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Article

Health returns to education by family socioeconomic origins, 1980–2008: Testing the importance of gender, cohort, and age

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ABSTRACT

Recent studies find that health returns to education are elevated among those who come from disadvantaged families. These findings suggest that education may be a health resource that compensates or "substitutes" for lower parental socioeconomic status. Alternatively, some studies find support for a cumulative (dis)advantage perspective, such that educational health returns are higher among those who already were advantaged, widening initial health (dis)advantages across the life course. However, it remains unclear whether these findings are dependent on gender or cohort, and this is a fundamental oversight given marked differences between men and women in educational and health inequalities across the twentieth century. Drawing on national US data (1980–2002 General Social Survey with 2008 National Death Index Link), I indeed find that the presence or strength of resource substitution or cumulative (dis)advantage depends upon health measure as well as gender and cohort. For self-rated health, cumulative (dis)advantage explains educational health disparities, but among men only. Cumulative (dis)advantage in avoiding fair or poor health is partly explained by cohort and age variation in health returns to education, and cumulative (dis)advantage in excellent health is more robust in earlier cohorts and at older ages. For mortality, resource substitution is instead supported, but for women only. Among those from disadvantaged families, educational mortality buffering increases with cohort but diminishes with age. Taken together, these findings confirm prior research showing that adult health inequalities linked to education depend on family background, and extend this work by demonstrating that the nature and extent of these dynamics differ considerably depending on the health outcome being assessed and on an individual's historical context, life course stage, and gender.

1. Introduction and background

Individuals who obtain higher education show greater adult physical health than those who do not (Conti & Heckman, 2010; Schafer, Wilkinson, & Ferraro, 2013). However, recent studies have also shown that associations between education and health vary substantially by family or parental socioeconomic origins. Taken as a whole, these studies are inconclusive. Do parental socioeconomic status (SES) and attained education show a resource substitution pattern, where advantaged familial SES makes education less predictive of adult health and eventual mortality (e.g., Bauldry, 2015; Ross & Mirowsky, 2011; Schaan, 2014; Schafer et al., 2013)? Or, do family origins and educational attainment instead reveal cumulative (dis)advantage, where early SES widens or strengthens educational health inequalities (e.g., Bauldry, 2014; Conti & Heckman, 2010; Schaan, 2014)?

While these studies differ somewhat in terms of their health measures and population samples, they all overlook a more fundamental backdrop: the changing nature of educational and health inequalities across the twentieth century. In the United States, high school and college education changed greatly in curricular content and economic value during this time, and postsecondary education became more common in later decades (Hout, 2012). Meanwhile, patterns of health, disease and longevity became more unequal by educational attainment (Lynch 2003; Masters, Hummer, & Powers, 2012). Finally, the gender gap in obtaining a college education closed by the 1980s, and across the twentieth century men and women have shown distinct resources for and returns to educational attainment (DiPrete & Buchmann, 2013; Hout 2012; Masters et al., 2012). Despite these fundamental historical shifts, it remains unclear whether the presence or strength of resource substitution or cumulative (dis)advantage depends upon gender or cohort. Here, I draw on national US data to analyze these further contingencies in health returns to education.

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1.1. Family socioeconomic origins and health returns to education

Family or parental SES during one's childhood defines a lifestyle niche with lasting consequences for one's health across the remaining life course (Haas, 2008; Johnson & Schoeni, 2011). For instance, SES defines a young and vulnerable person's exposure and access to food, safety, parental and peer role modeling of health behaviors, and emotional, social and cognitive resources and stimulation, all of which may carry durable health consequences (Dannefer 2003; Hayward & Gorman, 2004; Hertzman & Boyce, 2010). At the same time, however, the ultimate health outcomes of childhood SES may pivot fundamentally on later life transitions involving education (Schafer et al., 2013).

Existing work generally supports the perspective that health disadvantages linked to childhood SES may be reversed or "leveled" by attaining higher education, which is consistent with a resource substitution perspective. However, some support also exists for a cumulative (dis)advantage perspective, which instead posits that initial health disadvantages linked to family origins may be widened or reinforced – rather than reversed or "leveled" – by educational experiences. Here, I briefly overview these two competing perspectives on adult health inequality. Then, I argue for the importance of examining further heterogeneity by gender, cohort, and age, as these dimensions not only are basic population health parameters but also may shape the nature or extent of any health dynamics relevant to the resource substitution or cumulative (dis)advantage perspectives.

1.1.1. Resource substitution

A resource substitution perspective views educational attainment and family or parental SES as two interacting health resources that may functionally substitute for each other in the production of health during adulthood. This substitution may occur given that childhood SES and educational attainment functionally provide the same basic kinds of cognitive, noncognitive, psychosocial, or material resources known to be correlated with physical health (Bauldry, 2015; Ross & Mirowsky, 2011; Schaan, 2014; Schafer et al., 2013). Because educational attainment and early socioeconomic advantage both contribute to a common pool of resources for maintaining good physical health, education may be less decisive for health outcomes when early socioeconomic advantage is present. However, if one is socioeconomically disadvantaged, education may be relatively important to health due to otherwise limited resources for personal well-being (Bauldry, 2014; Schafer et al., 2013).

1.1.2. Cumulative (dis)advantage

In contrast, a cumulative (dis)advantage perspective emphasizes that socioeconomic health inequality begins early in life, during childhood, and from then on tends to perpetuate and widen as individuals obtain education. Cumulative (dis)advantage in health may occur for three distinct reasons (Bauldry, 2014; Schafer et al., 2013). First, advantaged individuals not only are more likely to enroll in higher education than their disadvantaged counterparts, but they also potentially are more likely to derive cognitive, noncognitive, psychosocial or material profits from academic degrees or experiences due to a pervasive middle-class orientation or bias of Western educational institutions (e.g., Lareau & Weininger, 2008). Second, individuals who come from advantaged childhood backgrounds tend to already have tastes or preferences for healthy lifestyles, and higher education would then serve to support and strengthen these initial preferences (Pudrovska & Aniskin, 2013). Finally, childhood socioeconomic inequality may create deep or even permanent health disadvantages that cannot be surmounted or "erased" by educational attainment (Hertzman & Boyce, 2010).

1.2. Additional heterogeneity in educational health returns: gender, cohort, and age

Although gender, cohort and age are widely recognized as basic sources of health variation, these additional contingencies have yet to be reconciled with existing work on resource substitution and cumulative (dis)advantage. In this study, I begin to address this gap by extending previous work that has examined variation in educational health gradients (e.g., Conti & Heckman, 2010; Lynch, 2003; Ross & Mirowsky, 2011; Schaan, 2014). While this work has recognized the importance of gender, cohort, and/or age to educational health inequalities, it has analyzed these demographic dimensions separately rather than jointly, which overlooks the interrelated nature of fundamental shifts in educational inequality across the twentieth century (DiPrete & Buchmann, 2013; Hout, 2012; Lynch, 2003). Moreover, this work has yet to address well-established variation in educational health returns by family socioeconomic origins.

1.2.1. Gender

Gender differences in diverse health returns to education have already been demonstrated (e.g., Ross, Masters, & Hummer, 2012; Masters et al., 2012; Pudrovska & Aniskin, 2013). Men and women show differing mechanisms of biological and physiological development and aging, and they also diverge notably in their health exposures and behaviors and psychosocial resources, both within and across socioeconomic groups (Denney, Rogers, Hummer, & Pampel, 2010; Hayward & Gorman, 2004; Liu & Hummer, 2008; Masters et al., 2012; Pudrovska & Aniskin, 2013; Ross et al., 2012).

However, it remains unclear whether there are gender differences in health returns to education by parental socioeconomic status. Ross and Mirowsky (2006) build a theoretical perspective on gender differences in health returns to education, stipulating that gender may either serve as a source of resource substitution or cumulative (dis)advantage. For instance, women may show greater health returns to education than men if they otherwise carry limited socioeconomic resources, perhaps due to institutionalized gender inequality in society (resource substitution). Alternatively, men may show greater health returns than women if they are more readily able to translate their education into favorable jobs or occupations due to biased labor market processes (cumulative (dis)advantage).

While valuable, this perspective does not specifically address gender differences in educational health returns by family origins. While financial returns to education by propensity to attain a college degree do not seem to differ by gender (Brand & Xie, 2010), income is only one of several factors linking education to health, making it plausible that gender heterogeneity in socioeconomic health gradients may be based in non-income processes (Ross & Mirowsky, 2011). Indeed, for overall health returns, Conti and Heckman (2010) show using national data that the observed distributions of educational treatment effects on a variety of health outcomes and behaviors across levels of childhood cognitive, noncognitive, and health endowments do often differ by gender. Because childhood endowments are shaped fundamentally by parental socioeconomic status, this strongly suggests parental SES and educational attainment may combine differently across genders in the production of adult health disparities. However, because Conti and Heckman (2010) restricted their study to a specific British cohort, it is unclear whether and to what extent gender heterogeneity in educational health gradients applies to the US population across the course of the twentieth century.

1.2.2. Age and the overlooked role of cohort variation

Studies focusing on age variation in health returns to education by family socioeconomic origins find support for resource