



Understanding the links between education and smoking



Vida Maralani*

Department of Sociology, Yale University, PO Box 208265 Professor, New Haven, CT 06520-8265, United States

ARTICLE INFO

Article history:

Received 13 July 2012

Revised 28 March 2014

Accepted 12 May 2014

Available online 17 May 2014

Keywords:

Education

Smoking

Future expectations

Adolescence

Health disparities

ABSTRACT

This study extends the theoretical and empirical literature on the relationship between education and smoking by focusing on the life course links between experiences from adolescence and health outcomes in adulthood. Differences in smoking by completed education are apparent at ages 12–18, long before that education is acquired. I use characteristics from the teenage years, including social networks, future expectations, and school experiences measured before the start of smoking regularly to predict smoking in adulthood. Results show that school policies, peers, and youths' mortality expectations predict smoking in adulthood but that college aspirations and analytical skills do not. I also show that smoking status at age 16 predicts both completed education and adult smoking, controlling for an extensive set of covariates. Overall, educational inequalities in smoking are better understood as a bundling of advantageous statuses that develops in childhood, rather than the effect of education producing better health.

© 2014 Elsevier Inc. All rights reserved.

1. Introduction

Across nearly every dimension of health, those with more education experience better outcomes, adopt healthier behaviors, and live longer. These large and robust effects of education on health endure even when income, wealth, and previous health status are controlled (Smith, 2007; Grossman and Kaestner, 1997; Preston and Elo, 1995; Williams and Collins, 1995; Kitagawa and Hauser, 1973). Using quasi-natural experiments such as policy changes and expansions in school availability or structural modeling strategies, studies show that at least part of the relationship between education and health-related outcomes can be isolated from confounding factors and considered causal (Chandola et al., 2006; Grossman, 2006; Lleras-Muney, 2005).

Differences in cigarette smoking by education represent one of the deadliest of such inequalities. Smoking is the leading behavioral cause of death in the U.S., with smoking-related illnesses accounting for nearly one out of every five deaths each year. Smoking, however, takes its toll primary on individuals with less education. In 2009, about a quarter of those with high school or less completed were current smokers compared to 20% of those with an associate degree, 11% of those with an undergraduate degree, and 5.6% of those with a graduate degree (Centers for Disease Control and Prevention CDC, 2012, 2010). Educational inequalities in smoking are an important public health concern, and a sobering example of the many advantages experienced by those with more schooling.

But is this association between education and smoking casual? If it is, and we understood which aspects of schooling caused individuals not to smoke, then educational policy could have massive health dividends. From a public health perspective this is especially promising because, while Americans are divided on issues of health infrastructure, support, and

* Fax: +1 203 432 6976.

E-mail address: vida.maralani@yale.edu

regulation, we are remarkably unified in our support of educational opportunities (Brint, 2011). Moreover, if increasing individuals' education causes them to smoke less, then this would only add to the many social and economic benefits that are linked to educational attainment. In contrast, if the relationship between education and smoking is non-causal, then the observed gradients are instead explained by unobserved factors that predict both statuses, making the disparities more difficult to address.

Understanding the causal links between education and smoking is complicated by an important problem that is often ignored in the existing literature. At the population level, educational inequalities in smoking are produced primarily by differences in smoking initiation—whether someone ever smokes regularly—rather than quitting (Maralani, 2013). Smoking initiation, however, occurs early in life. Nearly all adult smokers started smoking regularly before age 20, often in mid-adolescence (Chassin et al., 1996; Chen and Kandel, 1995; Lanz, 2003). Among adults who smoke daily, 71% had smoked daily by age 18 (Elders et al., 1994). Thus, the mechanisms linking education and smoking in adulthood have been operating from a much earlier point in the life course. Smoking regularly begins before many of the key educational transitions, such as high school graduation, college entry, and college completion, which serve as natural breaking points in the path through school. Even advanced statistical methods that adjust for unmeasured factors do not address the basic problem that, from a life course perspective, completed education generally comes after the transition to regular smoking.

This issue of timing underlying the relationship between education and smoking in adulthood is important not just conceptually and methodologically but also theoretically. The existing literature identifies many potential mechanisms that might link education and smoking; however, these are described as operating in adulthood (Cutler and Lleras-Muney, 2010; Link, 2008; Ross and Wu, 1995). But if the causal links between smoking and education in adulthood are in fact explained by characteristics and choices made in adolescence, then our existing theoretical framework must be reformulated to account for the links across the life course between characteristics in adolescence and smoking in adulthood. To give a concrete example, if adults with a college degree are less likely to smoke because they have better analytical or self-efficacy skills, or higher social integration, then they must have acquired these skills and resources in early adolescence, prior to modal ages of smoking initiation. The college degree may serve as a proxy for having gained these resources at an earlier point in school, but the college schooling itself did not provide the relevant resources. This is the theoretical and empirical problem that remains unexamined in the current literature.

This study extends the existing literature on the well-documented association between education and smoking on three fronts. The first is to refocus the theoretical discussion of the potential mechanisms linking education and smoking on adolescence rather than adulthood. The second is to estimate an empirical model of the relationship between education and smoking that accounts for the appropriate timing of the theoretically relevant mechanisms across the life course. The approach uses personal, family, and school-related characteristics of individuals when they were in 7–9th grade to predict whether they smoked regularly as adults. I control for a large number of potentially confounding factors such as psychosocial characteristics, family background, health characteristics, and future expectations, all measured *before* the transition to smoking regularly. The third contribution is to formulate a joint model of smoking and completed education in adulthood that considers the bundling of these outcomes, and how their joint distribution relates to personal, family, school, and smoking-related characteristics in adolescence, net of future expectations.

2. Background

The question of whether education has a causal effect on smoking has been primarily debated in the economics literature. Of central concern has been the issue of whether unobserved traits such as time preferences (how much one values her well-being in the present versus the future) or future expectations determine both education and smoking status. Farrell and Fuchs (1982) proposed this as the primary explanation for the observed association and showed that years of school completed predicted smoking status at age 17, well before that education was actually acquired. Subsequently, numerous studies have used a variety of statistical approaches to address the potential confounding of education, smoking, and time preferences. Some studies identify the causal effect of education on smoking by using the Vietnam draft or differences in graduation requirements and college openings to instrument education (de Walque, 2007; Grimard and Parent, 2007; Kenkel et al., 2006; Currie and Moretti, 2003). Others have used repeated observations on the same individual to net out unobserved characteristics (de Walque, 2010) or a control group method that matches individuals on age, education and enrollment status and compares these groups to counterparts with the same set of statuses, but born one year later (Tenn et al., 2010). All these empirical approaches but one (Tenn et al., 2010) find support for a causal effect of education on smoking.¹ By focusing on education in adulthood, however, these causal estimates can only describe the effect of smoking on quitting, rather than explaining the emergence of educational inequalities in smoking.

If education has a causal effect on smoking, it would operate through two potential mechanisms: initiation and quitting. These two mechanisms operate in different parts of the life course and suggest distinct conceptualizations of the relationship between education and smoking. Educational experiences could cause an individual to never smoke regularly (initiation). In this case, the mechanisms linking education and smoking would operate in adolescence, before the traditional ages at which

¹ Gilman et al., 2008 use sibling fixed effects on a small regional sample (518 participants representing 243 families) and find that the association between education and smoking is attenuated. Their estimates, however, have large standard errors, making the results difficult to interpret conclusively.

Download English Version:

<https://daneshyari.com/en/article/955759>

Download Persian Version:

<https://daneshyari.com/article/955759>

[Daneshyari.com](https://daneshyari.com)