

Anh Chu

Task: *Exploring the relationship between literature rates and agreement on the importance of vaccines for children.*

2 indicators have been selected from the database:

1. The literacy rate coverage by year
2. Proportion of adults disagree that vaccines are good for children

The literacy rate coverage by year shows that 2011 is the most recent year with at least 70% coverage (here, about 54% was high relative to other years; we chose it as our best available based on read coverage and data availability). For the vaccine data, 2018 had the best coverage (about 97%). I have looked at other years that closer to 2011 but the data coverage is below 50%.

For the vaccine dataset, the coverage by year is:

2015: 46.6%

2016: 0.0%

2017: 0.0%

2018: 97.3%

For the literacy dataset, among the years where data coverage is above 30%, only 2011 was above this threshold:

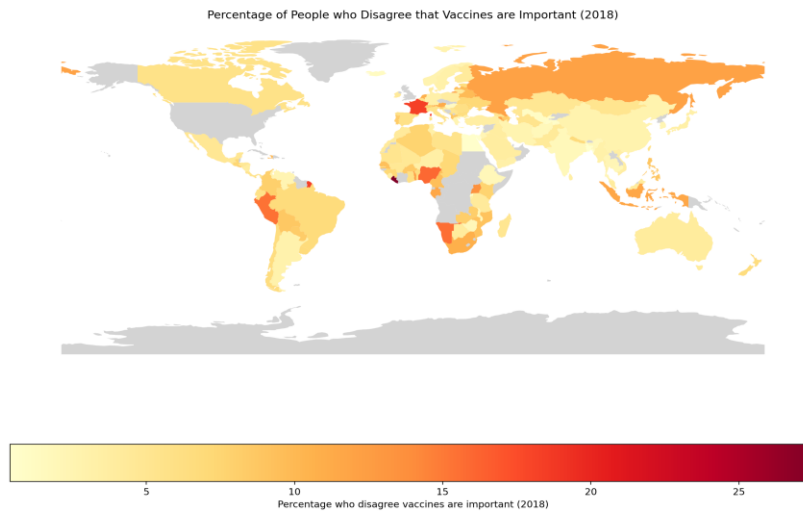
2011: 53.8%

This indicates:

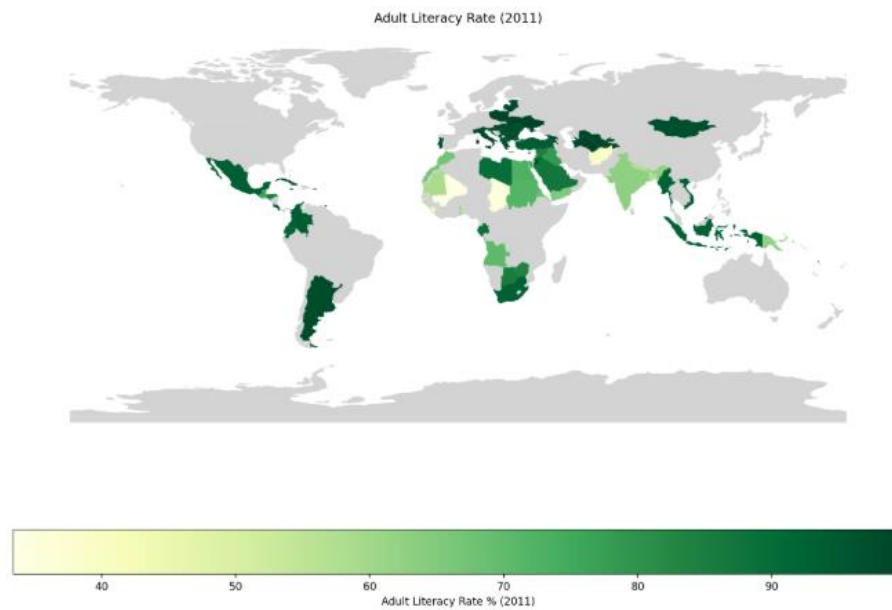
- For vaccines, 2018 is clearly the best year with about 97.3% coverage, whereas 2015 only has around 46.6% and the other years have essentially no data.
- For literacy, only 2011 appears to have meaningful coverage at about 53.8%.

Thus, our initial choice of 2011 (for literacy) and 2018 (for vaccine disagreement) remains optimal for these analyses. The selected 2 years will not give high compatibility and consistency.

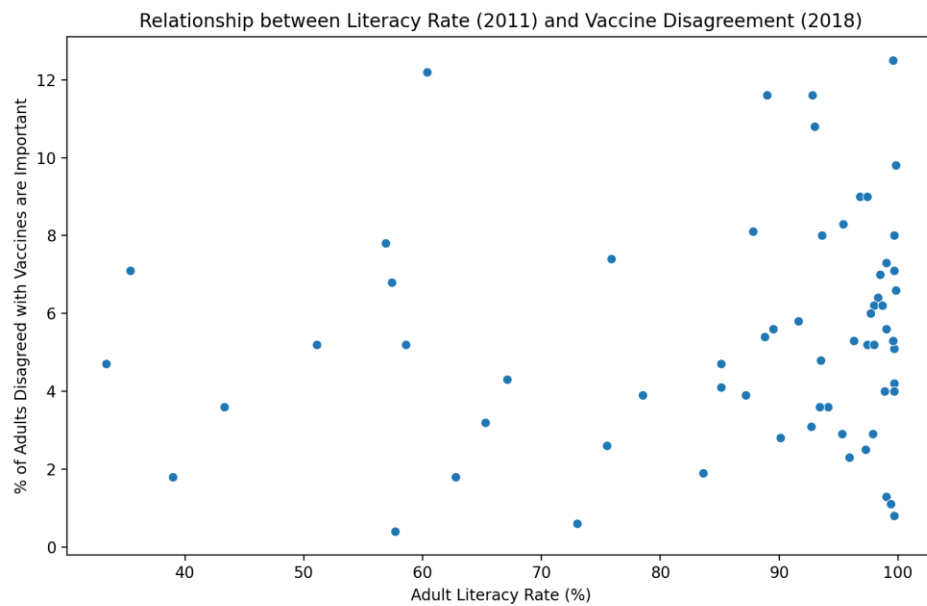
1. Choropleth Map – Vaccine Disagreement (2018):



2. Choropleth Map – Adult Literacy Rate (2011):



3. Scatterplot – Relationship between Literacy (2011) and Vaccine Disagreement (2018):



Interpretation:

- The scatterplot shows a very weak positive relationship between adult literacy rates (from 2011) and the percentage of people disagreeing that vaccines are important (from 2018).
With a Pearson's correlation coefficient of about 0.133, the relationship is not strong and indicates that higher literacy rates are not strongly associated with a higher or lower rate of vaccine disagreement.
- In simpler terms, there is little to no meaningful connection between these two indicators according to this analysis.
- The number of countries in the merged data is: 120