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Fundamental resource dis/advantages, youth health and adult educational outcomes

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ABSTRACT

Recent studies find lasting effects of poor youth health on educational attainment but use young samples and narrow life course windows of observation to explore outcomes. We apply a life course framework to three sets of Health and Retirement Study birth cohorts to examine early health status effects on education and skills attainment measured late in life. The older cohorts that we study were the earliest recipients of U.S. policies promoting continuing education through the GI Bill, community college expansions and new credentials such as the GED. We examine a wide range of outcomes but focus on GEDs, postsecondary school entry and adult human capital as job-related training. We find that older U.S. cohorts had considerable exposure to these forms of attainment and that the effects of youth health on them vary by outcome: health selection and ascription group effects are weak or fade, respectively, in outcomes associated with delayed or adult attainment. However, poorer health and social disadvantage in youth and barriers associated with ascription carry forward to limit attainment of key credentials such as diplomas and college degrees. We find that the human capital – health gradient is dynamic and that narrow windows of observation in existing studies miss much of it. National context also matters for studying health-education linkages over the life course.

1. Introduction

The positive correlation between education and health remains one of the most well-established in the social sciences. From a life course perspective, it reflects human growth and development co-occurring across both domains over time, as facilitated by individual, familial and social institutional resources (Elder, 1994). This correlation, however, is not well understood (Cutler and Lleras-Muney, 2008, 2012; Krieger and Fee, 1994; Schnittker, 2004), and our ability to conceptualize and measure it is further challenged by recent re-structuring of the life course. A once-normative life course division, which locates schooling in youth and work in adulthood (Becker, 1964; Riley and Riley, 2000), has faded since the mid-20th century (Kohli, 1986). Educational participation now reaches beyond the adult childbearing years, into midlife and even older years (Astone et al., 2000; Jacobs and Stoner-Eby, 1998; Maralani, 2011; O'Rand et al., 2009; Sampson and Laub, 1996). As a result, education, which is a major component in the social determination of health, is no longer limited to youth or a prelude to the adult life course. It is now a dynamic, lifelong component of "emergent social health gradients" (Hertzman, 1999).

Conceptualization and measurement of the education – health correlation has also grown more complex due to a greater recognition that health status matters over all life course stages, but especially over "critical periods" including perinatal stages and youth. Early life course health deficits significantly reduce educational attainment (Case et al., 2002; Conley

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and Bennett, 2000; Cutler and Lleras-Muney, 2012; Haas, 2006), the deficits resulting from low parental resources as well as from biological vulnerabilities, environmental exposure or social policies that limit health care access (Case et al., 2002; Jackson, 2009; Rosenbaum, 2008). Growing up in a resource-poor household may exacerbate rather than explain negative youth health impacts on attainment (Aber et al., 1997; Geronimus et al., 1996).

Accounting for youth health is important in attainment research (Palloni, 2006). However, recent studies investigating the youth health-education correlation only observe attainment patterns over the early life course and most often stop at high school completion or postsecondary entry. Our study adds to the literature by exploring a wider range of attainment outcomes, much later in life: we argue that the point over the life span at which attainment is measured is substantively important in its own right. A narrow window of study censors observation because adult education in recent cohorts and, as we show, even in older cohorts, significantly contributed to total lifetime attainment. Measuring attainment in young samples misses, *by design*, age- and time-related educational gains (Maralani, 2011; Milesi, 2010). Furthermore, assessment of youth health effects on attainment in young samples is problematic because of selectivity: women, ethnic minorities and/or adults who experienced economic disadvantage in youth make up a disproportionately large share of adult students (Astone et al., 2000; Elman and O'Rand, 2004, 2007; Jacobs and Stoner-Eby, 1998; Maralani, 2011) and they are the same subgroups that are at the greatest risk of poor youth health. We use a longitudinal database of older U.S. cohorts, the Health and Retirement Study (HRS), to explore youth health impacts, by midlife or beyond, on self-reported human capital outcomes involving formal schooling and work-related skill (Becker, 1964).

2. Background

2.1. Theoretical Overview

Our emphasis on life stage timing advances life course theory; our study of older adults also invokes a key theoretical issue in social stratification and health: social selection versus social causation (Cutler and Lleras-Muney, 2008; McLeod and Kaiser, 2004; Palloni, 2006). The first section below briefly reviews relevant studies and highlights health selection effects on the development of human capital. The second section reviews relevant studies about adult educational participation and job-training over the latter twentieth century, reflecting that most adult education is work-related. Two human capital streams, of formal schooling and work-related skills training, versus formal schooling alone, are the main mechanisms underlying heterogeneous adult attainment outcomes (Becker, 1964; see Loewenstein and Spletzer, 1999; Veum, 1999 on school/training trade-offs and timing). Because the link between health and education likely varies by gender (Buchmann et al., 2008; Jacobs, 1995) and race/ethnicity (Astone et al., 2000; Crosnoe, 2006; O'Rand et al., 2009), the third section discusses social heterogeneity across these domains.

2.1.1. Health selection and attainment

A major debate in stratification research involves causal direction in the health-education link. A health selection viewpoint suggests that, in the aggregate, poor health precedes and therefore reduces potential educational and occupational status.[1] Poor health might initially reflect family resource disadvantage, genetic influences, environmental exposures, health system effects or a combination of factors. Once set in motion, however, poor health itself reduces educational attainment and triggers adverse social structural circumstances. Moreover, serious youth health deficits become more problematic over time. For example, an HRS study that tracks child health effects past midlife finds that poor health "follow(s) children into adulthood" (Case and Paxson, 2008: 463). The effects of poor health in youth become embodied, as indicated by shorter adult height and altered adult BMI (Cutler and Lleras-Muney, 2012). Parallel to this, "socioeconomic stunting" occurs: poor youth health lowers educational (Palloni, 2006) and occupational attainment (Haas et al., 2011) and via complex bio-social pathways, reduces cognitive ability late in life (Case and Paxson, 2008). This pattern of worsening health over time is found *within* parent socioeconomic status groups, post-stratification (Currie and Stabile, 2003), and across nations (Cutler and Lleras-Muney, 2012).

Scholars suggest we study how early health deficits reduce educational gains over the adult life course (Case and Paxson, 2008; Cutler and Lleras-Muney, 2008; Haas et al., 2011; Palloni, 2006), but study has been limited because most longitudinal U.S. databases – including the HRS – do not simultaneously track educational and health status changes over the adult years, for all ethnic groups or across cohorts. But we can surmise that physical disabilities or chronic conditions such as hearing impairments or ADHD provoke lifelong learning problems, due to the nature of the health deficits themselves or the medications required for treatment (Currie, 2005; Newachek and Halfon, 1998). For youth in school, health conditions and/or treatments often lead to school absences, altered attention spans and/or impaired cognitive development and learning (Klebanov et al., 1998; Newachek and Halfon, 1998; Ready, 2010). In addition, low- and middle-income U.S. families face difficulty in getting timely access to health care or managing long-term medical treatment regimens (Aber et al., 1997). We know that these influences shape the early life course and throw students "off-track" in attainment: they lead to grade retention, dropping out of high school and/or not advancing to college (Conley and Bennett, 2000; Haas and Fosse, 2008; Nagin et al., 2003).

[1] We do not address an alternate mechanism of health selection involving social downward mobility, or drift, due to emergent poor health status and economic costs of illness.