Highest earned degree, education in years, and health behavior among U.S. young adults

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Introduction and Research Questions

A well-established literature documents that highly educated adults enjoy better health and lower mortality across every age, gender, and racial and ethnic subgroup of the U.S. population. In fact, each increase in educational attainment has been linked to significantly better health and lower mortality. These relationships have been widening among more recent birth cohorts (Lynch 2003; Masters et al. 2012; Mirowsky and Ross 2008). Thus, there exists a clear need to understand why education has become so strongly related to health in the U.S. context and particularly so among more recent birth cohorts.

One suggested important pathway relating education to mortality and health is health behavior (Pampel et al. 2009). As such, a growing literature focuses on health behavior, showing that individuals with higher education are more likely to exhibit positive health behaviors (Cutler and Lleras-Muney 2008). However, only a relatively small subset of this literature focuses on young adults, the cohorts for which the education-health relationship has become particularly strong. Even less of this research focuses on multiple measures of education, which is important for the scientific community's more thorough understanding of how and why education is now so strongly related to health.

The primary aim of this study is to describe the relationship between highest degree obtained, education in years, and health behavior among U.S. young adults. Thus, an important contribution of this paper is to evaluate the extent to which educational quantity (i.e., years), educational degrees (i.e., credentials), or both are important for young adult health behavior. With the notable exception of Ross and Mirowsky (1999), such a distinction has rarely been made in demographic research on education and health. While Ross and Mirowsky included adults aged 18 and above in their study, we focus here on a single cohort to reduce heterogeneity in the meaning of education and educational credentials across cohorts given that education has become such an important predictor of health in more recent cohorts. Second, we examine the extent to which measures of socioeconomic attainment mediate the relationships among highest degree earned, education in years, and health behavior. Third, do the relationships between highest degree earned, education in years, and health behavior vary by gender? The influence of education on mortality and health has been conditional on gender but in opposite ways. Namely, education has a larger effect on mortality for men, but a larger effect on self-rated health for women (Ross et al. 2012). Therefore, in understanding how education is related to health behavior, we also assess whether the relationship is different for men and women.

Data and Methods

We use data from the National Longitudinal Survey of Youth (NLSY-97), a nationally representative sample of individuals born between 1980 and 1984 and followed annually since 1997. The NLSY-97 includes both quantity and credential measures of education. We utilize the 2009 survey here, when respondents were ages 24-28. Respondents were excluded from the analyses if they were missing information on key independent or dependent variables, resulting

in an analytic sample size of 7004. Highest degree earned was the categorical measure of education credentials used, and years of education was measured continuously. Our health behaviors include self-reported measures of smoking, body mass index, fruit and vegetable consumption, alcohol use, and drug use. Socioeconomic attainment was measured through both personal income and occupational categories. A separate regression analysis of each individual health behavior was performed, using OLS regression for continuous variables and logistic regression for categorical variables. Sampling weights were used in all analyses. We estimated three preliminary models for each health behavior. Model 1 predicted health behavior by highest educational degree, controlling for confounders including race, region, marital status, sex, and parents' education. Model 2 further included years of education, and Model 3 added the socioeconomic measures of income and occupation to assess the extent to which socioeconomic status mediated the relationships between the education measures and health behavior.

Results

Our general results showed that higher degrees were associated with more positive health behaviors. Net of educational degree, additional years of education was also generally associated with more favorable health behavior, although we found some differences across behaviors. Socioeconomic status mediated some of the education-behavior differences, but the relationships between income, occupation, and health behavior were quite weak. No notable gender differences were found. The tables in this extended abstract highlight days smoked per month and body mass index; however, for the Population Association of America meeting, we intend to present a larger range of health behaviors.

Table 1 presents the OLS regression coefficients for days smoked per month. Model 1 shows that higher degrees are associated with fewer days smoked per month, with high school graduates are the reference group. Model 2 shows that the relationship between educational degree and days smoked weakens but does not disappear with inclusion of education in years. This suggests that degree matters above and beyond years of education. Moreover, increasing education in years is associated with fewer days smoked per month, net of highest educational degree. Finally, Model 3 shows that while income and occupation are each weakly related to days smoked per month, the education measures continue to exhibit strong associations with smoking net of the socioeconomic attainment measures.

Table 2 presents the OLS regression results for body mass index. Similar to the patterns seen for smoking, higher degrees are associated with lower body mass index. Individuals without degrees and individuals with junior college or associate's degrees did not have body mass indices that were statistically different from those of high school graduates. Interestingly, respondents with GEDs had significantly lower body mass indices than respondents with high school diplomas. Years of education, when introduced in model 2, did not change the relationship between educational degrees and body mass index. Additionally, increased years of education is associated with lower body mass index net of educational degree. Model 3 further shows very weak influences of socioeconomic status; net of the confounders, income, and occupation, both education in years and highest educational degree are associated with lower body mass index among U.S. young adults.

Overall, both educational credentials and quantity seem to matter for better health behavior among U.S. young adults. These relationships vary somewhat by health behavior, and we will present a wider array of these findings in more detail at the PAA meeting. Additionally, we plan to assess the relationship between years of education and health behavior in the context of each educational degree, and we will also present these findings at the PAA meeting.

References

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Table 1. Highest Earned Degree, Education in Years, and Number of Days Smoked Cigarettes in Last Month among U.S. Young Adults

	Days Smoked (0-30) (N=7004)		
	(1) OLS Coefficient	(2) OLS Coefficient	(3) OLS Coefficient
Independent Variable			
Degree Earned (Reference: HS grads)			
No degree	6.462 ***	3.605 ***	3.402 ***
GED	5.492 ***	3.512 ***	3.397 ***
Jr College or Associate	-2.931 ***	-1.377 *	-1.201 †
Bachelor's Degree	-5.921 ***	-2.722 ***	-2.409 ***
Masters, PhD, Professional	-7.503 ***	-2.757 ***	-2.259 **
Years of Education		-0.857 ***	-0.791 ***
Income			-0.028 ***
Occupation (Reference: High skill)			
Unemployed			0.353
Low Skill			0.763
Mid Skill			-1.015 *

Note: †p < .10, *p < .05, **p < .01, ***p < .001
Controls for all models: race, region, marital status, sex, mother's education, and father's education.

Table 2. Highest Earned Degree, Education in Years, and Body Mass Index among U.S. Young Adults

	Body Mass Index (N=6801)		
	(1) OLS Coefficient	(2) OLS Coefficient	(3) OLS Coefficient
Independent Variable			
Degree Earned (Reference: HS grads)			
No degree	0.066	-0.329	-0.390
GED	-0.851 **	-1.125 **	-1.160 **
Jr College or Associate	-0.524	-0.309	-0.348
Bachelor's Degree	-1.879 ***	-1.435 ***	-1.459 ***
Masters, PhD, Professional	-2.773 ***	-2.114 ***	-2.091 ***
Years of Education		-0.119 †	-0.136 *
Income			-0.006
Occupation (Reference: High skill)			
Unemployed			0.279
Low Skill			-0.473
Mid Skill			0.131

Note: †p < .10, *p < .05, **p < .01, ***p < .001
Controls for all models: race, region, marital status, sex, mother's education, and father's education.