THE CAUSAL IMPACT OF EDUCATIONAL ATTAINMENT ON SELF-RATED HEALTH

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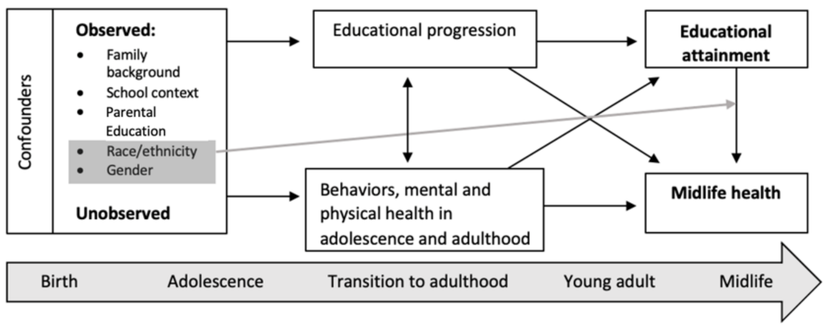
INTRODUCTION

There are growing health disparities across educational. There is likely a causal relationship between education and health. Thus, this paper aims to expand on the existing literature by answering three questions of interest:

1. What is the functional form that best describes the relationship between educational attainment and self-rated health?
2. What is the causal impact of educational attainment on adult self-rated health in the United States?
3. How does the size of the effect of education on health differ by population subgroup?

THEORETICAL MODEL



The life course model states there are many interconnected factors that influence both health and education, occurring at different points across the life-course.

EMPIRICAL MODEL

$$SRH_{it} = \alpha + \beta_1 Educ_{it} + \beta_2 HealthBehaviors_{it} + \Upsilon X_{it} + \delta Z_i + \mu_i + \varepsilon_{it}$$

This paper utilized a correlated random effects model using the Mundlak procedure. Xit represents exogenous time-varying variables. Zi represents time-invariant variable. μi represents the time-invariant error and εit reflects random variation for time period and individual.

DATA/METHODS

The data comes from the National Longitudinal Study of Adolescent to Adult Health (**Add Health**). There are five waves of data (1994-2018) and spanning ages from on average 15 in Wave 1 to on average 38 in Wave V. The analytic sample includes all records with non-missing values and ends up with 54,014 unique observations and 17,643 unique individuals. I included the following variables in my analysis:

Education: 13 potential functional forms including a continuous variable of years of education, as credential milestones (e.g., high school, college), and a combination thereof.
Self-rated health: Measured on a 1 to 5 scale from excellent to poor health.
Additional controls: Race, gender, health behaviors, age, school factors, family structure, parental education

RESULTS: Functional Form

OPTIMAL FUNCTIONAL FORM & TEST FOR ENDOGENEITY		
	Optimal Functional Form	Hausman Test
Full Sample	Three Category Education (<HS, HS+, College+) with Constant Slope	p < 0.001
White Women	Three Category Education (<HS, HS+, College+) with Constant Slope	P < 0.001
White Men	Two Category Education (<HS or HS, >HS) with Constant Slope	p < 0.001
Black Women	Continuous Education	p < 0.001
Black Men	Continuous Education	p < 0.001

I determined the optimal functional form for education for each population subgroup by comparing model fit statistics using Bayesian Information Criterion (BIC) Scores which are shown in the table above. We also see that endogeneity is present for all groups indicating correlated random effects is an appropriate method.

RESULTS: Causal Effect

Regression Results: Total Sample	
Regressors	Coefficients
Continuous Education	-0.005
Less than High School	0.162***
High School and Some College	0.116***

For the full sample, we see that each additional year of education leads to a lower (better) self-rated health score, however, it is not statistically significant. Additionally, there are clear benefits to receiving a high school degree and even more so to receiving a college degree. The results for population subgroups vary.

CONCLUSION

Overall, results showed that higher educational attainment leads to better self-rated health, however, the relationship differs by population subgroup:

- We see that a solely credential model is not the best model and each additional year of education is important for health, which connects closely to human capital theory
- Credentials seem particularly important for White women and continuous education is important for White men
- Black men did not have a significant education coefficient which could indicate that education is not as protective for health for this group

Additionally, we see that without the endogeneity correction, there would be biased results that show larger effects of education than actually exist.

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