to have intergenerational implications for inequality.

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Research on intergenerational social processes has increasingly focused on the importance of childhood circumstances for shaping later life outcomes and patterning of advantage and disadvantage. This work traces the origins of adult socioeconomic and health gradients, in part, to individuals' childhood socioeconomic conditions and health status (e.g., Case, Fertig, and Paxson 2005; Haas 2006; Jackson 2010; Palloni 2006; Palloni et al. 2009). Various explanations have been posited for childhood's persistent influence, including the importance of material conditions, environmental exposures, and the development of social emotional skills (Cunha and Heckman 2008; Hayward and Gorman 2004; Heckman, Stixrud, and Urzua 2006; Preston et al. 1998).

Parents' educational attainment is one aspect of social origins that shapes childhood experiences and reflects other aspects of advantage that matter across the life course. Mothers, in particular, greatly contribute children's early life exposures. Their social and economic resources constitute part of overall household resources, and their interactions with children influence child development. Mothers with higher levels of education spend more time interacting with their children, spend more time on educational activities, and transmit different skills and norms to their offspring compared to their less educated counterparts (Bourdieu 1977, 1986; Cunha and Heckman 2008; DiMaggio 1982; Kalil, Ryan, and Corey 2012; Lareau 2002, 2003). These differences have lasting consequences, including for well-being: higher levels of mother's education are associated with better adult health (e.g., Case, Fertig, and Paxson 2005).

Research investigating the links between mother's education and offspring health or childhood circumstances (more generally) and offspring health often use cross-sectional data (e.g., Hayward and Gorman 2004) or follow one particular cohort over time (e.g., Case, Fertig, and Paxson 2004). Although important for understanding the intergenerational transmission of advantage, such examinations may paint an overly simplified portrait. Marked social and demographic changes during the twentieth century have reshaped the allocation of resources across families, leading to "diverging destinies" for children born during recent decades (McLanahan 2004). Many of these changes substantially reshaped the processes that are linked to the intergenerational and long-run social and health phenomena.

For example, recent decades have seen tremendous increases in the educational attainment of women (Buchmann, DiPrete, and McDaniel 2008), both in terms of years of schooling and the percentage with a college education. Meanwhile, a new set of population trends has emerged, including delays in childbearing, smaller family size, the rise of alternative family structures (increased cohabitation, increased divorce, decreased and delayed marriage), increases in educational assortative mating, and growth in women's labor force participation (Lesthaeghe 2010; Lesthaeghe and Neidert 2006; McLanahan 2004). Regardless of whether these other social and demographic changes are a cause or a consequence of women's increased educational attainment (or if both are jointly determined by wide-sweeping value changes as suggested by Lesthaeghe 2010), they have the potential to reshape intra- and intergenerational dynamics.

Yet, the extent to which these dynamics have actually reshaped the link between mother's education and her offspring's adult health has not been thoroughly investigated. As a result of the twentieth century's demographic changes, individuals from different birth cohorts have likely grown up under the influence of different family, social, and socioeconomic dynamics. The consequences of these changes may not be straightforward. Some of the sweeping changes may have strengthened the relationship between mother's education and offspring health, while others may have the opposite effect or little effect whatsoever. For example, decreased selectivity of educational attainment could have weakened the association, while increased assortative mating could have strengthened it. These countervailing trajectories make it difficult to predict how the intergenerational transmission of advantage via offspring's adult status changed as well.

In light of these competing possibilities, I investigate whether the overall association between mother's education and offspring's adult self-rated health has changed in magnitude across birth cohorts. Examining cohorts (rather than periods) captures the persistence of formative experiences for individuals (Ryder 1965), and can reveal how social and demographic changes affect life chances. I begin by reviewing the association between mother's education and offspring health. After sketching out the demographic and social changes that may have reshaped this association, I empirically examine trends by

pooling a repeated cross-sectional national study. Since different groups experienced these demographic changes to varying extents, I also offer a series of stratified analyses based on sex, race, and family structure. Overall, I find evidence of only a weakly declining association over birth cohorts with little variation across sociodemographic groups.

BACKGROUND

Social origins and long-run health

Social scientists are increasingly emphasizing the lasting importance of social origins on individuals' adult health and well-being. Evidence for the long-term effects of mother's education on health comes from two main sources. The first is a small but growing literature that uses longitudinal data to examine the effect of childhood circumstances on adult health. Perhaps the best example of such a study is one by Case, Fertig, and Paxson (2005) which uses data from a longitudinal study of a 1958 British birth cohort. The authors find that maternal education is significantly associated with health, even at 42 years of age (the oldest group in their sample). This relationship not only persists over the life course but actually becomes stronger in middle-age. Similarly, other studies find a persistent effect of childhood socioeconomic status on adult health (e.g., Case, Lubotsky, and Paxson 2002), although some (e.g., Rahkonen, Lahelma, and Huuhka 1997) only examine younger samples.

Other empirical support for an intergenerational relationship between maternal education and offspring's health is less direct; it comes from piecing together two separate, but related, streams of research. One set of studies documents the positive association between mother's education and child health (Currie and Moretti 2005; Gakidou et al. 2010; Meara 2001; although see Desai and Alva 1998 for an exception), while another set of studies examines how childhood conditions are associated with later life outcomes, including health and mortality (Haas 2006; Hayward and Gorman 2004). (See Palloni 2006 for review of this body of evidence.) Extrapolating from these studies, mother's education is associated with health, and this relationship is partly mediated by a number of childhood and adult mechanisms.

Potential mechanisms

Mothers have an integral role in household life and exert an immense influence on early

childhood development. Related literature identifies specific channels through which maternal education (and childhood circumstances more broadly) are potentially associated with later life health. Highlighting the ways in which mother's education is linked to offspring health reveals how social and demographic change may reshape the overall relationship. Specifically, these mechanisms stem from mother's education association with (1) total household resources, (2) quality and quantity of parent-child interactions, (3) intergenerational social mobility, and (4) mother's health selection into education.

Overall, these four pathways may affect the transmission of social skills, particularly social emotional skills. In a number of articles, Heckman and his colleagues have demonstrated the importance of early child development and the persistent effect of non-cognitive skills throughout the life course (e.g., Cunha and Heckman 2008; Heckman, Stixrud, and Urzua 2006). Although the skills are modifiable in later life, the rate of return to the modification rapidly diminishes (Heckman 2006). They serve as the foundation for self-mastery and sense of self (Heckman 2006), which are important for shaping individual's health (Ross and Wu 1995; Mirowsky and Ross 2003).

First, American families with more educated mothers tend to have a greater total stock of household economic resources compared to those with less educated mothers. For example, education and earnings are linked; women with higher levels of education, on average, earn more than their less educated counterparts (Brand and Xie 2010; Card 1999). Compounding this difference, children of better-educated mothers are also more likely to have a second parent in the household due to differential divorce rates (Härkönen and Dronker 2006) and have a more-educated father due to assortative mating (Mare 1991; Qian and Preston 1993). In turn, greater economic resources provide access to material goods (nutrition, less polluted communities, etc.) that can directly benefit offspring health.

Second, the quality and quantity of mother-child interactions differ between educated and non-educated mothers. Maternal education is associated with distinct types of interactions with children and, therefore, the social and cultural resources transmitted to offspring (Bourdieu 1977, 1986; DiMaggio 1982). For example, Lareau (2002, 2003) describes cultural resources with respect to language, the organization of daily life, and social connections; mothers of higher social standing share these cultural

resources with the next generation through direct and indirect actions. More educated mothers devote more time to educational activities than less educated mothers (Leibowitz 1974). Importantly, this parent-child time is greater among more educated mothers (Bianchi et al. 2004; Gauthier et al. 2004; Kalil, Ryan, and Corey 2012; Sayer, Bianchi, and Robinson 2004). According to dilution theories (Coleman 1988; Downey 1995), this observed difference may be due to smaller family size and the likely presence of another parent in the household. With more frequent encounters of a different nature, maternal education is likely to have dramatically different influences on offspring skill development. These differences in time spent with children and higher educated mothers' tailoring of activities to children's activities lead to a "development gradient" (Kalil, Ryan, and Corey 2012).

Third, maternal education and other aspects of family background may affect offspring socioeconomic attainment; in turn, adult socioeconomic conditions are associated with health (e.g., Braveman et al. 2005). The status attainment model, a workhorse of stratification research since the mid-twentieth century argues an individual's occupational attainment is a consequence of his educational attainment, which is, in turn, a consequence of his father's occupational and educational attainments (Blau and Duncan 1967). Model expansions and refinements also highlight the importance of mother's socioeconomic characteristics, including mother's education, in the status attainment processes (Beller 2009; Kalmijn 1994; Khazzoom 1997). This later research on stratification and social mobility also finds that additional background variables affect the status attainment process. Parental marital status and family (sibship) size, for example, are both associated with educational attainment (Astone and McLanahan 1991; Downey 1995; Sandefur, McLanahan, and Wojtkiewiez 1992). Part of this association may be due to parental expectations: increased parental educational attainment is associated with increased expectations that may help to motivate children (Davis-Kean 2005). Parental education may also affect childhood health, which is related to individuals' own socioeconomic attainment (Haas 2006; Jackson 2009; Palloni 2006) and adult health.

Fourth, the health profile of women who complete additional years of schooling may explain some of the association between mother's education and offspring health. Women who complete more

schooling may be healthier than their less educated counterparts since health affects socioeconomic attainment (Haas 2006). To the extent that less educated mothers' health conditions are heritable—either by biology or shared environmental conditions—there may be an association between mother's education and offspring's adult health due to this health selection mechanism.

Beyond health selection, mothers with higher levels of education may differ based on other characteristics that either may be the determinant or consequence of their education. For example, mothers with higher levels of education provide indirect benefits to their children through increased participation in schools, which improves students' academic performance and reduces the likelihood of truancy and dropout (Lareau 1989, 2002; McNeal 1999; Useem 1992).

Not a static process

[Table 1 about here]

Yet, as a result of the twentieth century's demographic and social changes, individuals from different birth cohorts have grown up under the influence of diverse family, social, and socioeconomic dynamics. Table 1 summarizes some changes that have occurred since the mid-twentieth century related to the above mechanisms. They did not occur uniformly across the U.S. population: they are likely to have had a disproportionate positive affect on the families of better-educated mothers. That is, the four relationships described above may differ across birth cohorts. McLanahan (2004) argues that such changes have lead to "diverging destinies" for women and their offspring. While advantaged women, including those with higher levels of education, have followed a trajectory that "reflects gains in resources," already disadvantaged women have followed a trajectory that reflects losses. Concentrated advantaged and disadvantage, in turn, may reshape the mobility process in ways that have lasting consequences for the next generation.

For example, family structures have changed in ways that may affect the total stock of household economic resources as well as parent-child interactions. The twentieth century brought an increase in single motherhood, with greater increases experienced by those women without a college degree (Ellwood and Jencks 2004). Single motherhood also tends to reduce the total level of household

resources. The additional economic and time constraints on single mothers may also have translated into a reduction in quality and quantity of parent-time for this group. Indeed, there is some evidence that single parenthood negatively (albeit modestly) affects parent-child time (Sandberg and Hofferth 2001, 2005).

Changes are not limited to the number parents present at home. There has been an uptick in educational assortative mating; the odds of college-educated women marrying a college educated man increased between 1940 and 2003 (Schwartz and Mare 2005). Homes with a highly educated mother are more likely to have a second parent who also has a high level of education. In other words, families with a college-educated mother are more likely to have a college-educated father while those with a lower educated mother are more likely to have lower educated father. This smaller probability of marriage across educational categories concentrates resources in the upper end of the educational distribution.[1]

Either parallel to the change in family configurations or as a result of it, the quality and quantity of parent-time has increased in two-family households, particularly those with mothers with higher levels of education. Sandberg and Hofferth (2001, 2005) find that children spent more hours per week with their parents in 1997 than in 1981, with larger gains in two-parents families with a college-educated woman. Due to measurement changes, however, the extent of change attributable to real behavioral increases cannot be properly quantified (Sandberg and Hofferth 2005). The authors also find that, adjusting for labor force participation, children of college-educated mothers spend more time with their mothers than children of mothers who do not hold such degrees. Since education affects the quality and content of interactions with children (Guryan, Hurst, and Kearney 2008; Lareau 2002, 2003; Leibowitz 1974), the increased time with children may lead to an increased "dose" of the positive effects of maternal

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[1] Parents pass down other endowments, such as ability, intelligence, biological and genetic risk, and so forth. As a result, the intergenerational relationships could be due to biological or genetic links between a mother and her child. For example, poor health is potentially biologically transmissible from mother to child. In this case, the mechanism would not be a social one and would not be captured in social science surveys. However, there is no *a priori* reason to assume that the genetic transmission is increasing over cohorts; while genetics may play a role, the relative contribution would not change over time. One possible exception is if educational assortative mating is leading to a healthier stock of children for college-educated couples. Given data limitations, I cannot explore this possibility here.

education. With smaller family sizes, a greater proportion of the total family resources may also be available to each child according to aforementioned dilution theories. Consequently, one would expect the observed association between mothers' education and child well-being to have increased.

Other changes in parent-time have occurred which may affect the association of interest in difficult to predict ways. Although increased labor force participation may be hypothesized to have negative consequences for children's well-being, relatively little empirical work supports that claim (Bianchi 2000). Indeed, Bianchi argues that strategic decisions, such as having fewer children, allow mothers to enter the workforce without sacrificing their investment in their children. Other evidence suggests that mothers' employment results in more financial resources for children but less parent-child time, although the amount of time has increased for working mothers between 1967 and 2009 (Fox et al. 2013). In other words, the influence of new social and demographic trends on the intergenerational transmission of advantage may operate in different directions.

Evidence also suggests that intergenerational mobility has changed in recent years and among recent cohorts. As noted above, individuals' own educational attainment may affect their adult subjective health. Up until the 1980s birth cohorts, social mobility increased (i.e. the intergenerational association decreased), although trends since then are less clear (Beller 2009). Some scholars have shown a decrease in intergenerational mobility among recent cohorts (Beller 2009; Hout 1988), while others have found a continuation of the previous trend (Biblarz and Raftery 1999). Other factors complicate sociological understandings of mobility patterns. Due to measurement issues, the direction of the trend is difficult to assess with certainty. For example, different treatment of family structures and the use of data from one versus both parents may contribute different findings across studies.

The mixed evidence described above also extends to considerations of social mobility beyond occupational status attainment. Research indicates that the economic returns to education have grown (Katz and Autor 1999; Mare 1995; Morris and Western 1999; Perna 2003). This increase may have widened the disparity in advantaged and disadvantaged families' investments into their offspring. However, certain policies (particularly those in the mid-to-late-1960s, such as Head Start and "War on

Poverty" reforms) may have offset some of this widening gap. Additionally, Musick and Mare (2006) investigate the intergenerational transmission of poverty status and family structure between mothers and daughters. While they do find evidence for an intergenerational association, they do not find evidence for a changing trend in the strength of this association.

The changing composition of those who attain higher levels of schooling may affect the relationship between mother's education and adult health. Women's educational opportunities rapidly expanded during the twentieth century (Buchmann, DiPrete, and McDaniel 2008; Goldin 2006). Women from a wider range of backgrounds had increasing opportunities to attain higher levels of schooling. In other words, post-secondary education became increasingly possible for women not from particularly advantaged backgrounds. Thus, mother's education may no longer serve as strong of a marker for other aspects of advantage that may be associated with better offspring health, thereby weakening the association over successive birth cohorts.

In sum, demographic and social processes have reshaped the hypothesized mediating characteristics linking mother's education with offspring health. However, the implications for the overall mobility process are unknown. It is unclear from the available evidence whether subjective health—an important non-economic aspect of individual advantage—has shifted in tandem with the dramatic increase in the concentration of advantage and disadvantage and major shift in sociodemographic regimes since the latter part of the twentieth century.

Importantly, the maternal education –health association and its trends over birth cohorts are likely not uniformly experienced. How various subgroups experience different trajectories in light of twentieth-century sociodemographic changes is an important area of sociological inquiry (McLanahan 2004). Due to differences in the experience, timing, and magnitude of demographic changes listed in Table 1, there may also be variation in trends of association between mother's education and offspring health. For example, the cohort trends may differ by the offspring's ascribed characteristics. Black and white families may have experienced different trajectories depending if children grew up born before, during, or after the Civil Rights movement, as the employment and education prospects of black mothers and mobility of

black offspring were disproportionately affected. Sons and daughters likely had different educational opportunities (Buchmann, DiPrete, and McDaniel 2008), and children with both parents present likely had more household resources available. However, families' tendency to spend more on households with only male children equalized and, perhaps, reversed from 1972 to 2007 (Kornrich and Furstenberg 2013).

The conceptual importance and shortage of empirical evidence for the intergenerational link between mother's education and her offspring's subjective well-being leads me to ask: (1) Has this relationship changed over recent birth cohorts? (2) Does this relationship differ by various sociodemographic characteristics (race, sex, and family structure)? I hypothesize that the association between mother's education and offspring health strengthened over successive periods and cohorts increased due to the demographic and social shifts described above.

DATA AND METHODS

To address these research questions, I pool data from available waves of the General Social Survey (GSS). The GSS is a repeated cross-sectional study administered to non-institutionalized adults annually from 1972 through 1993 except for 1979, 1981, and 1992, and biannually from 1994-2010. While only English speakers were interviewed before 2006, Spanish speakers were added in that survey year. To maintain a clear population of interest over the entire period, I restrict analyses to English speakers (removing 1,138 observations). In each administration, the GSS asks respondents questions on various behaviors, attitudes, and sociodemographic characteristics. (See Smith, Marsden, and Hout 2011 for a detailed description.)

As a repeated cross-sectional study, the GSS provides coverage across a number of birth cohorts (1899-1980) and years (1972-2010) that allows for an examination of the relationship between maternal education and offspring adult subjective well-being over a large segment of the United States population during the late twentieth century. No other national-level survey that collects data on mother's education and self-rated health offers as comprehensive coverage across time and birth cohorts. For cross-sectional analyses, I employ the provided weights to make the sample nationally representative of the English-speaking population from 1972-2010. Analyses are nonetheless robust to non-weighting.

As seen in the final column of Table 2, a considerable number of respondents are missing information for one or more of the key variables of interest due to GSS design and/or item non-response. Missing independent variable and covariate data were imputed using the Amelia package for R (Honaker, King, and Blackwell 2001). Although they were included in the imputation model, observations missing self-rated health information were subsequently deleted from the analytic sample, resulting in a final sample size of 40,096 individuals. Given the small sample size for the oldest and youngest cohorts, models excluding them were re-estimated (not shown). The exclusion of individuals from these cohorts did not substantially affect statistical significance, magnitude, or substantive interpretation.

[Table 2 about here]

Measures

Health is measured with a single-item self-rated scale; respondents are asked: "Would you say your own health, in general, is excellent, good, fair, or poor?" Although the processes by which people evaluate their health are unknown (Schnittker 2005), this measure allows an individual to evaluate emotional and physical dimensions in answering the global measure (Fayers and Sprangers 2002). Therefore, it is often employed as a single-measure summary of an overall state of health (e.g., Deaton and Paxson 1998). Self-rated health is both valid and reliable (Idler, Russell, and Davis 2000) and has been linked to subsequent mortality (Idler and Kasl 1995). As seen in Table 2, the sample is fairly healthy by this measure. Nearly one-third of respondents report "excellent" health, and over three-quarters report "good" or "excellent" health.

In most models, mother's education is measured through a continuous linear measure of years of schooling. This parameterization was chosen over other options (e.g., dichotomous, trichotomous, and dummy variables) for ease of interpretation and parsimony.[2] Robustness checks (described later) also

[2] For example, although using indicator variables for each year of mother's schooling imposes fewer parametric constraints, it introduces 20 interaction terms for the linear specification and 380 (20 years x 19 cohorts) for cohort dummy models. Sample size constraints also prohibit such models; some levels of schooling in some years do not have any observations.

include indicator variables for whether the mother earned a high school diploma and/or college degree. Respondents report a mean of 10.67 years of maternal education (unweighted; SD: 3.71), which is slightly higher than the average for paternal education (mean: 10.47 years; S.D.: 4.33).

Other key covariates as well as their means and/or percentages are listed in Table 2, which presents the sample characteristics (both weighted and unweighted) of individuals included in the pooled 1972-2010 GSS sample. All models control for an individual's age (linear and quadratic), sex, race, nativity status, whether s/he lived in the south during childhood, and whether s/he currently lives in an urban setting.

Analytic Approach

To measure this change, I estimate four types of models. I first impose a constraint on the shape of the relationship, namely a linear one, and estimating and ordered logits with an interaction term between cohort (measured in 5-year spans) and mother's education. I then allow for some curvature in the relationship by including a quadratic term as well. Both interaction terms center maternal education at 12 years to aid with interpretation.

I then relax the constraints further and examine the relationship with interaction terms between mother's education and each five-year cohort dummy. I choose the 1940-44 birth cohort as my reference category since it falls towards the middle of my range of covered cohorts. To assess whether there is evidence of a trend, I test the joint significant of these 19 five-year cohort interactions, as well as the significance of the individual interactions.[3] [4]

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[3] In robustness checks, I also use 10-year birth cohorts. This alternate specification does not substantially alter my estimates.

[4] However, there is substantial variation in the size of each cohort, as indicated by the size of the circles in Figure 1. Cohort sizes range from 23 to 4294 observations (median: 1939 observations). Given the relatively small size per cohort in light of the number of covariates and the possibly non-fixed role of cohort, I also explore this question with mixed effects models. I estimate multilevel ordered logits in which the intercept and mother's education coefficient are allowed to vary by five-year cohort. As the results do not substantively differ from the previous ones, I present the results in the appendix. I present the variation for the random intercept and coefficient as well as the covariance between the two.

After estimating these models for the entire sample, I turn to the second research question and explore whether the relationships differ by key sociodemographic characteristics--sex, race, and family structure--via stratified analyses. Due to sample size constraints, however, I cannot stratify by multiple indicators simultaneously (e.g., race and sex), despite the potential importance of multiple identities.

Exploratory analyses

To get a rough sense of the reasons behind changes in the association over birth cohorts, I also examine two of the hypothesized mechanisms, namely total household resources and offspring status attainment.[5] Although they cannot be tested directly with the available data, I am able to use crude measures to offer some exploratory analyses. To examine the contribution of the first pathway, I run a number of alternate models that include measures of father's education or alternative measures of parental education (e.g., combined parental education) in addition to the mother's education-by-cohort interaction terms. Due to problems with the retrospective report of childhood income, I cannot measure income direct and rely on multiple specifications of social origins to assess the contribution of these other processes and educational assortative mating. Aside from incorporating information about father's education, I also measure the mother's highest earned degree. Measuring such a credential effect can crudely proxy for labor market returns to her degree.

To examine the importance of social mobility, I then include data on the offspring's education as a proxy for the status attainment process in separate models. I focus on attainment since it is a crucial intermediary between parental status and eventual status (Blau and Duncan 1967). Together these two exploratory analyses may offer insight into the trends observed in the pooled analyses.

RESULTS

[Figure 1 about here]

Before turning to the regression results, I first present the general, bivariate relationship by

[5] The other two mechanisms, parent-child interactions and mother's health selection cannot be examined with the GSS data.

plotting the pairwise correlation between maternal education and health outcome for each five-year cohort (Figure 1). Overall, there is a modest but not insubstantial correlation between the two variables. Central to the first research question, there is also little evidence for a trend over birth cohorts; although there is some change in the correlation coefficient, the values remain in the same general vicinity.

[Table 3 about here]

Table 3 presents the results from the main three models. In the first column, I regress self-rated health on mother's education, cohort, and a number of demographic control variables. Mother's education is positively associated with her offspring's later life health; offspring with better-educated mothers report better subjective health. The odds of reporting excellent health (relative to good, poor, or fair) are 8.1% higher with each year of mother's schooling. That is, one year of schooling is associated with a 0.60 standard deviation difference in health. There is also a negative main effect for five-year birth cohort; the odds of reporting excellent health decrease over birth cohorts.

Yet, the central question is whether the relationship between mother's education and adult health (the first coefficient) depends on an individual's birth cohort. I test for such a trend through a few different approaches, each imposing different constraints on the shape of the trend. In the first test, I estimate whether there is a linear trend in the association over five-year cohorts (column 2). I regress health on mother's education and control variables as well as an interaction between a five-year birth cohort and mother's education with a interaction between years of schooling and five-year birth cohort (measured linearly). Here, I find stronger main effects (in the same direction as the first model) for mother's education and five-year birth cohort and a modest decline in the importance of mother's education by cohort ($p < 0.001$). However, the magnitude of the association is quite small; the increase in odds of reporting excellent health which year of maternal schooling decreases by about five-hundredths per five-year birth cohort.

[Figure 2 about here]

To better visual the magnitude of the main effect of cohort and the interaction with mother's education, I calculate predicted probabilities at the lowest and highest categories of subjective health

categories ("poor" and "excellent," respectively) for individuals who have mothers with 8, 12, and 16 years of schooling. I fix the covariates to correspond to a native-born, 50 year-old, white male who did not live in the south during childhood and who does not reside in an urban area at the time of the survey.

The left two panels ((a) and (b)) correspond to results from the linear interaction model for poor and excellent health, respectively. Here, the two main effects are immediately clear: there is an increase in the probability of poor health (and decrease in the probability of excellent health) across birth cohorts and higher mother's education is associated with better health. The trend in the association is also visible by the convergence of the predicted probabilities for offspring of mothers with 8, 12, and 16 years of schooling. For the oldest cohorts, children of mothers with 16 years of education have 16 percent higher probabilities of excellent health and 38 percent lower probabilities of poor health compared to those with mothers with 12 years of schooling. By the younger cohorts, these differences are 12 and 16 percent, respectively. Put differently, there is a 22 percent decline in the probability of excellent health for those with mothers with at 12 years of schooling and 15 percent decline for those with mothers with 16 years attained over nearly a century of birth cohorts. Although these relative measures seem large, an examination of the axes reveals that the absolute level of change is limited and the time span is appreciable. The decreasing association is clear in the graph but, especially with respect to poor health, is modest. Advantaged social origins remain beneficial for offspring health.

Table 3 also presents the coefficients for quadratic trends over cohorts (column 3). An additional term (mother's education x cohort^2) relaxes the linearity assumption by allowing some curvature in the trend. Neither the linear nor quadratic interaction terms reach statistical significance on their own; there is no evidence of a quadratic trend over birth cohorts. However, the joint interaction is significant (χ^2=34.43; $p < 0.001$), indicating that the mother's education coefficient does depend on birth cohort.

I again graph the predicted probabilities for individuals with mothers at three different levels of educational attainment (Figure 2). Although the quadratic interaction term did not reach statistical significance, I include it to illustrate the similarities between quadratic (right panels) and linear predictions (left panels). Once again, there is evidence of an increasing probability of poor health (and

decreasing probability of excellent health) over birth cohorts, with perceptible but limited convergence between lines. The quadratic term (significance aside) adds only slight curvature to the predicted probability lines. Plotting the results from the estimates that include a quadratic trend, therefore, provides additional reassurance that assuming linearity does not provide a terribly different fit compared to models that allow for some curvature.

Model fit statistics, similarly, indicate that the linear interaction model provides the best estimate. Comparing the Akaike information criterion (AIC), and Bayes information criterion (BIC) of the three models (no interaction, linear interaction, quadratic interaction) indicates that the model with a slight linear decline over five-year birth cohorts provides the best fit to the sample data (i.e. has the smallest AIC and BIC values). That is, a model that allows for a linear change in the association between mother's education and offspring's adult self-rated health by birth cohort offers the best fit and most parsimonious account of the three models examined. The size of this interaction is nonetheless notably modest.

These findings, overall, are contrary to my initial hypotheses that the association would strengthen over birth cohorts. I turn to potential explanations (e.g., changes in employment and selection into college) below. First, though, I examine whether there is heterogeneity in this pattern and test the robustness through alternative estimation strategies.

To do so, I relax these parametric assumptions further, and estimate change over cohorts by multiplying cohort indicator variables by maternal education. Returning to Figure 1, there are some hints towards a possible temporary increase in the association for those born between 1925 and 1934. Given the large number of parameters in each model (including 19 cohort indicators after omitting the 1940-44 birth cohort as the reference category and, therefore, 19 interaction indicators), I reserve the full results for the appendix (Table A1). However, I once again present predicted probabilities for "poor" and "excellent" health for individuals with mothers who attained 8, 12, and 16 years of schooling.

[Figure 3 about here]

These estimates present a more complicated portrait than the previous two analyses. Most of the individual interaction variables are not statistically different from the 1940-44 birth cohort (indeed, only

the 1910-14 and 1930-34 birth cohorts are), and the shape of any trend is difficult to discern from the interactions that are. In some years the gap between the lines narrows, but only to return to previous levels. Although these estimates do not provide positive evidence of a trend, they provide necessary caution in making claims about a clear, monotonic decreasing association. Some of the observed pattern over birth cohorts found in the first set of analyses may be attributable to model specification.

All three estimates indicate that, overall, there is little to no change in the intergenerational relationship between mother's education and offspring's subjective well-being. Although statistically significant and beneficial to model fit, the dependence is modest and dependent on the parametric constraints of the estimated model

Stratified Analyses

As noted earlier, the sweeping social and demographic changes that occurred during the twentieth century did not affect all groups at the same time, to the same extent, and/or in the same direction. Although important, the above trends may obscure this important heterogeneity. As a result, I re-estimate the previous models stratified by offspring's race and sex, her parent's marital status at age 16, and whether her parents hold the same educational degree (assortative mating). Based on the above model fit comparisons, I only present the results from stratified analyses using a linear interaction between mother's education and 5-year birth cohort. Although not presented, stratified quadratic, fixed effect, and mixed effect interaction model results offer similar accounts.

[Table 4 about here]

Key results from these stratified analyses are presented in Table 4. Surprisingly, there is no evidence for any meaningful differences by offspring sex, parental marital status at age 16, or if both parents hold the same degree (assortative mating). For each of these subgroups, the main effects are along a similar order of magnitude as for the full sample and the mother's education-by-cohort interaction, while significant and negative, is so small as to indicate no substantive trend over birth cohorts.

One result in the race-stratified estimates stands out. These results indicate a much smaller main effect of mother's education for black offspring compared to white offspring.[6] Comparing average marginal effects for the two samples, the main association for black offspring is only about a one-tenth of that for white offspring, all else equal. Despite this difference in the main association, the change in the magnitude of the association across birth cohorts does is not appreciably different between the two groups.[7] That is, there is no major difference in the trend in the association between mother's education and self-rated health by race or by any of the major sociodemographic categories examined.

Exploratory analyses: Potential mechanisms

What can account for only a weak trend in the association between mother's education and offspring adult health? Exploratory analyses that use crude measures for the hypothesized mechanisms described above potentially offer some clues.

Total household resources

[Table 5 about here]

To assess the potential influence of the total stock of household resources, I estimate a number of additional models that add father's education or joint education measures to my existing models. Rather than presenting the full results for five separate models, I summarize the key findings in Table 5. Including father's education and an interaction between father's education and five-year birth cohort to the previously estimated model only modestly attenuates the size of the interaction, bringing the already small term closer to zero. The new father's education interaction term is negative and only modest in magnitude, about one half of the size of the reduce mother's education interaction term. The mother's education main effect is attenuated (by almost half) but remains significant and approximately the same size as the coefficient for father's education (the terms are statistically indistinguishable).

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[6] I only examine white and black respondents in this analysis due to sample size constraints as well as the diversity of those who comprise the "other" category.

[7] Although the trend is only marginally significant for black respondents, this may be due to sample size.

The next four models include a measure of joint household resources that uses information about both maternal and paternal educational attainment: the total years of schooling for both parents, their average educational attainment, the highest level of attainment, and an interaction between mother's and father's attainment. In each model, the new interaction term is not statistically significant and the mother's education linear interaction term remains significant and modestly negative. Thus, mother's matter for the health of their children throughout the life course above and beyond other aspects of individuals' social origins.

Similarly, adjudicating between the importance of a year of schooling versus the holding of a particular credential may offer some (limited) evidence about the labor market (i.e other socioeconomic) aspects of mother's education. To test this empirically, I stratify the sample by whether a mother has a less than a high school diploma or a high school diploma or greater (not shown). Stratifying by degree indicates variation in the trend between mother's education and self-rated health. Athough the interaction term is along a similar order of magnitude for those with and without a high school diploma, the effect is only marginally statistically significant ($p < 0.10$) for those with a high school diploma. Given the average level of schooling in the sample, this result is unlikely to be a sample size issue. I also stratify by whether the respondent's mother holds at least a bachelors degree, finding once again marginally significant trends for children with more educated mothers but significant trends for those with less educated mothers.

Finally, I re-estimate models that include a measure of the offspring's own education attainment (analyses not shown) to test the importance of intergenerational social mobility. Individual's educational attainment is the crucial intermediate variable in the status attainment process (Sewell and Hauser 1976). In this additional model, the magnitude of mother's education plummets to about half its magnitude, while average marginal effect for the linear trend is substantially attenuated; it is approximately nine-tenths of the size of the term that did not include offspring education.

DISCUSSION AND CONCLUSION

Sweeping macrosocial and demographic changes have the potential to reshape microsocial processes and, therefore, individuals' well-being. However, my results indicate relative stability in the association between social origins and adult health despite such change. The influence of mother's education on offspring adult self-rated health only modestly changes across birth cohorts despite broad changes that potentially altered the underlying mechanisms. My analyses also indicate that the nature of the association between mother's education and offspring's self-rated health does not depend on the individual's sex, race, or family structure. For each of these groups, there is evidence of convergence, especially for those with better health. However, given the relatively small magnitude of this change, it is important not to overstate this decline. That is, I find evidence of a weakly declining association that, contrary to expectations, shows diverged rather than diverging destinies.

This analysis builds on research that examines the importance of social origins and the long reach of childhood circumstance on later life subjective well-being (e.g. Case, Fertig, and Paxson 2005; Hayward and Gorman 2004; Jackson 2009). While these investigations have provided crucial insights into the intergenerational reproduction of disadvantage, they have tended to only examine one cohort or one point in time. By widening the perspective and examining five-year birth cohorts that span nearly a century, my analysis highlights the persistence (and slight narrowing) of this intergenerational disadvantage despite larger forces that have tended to increase social and health inequities in the United States and elsewhere.

The relative stability in this relationship is not exclusive to subjective health. There is evidence of an increasing association between individuals' own educational attainment and health (Goesling 2007; Lynch 2003), but only limited evidence of change in mean levels of self-rated health over cohorts (Zheng, Yang, and Land 2011).

More broadly, a number of other studies find either no changes over time/cohorts or only modest ones for processes that produce individuals' advantage or disadvantage, such as social mobility (e.g., Biblarz and Rafferty 1999) and other intergenerational processes (e.g., Musick and Mare 2004, 2006). For

example, Musick and Mare (2006) examine trends in the transmission of family structure and poverty across generations, finding little evidence of change despite the large changes in family structure and poverty during their period of investigation. The authors note two processes that could account for their observed trend: offsetting effects and observed slowdown in trends toward universalism. These two dynamics could also shape health. For example, changing mean educational attainment, family structures, and social mobility could have offsetting effects due to increasing social acceptance towards smaller families and more educated coupled with compositional changes exacerbating the effects for disadvantaged populations.

What other offsetting factors can explain the relatively stable association between mother's education and offspring subjective health in the face of macrosocial change? Two candidates stand out: changing educational selectivity and women's labor force participation. Each changed during the course of the twentieth century (Buchmann, DiPrete, and McDaniel 2008; Goldin 2006) and has the potential to influence the stock of household resources, parent-child interactions, social mobility, and, therefore, the association between mothers' education and subjective health.

Changing educational selectivity?

The leading candidate for explaining the observed relative stability is the potential for educational selectivity patterns to offset other changes. The aforementioned social and demographic changes coincide with the expansion of women's education (Buchmann, DiPrete, and McDaniel 2008); the reduced selectivity of education could offset the advantages associated with higher education. As education becomes less selective, it no longer serves as a powerful marker for unobserved social advantage. While other changes could strengthen the association, changing selectivity could operate in a countervailing direction.

One way to test this explanation is to center maternal education on the five-year cohort mean. The coefficient on maternal education now reflects the relationship between each additional year of schooling above mean educational attainment on self-rated health.

[Table 6 about here]

Results from this cohort-centered analysis are presented in Table 6. Interestingly, the interaction terms also are affected: the linear term shrinks substantially for health, but still indicates a modest trend in the same direction. As centering on the cohort-specific education level attenuates the decline in the relationship, there is some evidence that changing selection into schooling partially offsets the other changes. However, educational selectivity is part, but not all, of the story; the interaction term remains significant. If the lack of a substantial increasing trend is due to countervailing forces, then other factors must also be at work.

Mother's employment?

Another potential explanation for the lack of an increasing association across cohorts is the contribution of mother's employment: although there are advantages for mothers with higher education, women have comprised an increasing percentage of the workforce over the past century (Goldin 2006). Employment, however, occurs differentially across the education spectrum (Buchmann, DiPrete, and McDaniel 2008). Women with a college degree, for example, are more likely to be employed than those with high school diploma. At the same time, labor force participation can have the dual effect of increasing household economic resources (in a two-person household) while also decreasing time available to spend with children. Due to changing questions across GSS waves and the lack of detailed mother employment questions until more recent survey years, I can only crudely examine the role of maternal employment with an indicator variable as to whether an individual's mother worked during her childhood.

[Table 7 and Figure 4 about here]

Results from models stratified by mother's work status (during the offspring's childhood) are presented in Table 7. Although the results are fairly similar between children of mothers who did and did not work, a few notable differences are apparent. First, mother's education is more strongly associated with health for working mothers than non-working mothers. This finding raises broader questions about the importance of socioeconomic resources in the household, discussed in greater detail below. Second, the main effect of cohort differs between the two groups. Amongst those with working mothers, there is a

decrease in health over cohorts, whereas this decrease is not present for those with non-working mothers. Third, the interaction terms—the changes in the association—are not statistically different from one another, although both are negative and the decline is slightly greater for working mothers.

To get a sense of the magnitude of these differences, I also plot the predicted probabilities in Figure 4 for offspring of mothers with 12 and 16 years of schooling. The black lines correspond to estimates from the subsample with mothers who worked during childhood; the gray lines correspond to those with mothers who did not. Although there are clear differences between the main effects over cohorts, there is little difference in the rate at which the lines begin to converge over time. Thus, the slightly decreasing association does not appear to differ by maternal employment status.

Taken together, I have only limited evidence of an offsetting role of changing educational selectivity and women's labor force participation. Both attenuate the size of the cohort coefficient, but neither fully accounts for it. A modest, but present, decreasing association across birth cohorts remains in both models. Some of this modest trend may be due to opposing forces among employed mothers. Mothers who work, on average, spend less time with their children compared to non-working mothers (Baydar, Greek, and Gritz 1999). Yet, they may compensate for their employment through intensive interactions during the time that is spent or via increased paternal involvement (Fox et al. 2013; Zick, Bryant, and Österbacka 2001). Future work is necessary to uncover other countervailing forces that may lead to an offset of a stronger trend.

Why Mother's Education Matters

Why does mother's education matter for her offspring's health? Earlier, I identified four potential candidates: (1) an increased total stock of household resources, (2) increased quality and quantity of parent-child interactions, (3) increased intergenerational social mobility, and (4) mother's health selection into education. All but the final one experienced substantial change during the course of the twentieth century; as a result, understanding the contribution of each may offer some insight into why the association of interest decreased, albeit slightly, during the course of the twentieth century. I was able to test the first and third of these, and can speculate as to contribution the others.

Other aspects of social origins

The first mechanism claims that a measure of mother's education is a mere proxy for wider socioeconomic origins. Measures of mother's education may also capture a wider set of diverse processes, such as the total stock of financial, cultural, and/or human capital available to offspring. Children interact with both parents and draw resources from both of them. Indeed, Beller (2009) highlights the importance of including mothers—not just fathers—in intergenerational research. She finds that social fluidity trends among cohorts born between 1920 and 1984 are sensitive to the inclusion of maternal education: father-only models lead to the conclusion that social fluidity trends have not changed in recent cohorts, while including both parents' characteristics leads to the conclusion that social fluidity has begun to decrease. Beller also claims that including both maternal and paternal characteristics is conceptually and empirically necessary, as socioeconomic position of origin is a family-level variable, not something that is held by an only a mother or father.

However, I do not take such a position (and examine both parents jointly in my main models) since not all intergenerational mechanisms start at the family-level. While mother's education is almost certainly also capturing unmeasured resources, it is unlikely that mother's education serves only as a proxy for family-level variables or other resources available in to children. It is one aspect of social origins, not just an indicator for them. The prior empirical and theoretical work cited earlier, including that which focuses mother-child interactions, highlights the developmental importance of mothers for the development of skills and habits that persist throughout individuals' lives.

In testing mother's education as a mechanism, I find support for my stance. There is little evidence to indicate that, once accounting for changes in other household socioeconomic resources, the relationship between mother's education and self-rated health changes appreciably. My results indicate that there is a slightly stronger effect for those mothers without a high school diploma or without a college degree. This finding is congruent with some research indicating that intergenerational processes are stronger at the bottom of the distribution than at the top (Harding et al. 2005). However, given the

weak strength in the change of the association even when it is statistically significant, the results should not be overstated.

Overall, these findings provide mixed evidence of a potential credential effect, another set of analyses (not shown) cautions against this interpretation of those findings. To further interrogate the influence of degree, I estimate two additional models. I re-estimate the earlier model with an indicator variable for having a bachelor's degree (or greater) or high school diploma (or greater) plus a degree-by-birth cohort interaction term in addition to the continuous education measure.[8] These models examine the difference in a year of schooling net of holding a particular credential. In both the high school and college mode, the continuous linear interaction remains significant, negative, and modest. Therefore, the importance of mother's education seems to be a story about each year of schooling rather than the labor market returns or other benefits of a particular credential.

Parent-child interactions

Although I cannot directly test the mechanisms hypothesized to link mother's education and offspring health offered earlier, considerations of existing evidence in support of them helps to reveals ways in which each pathway may matter. For example, a mother's education significantly shapes relations with her child in a number of ways, ranging from the total stock of members of the household (McLanahan and Sandefur 1994) to daily interactions (Lareau 2003) to parental expectations (Sewell, Haller, and Portes 1969). Augustine and colleagues (2009) also note mother's education affects the selection of early child care options (which they consider to be a critical stage in determining offspring's socioeconomic attainment).

My results offer some mixed evidence for parent-child interactions as a mechanism, especially analyses stratified by work status. The slightly stronger decline amongst working mothers gives some additional support to this mechanism operates against the gains in parent-child time experienced by

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[8] I also estimate two additional models that contain the degree indicator but not the continuous education measure. I find that the college degree interaction is only marginally significant, while the high school term interaction is significant.

working mothers (Fox et al. 2013). At the same time, however, as working mothers already spend less time with their children, the overall lower probability of better health amongst the children of working mothers hints that mother-child time still matters.

Social mobility and health selection

Once individuals' own educational attainment is taken into account, the trend line drastically reduces in size, moving from its already minor magnitude to a barely detectable (but significant) one. The importance of an individual's own education in determining his health is the subject of a great deal of research, including evidence that examines the relationship over time and birth cohorts. Much of the evidence finds a strengthening relationship between education and health (e.g., Goesling 2007; Lynch 2003), perhaps due to the education's effect on earnings (Lynch 2006). Despite the attenuation of the coefficient for the trend interaction, it nonetheless is statistically detectable and negative; it is the most powerful, but not only mechanism at work.

The final hypothesized mechanism—health selection into education—cannot be tested with the available data. Cohort-centered analyses offer some clues about the changing composition of those who attain higher levels of schooling, but do not account for health selection. Even as the composition of high school graduates and college attendees changes over time, it is likely that health selection continues to operate in both earlier and later years.

While suggestive, my analyses have a few limitations. First, I am able to observe only some of the characteristics associated with twentieth-century demographic changes. I do not have detailed measures for mother's work status, her mean age of childbearing, or other factors that experienced rapid change and affect mother-offspring interactions. Each of these outcomes is hypothesized to be associated with intergenerational subjective well-being. The unobserved and unmeasured variables may be associated with demographic changes, they also may include other characteristics, such as biological ones and psychological ones. Second, I cannot account for selective mortality. Given the links between self-rated health and subsequent mortality (e.g., Idler and Kasl 1995), one would expect differential mortality by maternal education. This effect, however, should bias my estimates downward, as the most select

members of the poor health group (presumably concentrated in the low maternal education group) likely comprise my sample.

Despite these primary limitations, this project reveals intergenerational social and demographic processes that affect subjective well-being and social functioning. I find that mother's advantage has non-economic consequences, and despite changing social and demographic circumstances, this relationship only attenuated slightly. This finding, from the perspective of the offspring, also indicates the persistent linkage between a person's adult subjective well-being and intergenerational antecedents; the importance of one's family advantage has only slightly diminished. Future research can expand upon the types of analyses performed here to unpack more fully the reasons behind this stability that is remarkable in light of great changes in related factors.

Although the results are somewhat optimistic in the sense that destinies are not diverging with respect to adult self-rated health as they are with some other outcomes, the overall portrait still reveals widespread inequality. I offer additional evidence that health inequalities still have a strong connection with social inequities in previous generations and that childhood circumstances continue to exert an influence on individual's health later in the life course. The production of well-being, like other social processes, intimately links the distribution of advantage and mobility (Hout 2004). Self-rated health, is an outcome in its own right that also affects an individual's ability to work, engage with friends and family, advance socioeconomically, and partake in social life (Arrow 1996). As a result, children with better-educated mothers continue to experience the fruits of their maternal advantage in important ways even in adulthood.

REFERENCES

Arrow, J.O. 1996. "Estimating the influence of health as a risk factor on unemployment: A survival analysis of employment durations for workers surveyed in the German Socio-Economic Panel (1984–1990)." *Social Science & Medicine* 42:1651-1659.

Astone, Nan Marie and Sara S. McLanahan. 1991. "Family structure, parental practices, and high school completion." *American Sociological Review* 56(3);309-320.

Augustine, Jennifer March, Shannon E. Cavanagh, and Robert Crosnoe. 2009. "Maternal education, early child care, and the reproduction of advantage." *Social Forces* 88(1):1-30.

Baydar, Nazli, April Greek, and R. Mark Gritz. 1999. "Young Mothers' Time Spent at Work and Time Spent Caring for Children." *Journal of Family and Economic Issues* 20(1): 61-84/

Bianchi, Suzanne M. 2000. "Maternal Employment and Time with Children: Dramatic Change or Surprising Continuity?" *Demography* 37:401-414.

Bianchi, Suzanne M., Philip N. Cohen, Sara Raley,and Kei Nomaguchi. 2004. "Inequality in Parental Investment in Child- Rearing: Expenditures, Time and Health''. In Kathyrn. M. Neckerman (Ed.), *Social Inequality* (pp.189–219). New York: Russell Sage.

Biblarz, Timothy J. and Adrian Raftery. 1999. "Family Structure, Educational Attainment, and Socioeconomic success: Rethinking the Pathology of Matriarchy." *American Journal of Sociology* 105:321–65.

Beller, Emily. 2009. "Bringing Intergenerational Social Mobility Research into the Twenty-first Century: Why Mothers Matter." *American Sociological Review* 74(4):507-528.

Beller, Emily and Michael Hout. 2006. "Intergenerational Social Mobility: The United States in Comparative Perspective." *The Future of Children* 16(2):19-36.

Blau, Peter M., Otis Dudley Duncan, and Andrea Tyree. 1967. *The American Occupational Structure*. New York: John Wiley & Sons, Inc.

Bourdieu, Pierre. 1977. ''Cultural Reproduction and Social Reproduction.'' Pp. 487–510 in Power and Ideology in Education, edited by J. Karabel and A. H. Halsey. New York: Oxford University Press.

Bourdieu, Pierre. 1986. "The forms of capital." *Readings in Economic Sociology* 280-291.

Brand, Jennie and Yu Xie. 2010. "Who Benefits Most from College? Evidence for Negative Selection in Heterogeneous Economic Returns to Higher Education." *American Sociological Review* 75(2):273-302.

Braveman, Paula A., Catherine Cubbin, Susan Egerter, Sekai Chideya, Kristen S. Marchi, Marilyn Metzler, and Samuel Posner. 2005. Socioeconomic status in health research: One size does not fit all. *Journal of the American Medical Association* 294: 2879-88.

Buchmann, Claudia, and Thomas A. DiPrete. 2006. "The Growing Female Advantage in College Completion: The Role of Family Background and Academic Achievement." *American Sociological Review* 71:515-541.

Buchmann, Claudia, Thomas A. DiPrete and Anne McDaniel. 2008. Gender Inequalities in Education. *Annual Review of Sociology*. 34: 319-337.

Card, David. 1999. "The Causal Effect of Education on Earnings." Pp. 1801-1863 in Orley Ashenfelter and David Card (Eds). *Handbook of Labor Economics* Amsterdam: Elsevier.

Card, David and Alan Krueger. 1992. "Does School Quality Matter: Returns to Education and Characteristics of Schools in the United States." *Journal of Political Economy*.

Case, Anne, Angela Fertig, and Christina Paxson. 2005. "The lasting impact of childhood health and circumstance." *Journal of Health Economics* 24(2):365-389.

Case, Anne, Darren Lubotsky and Christina Paxson. 2002. Socioeconomic status and health in childhood: the origins of the gradient. *American Economic Review 92* (5), 1308–1334.

Cherlin, Andrew J. 2005. "American Marriage in the Early Twenty-First Century." *The Future of Children* 15(2):33-55.

Coleman, James. 1988. "Social Capital and the Creation of Human Capital." *American Journal of*

Sociology 94(Supplement):S95-120.
Cunha, Flavio and James Heckman. 2008. "Formulating, Identifying, and Estimating the Technology for the Formation of Skills." *Journal of Human Resources* 43(4): 738-782.
Currie, Janet and Enrico Moretti. 2005. "Biology as Destiny? Short and Long-Run Determinants of Intergenerational Transmission of Birth Weight." *Journal of Labor Economics* 25(2); 231-264.
Davis-Kean, Pamela E. 2005. "The Influence of Parent Education and Family Income on Child Achievement: The Indirect Role of Parental Expectations and the Home Environment." *Journal of Family Psychology* 19(2):294-304.
Deaton, Angus and Christina Paxson. 1998. "Aging and inequality in income and health." *American Economics Review* 88: 248-253.
Desai, Sonalde, and Soumya Alva. 1998. "Maternal Education and Child Health: Is There a Strong Causal Relationship?" *Demography* 35:71.
DiMaggio, Paul. 1982. ''Cultural Capital and School Success: The Impact of Status Culture Participation on the Grades of U.S. High School Students.'' *American Sociological Review* 47:189–201.
Downey, Douglas B. 1995. "When Bigger is Not Better: Family Size, Parental Resources, and Children's Educational Performance. *American Sociological Review* 60(5): 746-761
Ellwood, David T. and Christopher Jencks. 2004. "The uneven spread of single-parent families: What do we know? Where do we look?" (Pp. 3-78) In Kathyrn. M. Neckerman (Ed.), *Social Inequality*. New York: Russell Sage.
Fayers, Peter M, and Mirjam AG Sprangers. 2002. "Understanding self-rated health." *The Lancet* 359:187-188.
Fox, Liana, Wen-Jui Han, Christopher Ruhm, and Jane Waldfogel. 2012. "Time for Children: Trends in the Employment Patterns of Parents, 1967–2009." *Demography* 50(1):25–49.
Gakidou, Emmanuela, Krycia Cowling, Rafael Lozano, and Christopher JL Murray. 2010. "Increased educational attainment and its effect on child mortality in 175 countries between 1970 and 2009: a systematic analysis." *The Lancet* 376:959-974.
Gauthier, Anne H., Timothy M. Smeeding, and Frank F. Furstenberg. 2004. "Are Parents Investing Less Time in Children? Trends in Selected Industrialized Countries." *Population and Development Review* 30:647-672.
Goesling, Brian. 2007. "The rising significance of education for health?" *Social Forces* 85(4):1621-1644.
Goldin, Claudia. 2006. "The quiet revolution that transformed women's employment, education, and family. *American Economic Review* 96(2):1-21.
Grusky, David (Ed.). *Social Stratification: Class, Race, and Gender in Sociological Perspective*. Boulder, Colorado: Westview Press.
Guryan, Jonathan, Erik Hurst, and Melissa Kearney. 2008. "Parental Education and Parental Time with Children." *Journal of Economic Perspectives* 22(3): 23–46.
Haas, Steven A. 2006. "Health Selection and the Process of Social Stratification: The Effect of Childhood Health on Socioeconomic Attainment." *Journal of Health and Social Behavior* 47(4):339–354.
Harding, David J., Christopher Jencks, Leonard M. Lopoo, and Susan E. Mayer. 2004. "The Changing Effect of Family Background on the Incomes of American Adults." In *Unequal Changes: Family Background and Economic Success*, Samuel Bowles, Herbert Ginitis, and Melissa Osborne, eds. New York and Princeton: Russell Sage and Princeton University Press.
Harkonen, Juno and Jaap Dronkers. 2006. "Stability and Change in the Educational Gradient of Divorce. A Comparison of Seventeen Countries." *European Sociological Review* 22(5):501–517.
Hayward, Mark D. and Bridget K. Gorman. 2004. "The Long Arm of Childhood: The Influence of Early Life Social Conditions on Men's Mortality." *Demography* 41:87-107.
Heckman, James J. 2006. "Skill Formation and the Economics of Investing in Disadvantaged Children." *Science* 312:1900-1902.
Heckman, James J., Jora Stixrud and Sergio Urzua. 2006. "The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior," *Journal of Labor Economics,* 24(3): 411-482.

Honaker, James, Gary King, and Matthew Blackwell (2011). "Amelia II: A Program for Missing Data". *Journal of Statistical Software,* 45(7), 1-47.

Hout, Michael. 1988. "More Universalism, Less Structural Mobility: The American Occupational Structure in the 1980s." *American Journal of Sociology* 93:1358-1400.

Hout, Michael. 2004. "How inequality may affect intergenerational mobility." In Kathyrn. M. Neckerman (Ed.), *Social Inequality*. New York: Russell Sage.

Idler, Ellen L. and Yael Benyamini. 1997. "Self-Rated Health and Mortality: A Review of Twenty-Seven Community Studies." *Journal of Health and Social Behavior* 38(1): 21-37.
Idler, Ellen L. and Stanislav V. Kasl. 1995. "Self-Ratings of Health: Do They Also Predict Change in Functional Ability?" *Journals of Gerontology, Series B, Social Sciences* 50B(6): S344-S353.

Jackson, Margot I. 2009. "Understanding links between adolescent health and educational attainment." *Demography* 46(4): 671-694.

Jackson, Margot I. 2010. "A life course perspective on child health, cognition and occupational skill qualifications in adulthood: evidence from a British cohort." *Social Forces* 89 (1): 89-116.

Kalil, Ariel, Rebecca Ryan, and Michael Corey. 2012. "Diverging Destinies: Maternal Education and the Developmental Gradient in Time With Children." *Demography* 49(4):1361–1383. Retrieved February 17, 2013.

Kalmijn, Matthijs. 1994. "Mother's Occupational Status and Children's Schooling." American *Sociological Review* 59(2):257-75.

Katz, Lawrence F. and David H Autor. 1999. "Changes in the wage structure and earnings inequality" Pp. 1463-1555. In: O. Ashenfelter and D. Card (Eds.), Handbook of Labor Economics. Amsterdam: New Holland.

Khazzoom, Aziza. 1997. "The Impact of Mothers' Occupations on Children's Occupational Destinations." *Research in Social Stratification and Mobility* 15:57–90.

Kornrich, Sabino, and Frank Furstenberg. 2012. "Investing in Children: Changes in Parental Spending on Children, 1972–2007." *Demography* 50(1):1–23.

Lareau, Annette. 1989. *Home Advantage: Social Class and Parental Intervention in Elementary Education*. The Falmer Press.

Lareau, Annette. 2002. "Invisible Inequality: Social Class and Childrearing in Black Families and White Families." *American Sociologial Review* 67(5): 747-776

Lareau, Annette. 2003. *Unequal Childhoods: Class, Race, and Family Life*. Berkeley, CA: University of California Press.

Leibowitz, Arleen. 1974. "Education and Home Production." *American Economic Review* 64: 243–50.

Lesthaeghe, Ron. 2010. "The Unfolding Story of the Second Demographic Transition," *Population and Development Review*, June, 36(2): 211-251.

Lesthaeghe, Ron J., and Lisa Neidert. 2006. "The Second Demographic Transition in the United States: Exception or Textbook Example?" *Population and Development Review* 32:669-698.

Lynch, Scott M. 2003. "Cohort and Life Course Patterns in the Relationship Between Education and Health: A Hierarchical Approach." *Demography* 40(2):309-331.

Lynch, Scott M. 2006. "Explaining Life Course and Cohort Variation in the Relationship between Education and Health: The Role of Income." *Journal of Health and Social Behavior* 47: 324-338.

Magnuson, Katherine A. 2002. "Intergenerational Benefits of Maternal Education: The Effect of Mothers' Returns on Schooling on Children's Academic Outcomes." Ph.D. Dissertation, Human Development and Social Policy, Northwestern University, Evanston, IL.

Mare, Robert D. 1981. "Change and Stability in Educational Stratification." *American Sociological Review* 46: 72-87

Mare, R. D. 1991. "Five Decades of Educational Assortative Mating." *American Sociological Review* 56: 15-32.

Mare, Robert D. 1995. "Changes in Educational Attainment and School Enrollment." PP. 155-213 in R. Farley (Ed.), *State of the Union: America in the 1990s*. New York: Russell Sage Foundation.

Mare, Robert D., and Vida Maralani. 2006. "The Intergenerational Effects of Changes in Women's Educational Attainments." *American Sociological Review* 71:542-564.

Martin, Steven P. 2004. "Women's Education and Family Timing: Outcomes and Trends Associated with Age at Marriage and First Birth." Pp. 79-118 in *Social Inequality*, edited by Kathryn M. Neckerman. New York: Russell Sage Foundation.

Mazumber, Bhashakr and David I. Levine. 2002. "Choosing the Right Parents: Changes in the Intergenerational Transmission of Inequality between 1980 and the Early 1990s." Federal Reserve Bank of Chicago Working Paper No. 2002-08.

Mayer, Susan E. and Leonard M. Lopoo. 2005. "Has the Intergenerational Transmission of Economic Status Changed?" *Journal of Human Resources* 40: 169-185.

McLanahan, Sara. 2004. "Diverging Destinies: How Children Are Faring Under the Second Demographic Transition." *Demography* 41(4):607-627.

McLanahan, Sara S. and Christine Percheski, 2008. "Family Structure and the Reproduction of Inequality." *Annual Review of Sociology* 34: 257-276.

McLanahan, Sara S., and Gary D. Sandefur. 1994. *Growing Up With a Single Parent*. Cambridge: Harvard University Press.

McNeal, Ralph B. 1999. "Parental Involvement as Social Capital: Differential Effectiveness on Science Achievement, Truancy, and Dropping Out." *Social Forces* 78(1):117-44.

Meara, Ellen. 2001. "Why is Health Related to Socioeconomic Status." NBER Working Paper no. 8231.

Mirowsky, John and Catherine E. Ross. 2003. *Education, Social Status, and Health*. New York: Aldine de Gruyter.

Morris, Martina and Bruce Western. 1999. "Inequality in Earnings at the Close of the Twentieth Century." *Annual Review of Sociology* 25:623-657.

Musick, Kelly, and Robert D. Mare. 2004. "Family structure, intergenerational mobility, and the reproduction of poverty: evidence for increasing polarization?" *Demography* 41(4): 629-648.

Musick, Kelly, and Robert D. Mare. 2006. "Recent trends in the inheritance of poverty and family structure." *Social Science Research* 35:471-499.

Palloni, Alberto. 2006. "Reproducing Inequalities: Luck, Wallets, and the Enduring Effects of Childhood Health." *Demography* 43:587-615.

Palloni, Alberto, Carolina Milesi, Robert G. White, and Alyn Turner. 2009. "Early childhood health, reproduction of economic inequalities and the persistence of health and mortality differentials." *Social Science & Medicine* 68(9):1574–1582.

Perna, Laura W. 2003. "The Private Benefits of Higher Education: An Examination of the Earnings Premium." *Research in Higher Education* 44(4):451-472.

Preston, Samuel H., Mark E. Hill, and Greg L. Drevenstedt. 1998. "Childhood Conditions that Predict Survival to Advanced Ages Among African Americans." *Social Science and Medicine* 47:1231-1246.

Preston, Samuel H. and Caroline Sten Hartnett. 2008. "The Future of American Fertility," NBER Working Paper Series No. 14498, November, Cambridge, MA: NBER.

Qian, Zhenchao and Samuel H. Preston. 1993. "Changes in American Marriage, 1972 to 1987: Availability and Forces of Attraction by Age and Education." *American Sociological Review* 58:482-495.

Rahkonen, Ossi, Eero Lahelma, and Minna Huuhka. 1997. "Past or Present? Childhood Living Conditions and Current Socioeconomic Status as Determinants of Adult Health." *Social Science and Medicine* 44:327-36.

Rindfuss, Ronald R., S. Philip Morgan and Kate Offutt. 1996. "Education and the Changing Age Pattern of American Fertility: 1963-1989." *Demography* 33:277-290.

Ross, Catherine E. and Chia-ling Wu. 1995. "The Links between Education and Health." *American Sociological Review* 60(5):714-45.

Ryder, Norman B. 1965. "The Cohort as a Concept in the Study of Social Change." *American Sociological Review* 30(6):843-61.

Sandberg, John F. and Sandra L. Hofferth. 2001. "Changes in Children's Time with Parents: United States, 1981-1997." *Demography* 38:423-36.

Sandberg, John F. and Sandra L. Hofferth. 2005. "Changes in Children's Time with Parents: A Correction." *Demography* 42(2): 391-395.

Sandefur, Gary D., Sara McLanahan, and Roger A.Wojtkiewicz. 1992. "The Effects of Parental Marital Status during Adolescence on High School Graduation." *Social Forces* 71(1):103-121.

Sayer, Liana C., Suzanne M. Bianchi and John P. Robinson. 2004. "Are Parents Investing Less in Children? Trends in Mothers' and Fathers' Time with Children." *American Journal of Sociology* 110:1-43.

Schnittker, Jason. 2005. "When Mental Health Becomes Health: Age and the Shifting Meaning of Self-Rated Health." *The Milbank Quarterly* 83:397-423

Schwartz, Christine R., and Robert D. Mare. 2005. "Trends in Educational Assortative Marriage From 1940 to 2003." *Demography* 42:621-646.

Sewell, William H., Archibald O. Haller, and Alejandro Portes. 1969. "The Educational and Early Occupational Attainment Process." *American Sociological Review* 43: 82-92.

Smith, Tom W., Peter V. Marsden, and Michal Hout. 2011. "General Social Survey, 1972-2010 [Cumulative File] Codebook." Chicago, IL: NORC.

Spain, Daphne and Suzanne M. Bianchi. 1996. *Balancing Act: Motherhood, Marriage, and Employment among American Women.* New York:Ruseell Sage.

Useem, Elizabeth. 1992. "Middle Schools and Math Groups: Parents' Involvement in Children's Placement." *Sociology of Education* 65(4):263-97.

Zheng, Hui, Yang Yang, and Kenneth C. Land. 2011. "Variance function regression in hierarchival age-period-cohort models: applications to the study of self-reported health." *American Sociological Review* 76: 955-983.

Zick, Cathleen D., W. Keith Bryant, and Eva Österbacka. 2001. "Mother's employment, parental involvment, and the implications for intermediate child outcomes." *Social Science Research* 30:25-49.

Table 1. Example twentieth century social and demographic changes and their hypothesized effect on the association between mother's education and offspring self-rated health

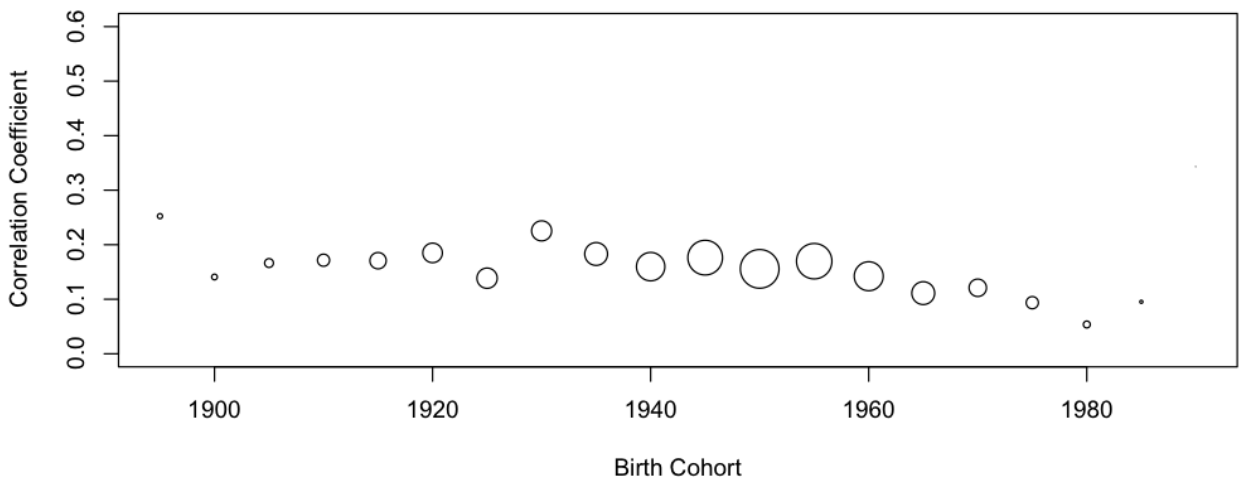
Social and/or demographic change	**Example sources**	**Implication for gross association**
Increase in women's educational attainment	Buchmann and DiPrete 2006; Buchmann, DiPrete, and McDaniel 2008	Decreased association; schooling is less selective
Increase in educational assortative mating	Schwartz and Mare 2005	Increased association; human, social, and cultural capital concentrated
Increase in mean age at birth	Martin 2004; McLanahan 2004; Rindfuss, Morgan, and Offutt 1996	Increased association; disproportionate increase for higher educated mothers
Increase in parent-child interaction time	Sandberg and Hofferth 2001	Increased association; disproportionate increase for higher educated mothers
Increase in women's workforce participation	Goldin 2006; Spain and Bianchi 1996	Unknown; increased association due to disproportionate employment (and, therefore, income) for women with high education, but decreased association due to less parent-child time
Increase in divorce rate / single-parent households	Cherlin 2005; McLanahan and Percheski 2008	Increased association; disproportionate increase for less educated women
Decrease in social mobility or Increase in social mobility	Beller 2009; Beller and Hout 2006; Grusky 2008; Hout 1988; Mazumder and Levine 2002, Mayer and Lopoo 2005	Unknown; increased association for decreased mobility but decreased association for increased mobility due to relationship between individuals' SES and well-being
Increased returns to education	Card and Krueger 1992; Morris and Western 1999; Perna 2003	Increased association; greater material resources for higher educated mothers

Table 2. Demographic characteristics and percentages/means for primary variables, pre-imputation, weighted (N= 40,096)

Variable	Mean (S.E) / Percent, weighted	Mean (S.D) / Percent, unweighted	Obs.
Mother's Education (years)	10.72 (.02)	10.67 (3.71)	32611
Health (%)			40096
Excellent	31.71	30.92	
Good	45.31	44.96	
Fair	17.89	18.56	
Poor	5.08	5.57	
Parents Married at Age 16 (%)	73.21	72.31	38656
Father's Education (years)	10.52 (.03)	10.47 (4.33)	28043
Number of Siblings (#)	3.90 (.02)	3.92 (30.3)	38570
Household Income (USD, thousands)	48.603 (.216)	44.50 (35.07)	36124
Employed (%)	61.05	59.68	40090
Married (%)	61.81	54.78	40081
Number of Children (#)	1.97 (.01)	1.95 (1.78)	39987
Age (years)	44.28 (.09)	45.62 (17.47)	39970
Female (%)	53.92	55.63	40096
Race			40096
White	82.99	82.99	
Black	12.33	12.79	
Other	4.69	4.22	
South at age 16 (%)	32.02	32.20	40096
Foreign born (%)	8.22	7.74	31005
Urban (%)	36.09	37.66	40096
Cohort (%)			39970
< 1900	1.08	1.42	
1900-1919	10.37	11.97	
1920-1939	22.84	23.00	
1940-59	38.25	38.09	
≥ 1960	27.45	25.52	

Data: General Social Survey, 1972-2010 (Pooled)
Observations from non-English speaking respondents (N= 1,138) and respondents missing data on self-rated health (N=13,853) were excluded.

Figure 1. Pairwise correlation between mother's education and offspring adult self-rated health by five-year birth cohort



Note: Circle size represents relative cohort size
Data: General Social Survey, 1972-2010 (Pooled)

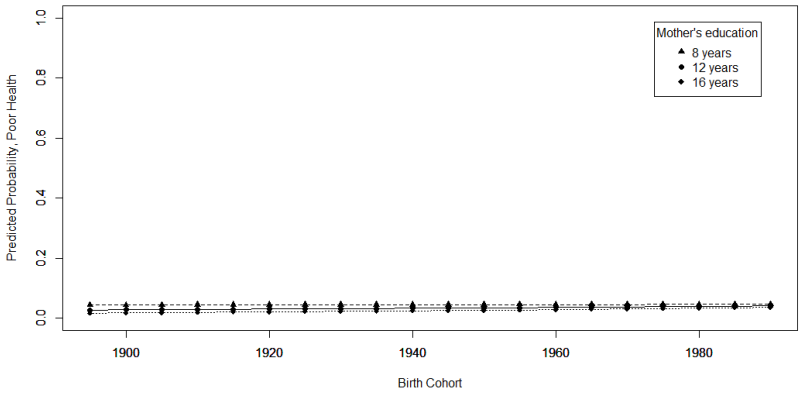
Table 3. Coefficients (and standard errors) for key variables and mother's education by five-year birth cohort interactions from ordered logistic regressions

	Self-Rated Health (1-4)		
	Model 1	Model 2	Model 3
Mother's education	0.078***	0.126***	0.123***
	(0.003)	(0.009)	(0.014)
Age	0.0003	-0.005	-0.005
	(0.003)	(0.004)	(0.004)
Age^2	0.0003***	0.0002***	0.0002***
	(0.00003)	(0.00003)	(0.00004)
Female	-0.077***	-0.079***	-0.079***
	(0.021)	(0.021)	(0.021)
South at age 16	-0.241***	-0.240***	-0.239***
	(0.023)	(0.023)	(0.023)
Black	-0.398***	-0.394***	-0.394***
	(0.033)	(0.033)	(0.033)
Other Race (ref = white)	-0.307***	-0.326***	-0.327***
	(0.059)	(0.060)	(0.060)
Urban	-0.033	-0.031	-0.031
	(0.022)	(0.022)	(0.022)
Foreign born	0.115*	0.107*	0.106*
	(0.048)	(0.048)	(0.048)
5-year birth cohort	-0.015*	-0.022***	-0.022***
	(0.005)	(0.005)	(0.005)
Mother's education x cohort	---	-0.005***	-0.004
		(0.001)	(0.003)
Mother's education x $cohort^2$	---	---	0.000
			(0.000)
Cut 1	-3.229***	-2.843***	-2.878***
	(0.118)	(0.141)	(0.181)
Cut 2	-1.412***	-1.020***	-1.055***
	(0.118)	(0.141)	(0.181)
Cut 3	0.716***	1.109***	1.074***
	(0.118)	(0.141)	(0.182)
AIC	90847.95	90791.54	90792.37
BIC	90959.74	90911.92	90921.35

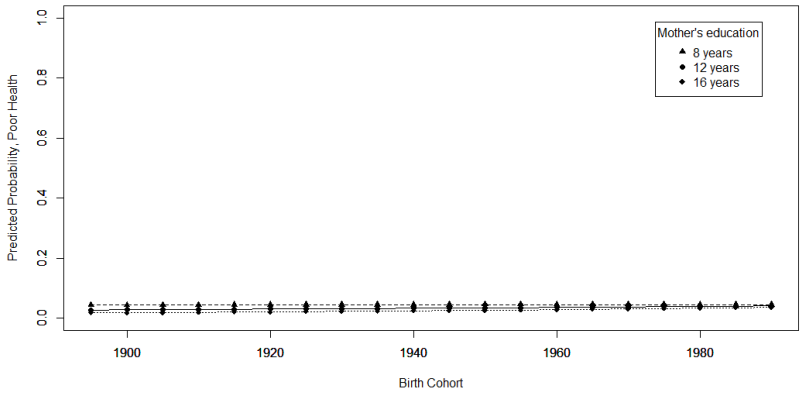
Standard errors in parentheses.
Data: General Social Survey, 1972-2010 (Pooled)
† $p \leq .1$ * $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

Figure 2. Predicted probabilities for "Poor" and "Excellent" Health by Cohort

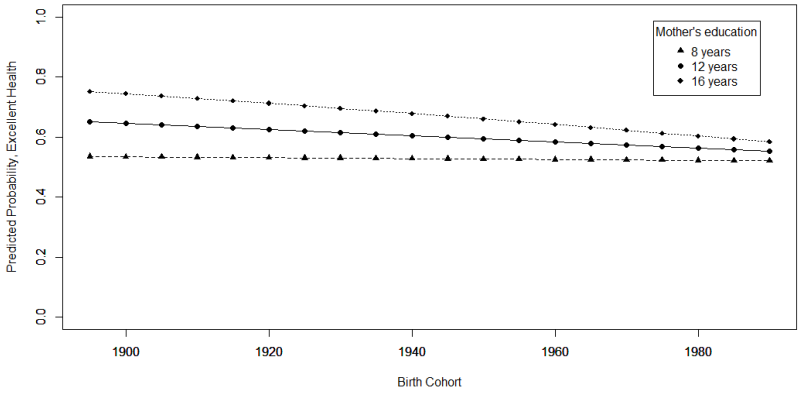
(a) Linear, Poor Health:



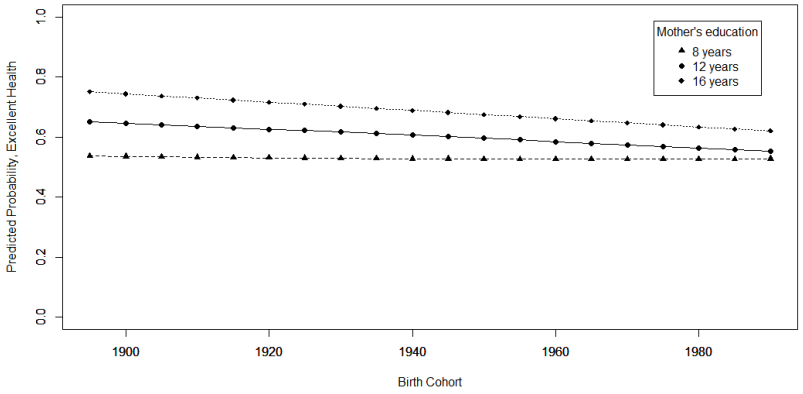
(c) Quadratic, Poor Health:



(b) Linear, Excellent Health:

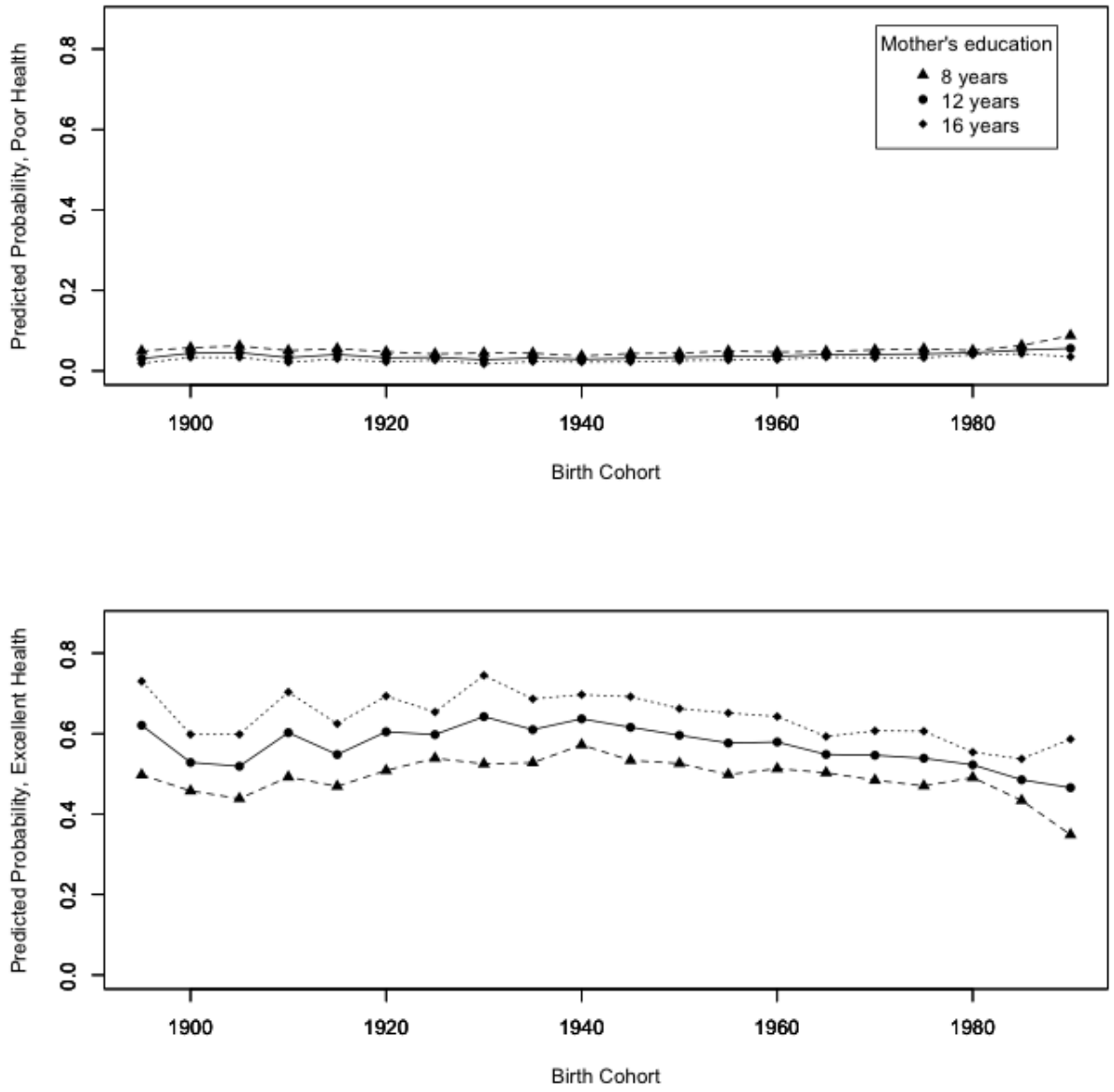


(d) Quadratic, Excellent Health



Data: General Social Survey, 1972-2010 (Pooled)
Results from previous table. Probabilities calculated for a native-born, 50 year-old, white male who did not live in the south during childhood and who resides in a non-urban area at the time of the survey.

Figure 3. Predicted probability for poor health and excellent health by level of mother's schooling, cohort-specific indicator variables



Data: General Social Survey, 1972-2010 (Pooled)

Probabilities calculated for a native-born, 50 year-old, white male who did not live in the south during childhood and who does not reside in an urban area at the time of the survey

Table 4. Trends in the association between mother's education and adult offspring well-being, stratified by sociodemographic characteristics

Offspring characteristic	Evidence of Trend?	Coefficient (S.E.)	
		Mother's education	Mother's education x Cohort
Race			
Black	Marginal	.010***	-.004†
		(.025)	(.002)
White	Yes	.128***	-.004***
		(.009)	(.001)
Sex			
Male	Yes	.123***	-.005***
		(.014)	(.001)
Female	Yes	.133***	-.005***
		(.013)	(.001)
Parents married at age 16			
Married	Yes	.130***	-.005**
		(.010)	(.001)
Not married	Yes	.119***	-.004**
		(.020)	(.002)
Assortative mating			
Parents have same degree	Yes	.122***	-.005***
		(.011)	(.001)
Parents do not	Yes	.119***	-.004*
		(.021)	(.002)

Standard errors in parentheses.

Data: General Social Survey, 1972-2010 (Pooled)
† $p \leq .1$ * $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

Table 5. Effect of the inclusion of other measures of social origins on estimates of trends in the association between mother's education and offspring adult self-rated health

Other measure of social origins[1]	Evidence of Trend?	Mother's education significant and similar magnitude?	BIC
Father's education	Yes	Yes	90737.91
Mother's + father's education	No	Yes	90746.91
Average parental education	No	Yes	90773.74
Highest parental education	No	Yes	90826.14
Mother's x father's education	No	Yes	90752.90

Data: General Social Survey, 1972-2010 (Pooled)
See appendix tables for full results

Table 6. Coefficients (and standard errors) for key variables and mother's education by five-year birth cohort interactions from ordered logistic regressions, cohort-centered

	Self-Rated Health (1-4)		
	Model 1	Model 2	Model 3
Mother's education	0.080*** (0.003)	0.109*** (0.010)	0.095*** (0.013)
Age	0.001 (0.003)	0.001 (0.004)	0.001 (0.004)
Age^2	0.0003*** (0.00003)	-0.0003*** (0.00003)	-0.0003*** (0.00003)
Female	-0.076*** (0.021)	-0.077*** (0.021)	-0.077*** (0.021)
South at age 16	-0.239*** (0.023)	-0.238*** (0.023)	-0.237*** (0.023)
Black	-0.393*** (0.033)	-0.392*** (0.033)	-0.391*** (0.033)
Other Race (ref = white)	-0.309*** (0.059)	-0.325*** (0.059)	-0.328*** (0.059)
Urban	-0.033 (0.022)	-0.032 (0.022)	-0.032 (0.022)
Foreign born	0.131** (0.044)	0.125** (0.045)	0.125** (0.045)
5-year birth cohort	0.014** (0.005)	0.014** (0.005)	0.014** (0.005)
Mother's education x cohort	---	-0.003** (0.001)	0.001 (0.002)
Mother's education x $cohort^2$	---	---	0.0002 (0.0001)
Cut 1	-3.698*** (0.117)	-3.703*** (0.117)	-3.704*** (0.117)
Cut 2	-1.883*** (0.116)	-1.886*** (0.117)	-1.887*** (0.117)
Cut 3	0.242* (0.116)	0.240* (0.116)	0.239* (0.116)
AIC	90915.08	90899.83	90898.43
BIC	91026.86	91020.22	91027.41

Standard errors in parentheses.

Data: General Social Survey, 1972-2010 (Pooled)
† p ≤ .1 * p ≤ .05 ** p ≤.01 *** p≤ .001

Table 7. Coefficients (and standard errors) for key variables and mother's education by five-year birth cohort interactions from ordered logistic regressions, by mother's work status

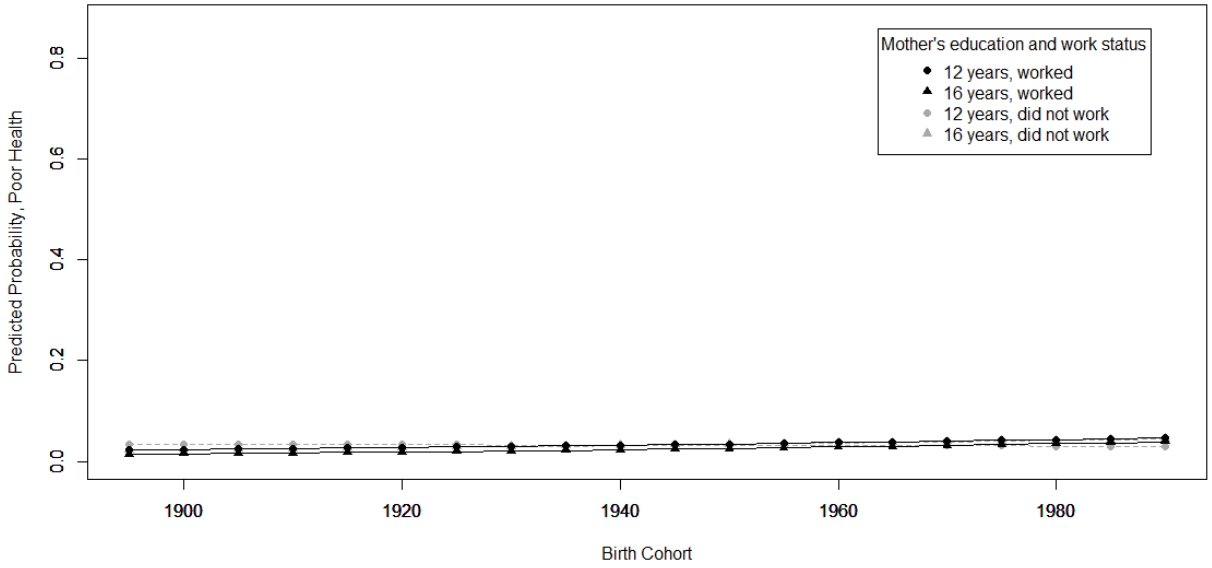
	Self-Rated Health (1-4)	
	Mother worked	Mother did not work
Mother's education	0.137***	0.110***
	(0.014)	(0.011)
Age	-0.005	-0.009
	(0.005)	(0.006)
Age^2	-0.0002***	-0.0001*
	(0.00005)	(0.00005)
Female	-0.089**	-0.069*
	(0.028)	(0.035)
South at age 16	-0.125***	-0.397***
	(0.031)	(0.039)
Black	-0.366***	-0.451***
	(0.042)	(0.058)
Other Race (ref = white)	-0.343	-0.312***
	(0.079)	(0.097)
Urban	-0.023	-0.045
	(0.029)	(0.035)
Foreign born	0.109	0.079
	(0.083)	(0.082)
5-year birth cohort	-0.037***	0.004
	(0.007)	(0.008)
Mother's education x cohort	-0.005***	-0.003*
	(0.001)	(0.001)
Cut 1	-3.024***	-2.782***
	(0.216)	(0.231)
Cut 2	-1.111***	-1.036***
	(0.217)	(0.231)
Cut 3	1.097***	0.985***
	(0.220)	(0.232)

Standard errors in parentheses.

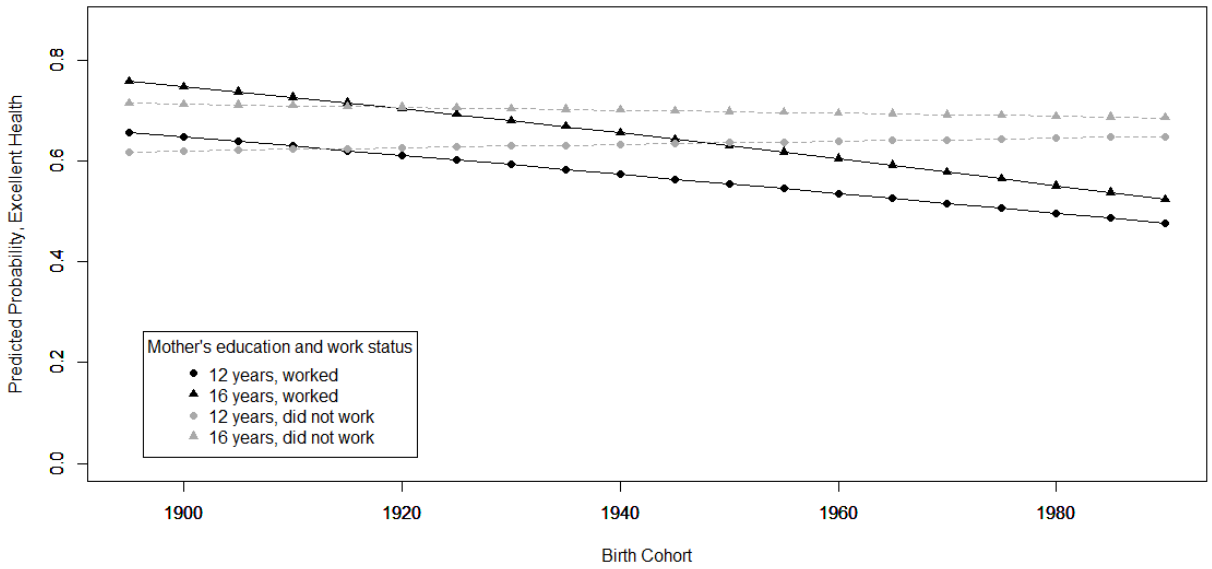
Data: General Social Survey, 1972-2010 (Pooled)
† p ≤ .1 * p ≤ .05 ** p ≤.01 *** p≤ .001

Figure 4. Predicted probability for poor health and excellent health by level of mother's schooling by mother's work status

(a) Poor Health:



(b) Excellent Health:



Data: General Social Survey, 1972-2010 (Pooled)

Results from previous table. Probabilities calculated for a native-born, 50 year-old, white male who did not live in the south during childhood and who does not reside in an urban area at the time of the survey.