

Establishing the Causal Pathway from Education to Health

Social Science Inquiry III, Prof. Scott Cooley

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Pratham Gandhi and Michael Yao

Intuitively, a more educated population lives longer, but why exactly is that? We propose 4 descriptive factors of a country's quality of living and study how exactly they link to increase life expectancy.

Employment

Are more educated people more likely to work? Or is it because they're healthier? Or their more prosperous economic system?

Medical Care

How do more educated people create opportunities to care for each others' health better?



Education

How does education level interact with aspects of economic and social growth? Via which aspects?

GDP Growth

How does a more educated workforce create more economic value for their country?

Real world implication: Rigorously identifying the causal mechanism leading to increased life expectancies as a product of more education will have significant policy implications, specifically most effectively allocating public funds to the weakest chain links.

Intro

Theoretical Framework

Data + Descriptive Stats

Empirical Framework

Our Theoretical Framework seeks to fill in gaps in the academic literature and establish a unique causal theory.

Causal Theory

- Testing relationship between **education** on **health** outcomes
- **Education** drives **employment**
- **Employment** drives **GDP** growth
- **GDP** enables **medical care**
- **Medical care** increases **life expectancies**

Variables

- Our Independent variable is education rating
- Our Dependent variable is life expectancy at birth
- Our Causal Mechanism is outlined in our causal theory
- Our Casual Theory is unique, even if the variables have been studied

Validity

- Internal – High due to the fact that we are running regressions on existing data
- External – Relatively high since we are using real world data, although we recognize there are many missing data points



Academic implication: Scholars such as *Wu, Nils, Hoffman (1995, 2010, 2018)* have previous studied the relationship between education and health. However, much of their work only looked at one country (US, Philippines, Germany), as well as focusing more on work conditions and personal lifestyle. Our work will assess implications for nations globally regarding educational expenditure as well as shed light on the sociopolitical environmental differences that may impact our causal theory.

Intro

Theoretical Framework

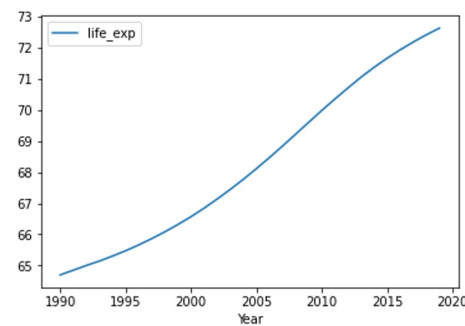
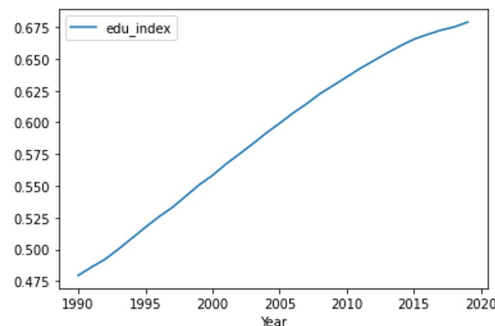
Data + Descriptive Stats

Empirical Framework

We sourced time series data for our 5 causal chain variables and 2 confounders from the World Bank and United Nations

Our data comes from a variety of highly trustworthy sources. Measurements and reporting are vetted by a committee of experts and used by governments globally.

- From several United Nations committees, World Bank
- Time series data, per country, in tabular format
- External validity
 - Data covers multiple countries, long timeframe
 - Some countries don't have data for a given year



1

Education Level

Average of (1) mean years of school for adults and (2) expected years of schooling for children. From UN Education, Scientific, and Cultural Org.

2

Employment

Total unemployment, as a percentage of total labor force. Modeled Industrial Labor Organization estimate. From World Bank.

3

GDP

In current USD (millions). Raw figure, not GDP growth. From World Bank.

4

Medical Care

Health expenditure by country, in current USD. From World Bank.

5

Life Expectancy

Number of years newborn could expect to live if prevailing mortality rate patterns remain same. From UN Dep. of Economic and Social Affairs.

6

Socio-economic Sustainability

Gross capital formation (% of GDP) includes outlays on additions to fixed assets of economy plus net changes in inventories. From World Bank.

7

Human Security

Number unlawful deaths inflicted upon person with intent to cause death or serious injury, per 100k people. From UN Office on Drugs and Crime

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Our Empirical Framework utilizes regression modeling and indicator countries.

