

Correlation analysis between Female School Education and Female Political Representation in **America** (Canada, United States, Guatemala, Honduras)

Methods of Advanced Data Engineering

https://github.com/lauraaadauti/made_ws2425

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Agenda

01 Introduction

02 Used Data

03 Analysis

04 Conclusions

Introduction

Introduction

- Women are still underrepresented in political positions around the world
- **Main question:** *Is there a correlation between a woman's school education and female political representation in the Americas (Canada, United States, Guatemala and Honduras)?*

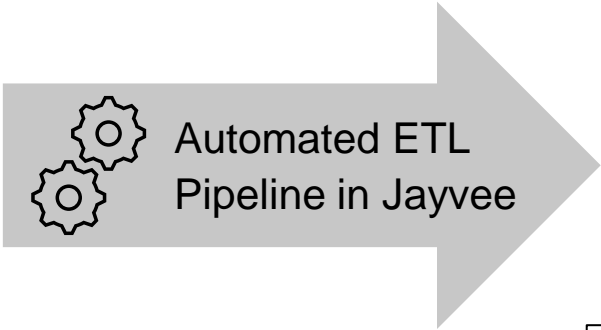


<https://unsplash.com/de/fotos/personen-in-der-konferenz-sTou35WzMso>

Used Data

Datasource 1: Percentage of Shares of Women in Parliament	Datasource 2: Percentage of Tertiary School Enrollment of Women	Datasource 3: Expected Years of Schooling for Women
% of seats held by women in parliaments	% of female enrollment in higher education institutions	Number of years a female student is expected to remain in school
From 2007 to 2022	From 2008 to 2020	2010, 2017, 2018, 2020
Canada, United States, Guatemala, Honduras	Canada, United States, Guatemala, Honduras	Canada, United States, Guatemala, Honduras
„World Bank Group“	„World Bank’s Gender Data Portal“	„World Bank’s Gender Data Portal“
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Country Name	Year	Value
Filtern	2020 ✕	Filtern
Canada	2020	28.994083
Guatemala	2020	19.375
Honduras	2020	21.09375
United States	2020	27.464788

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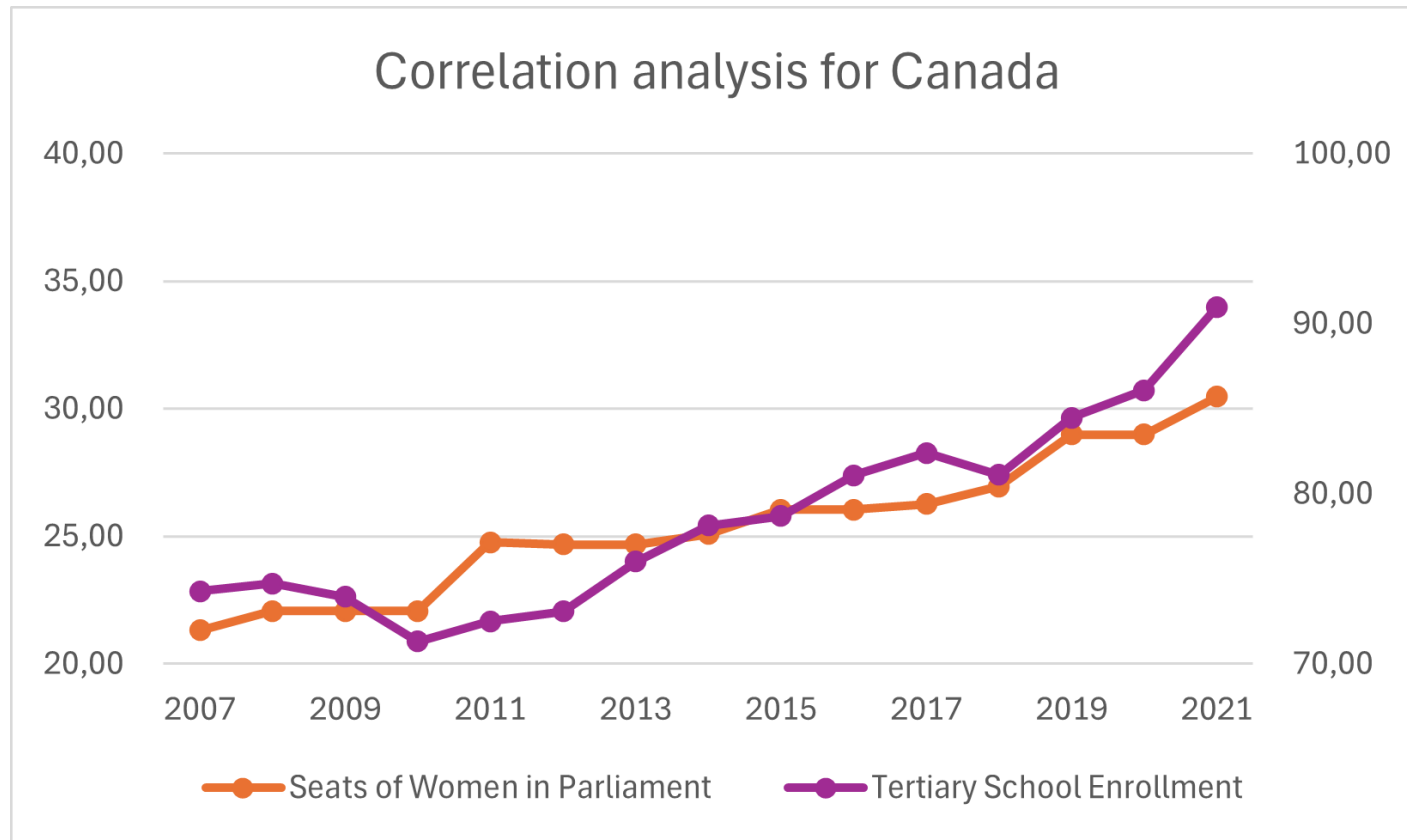
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Analysis

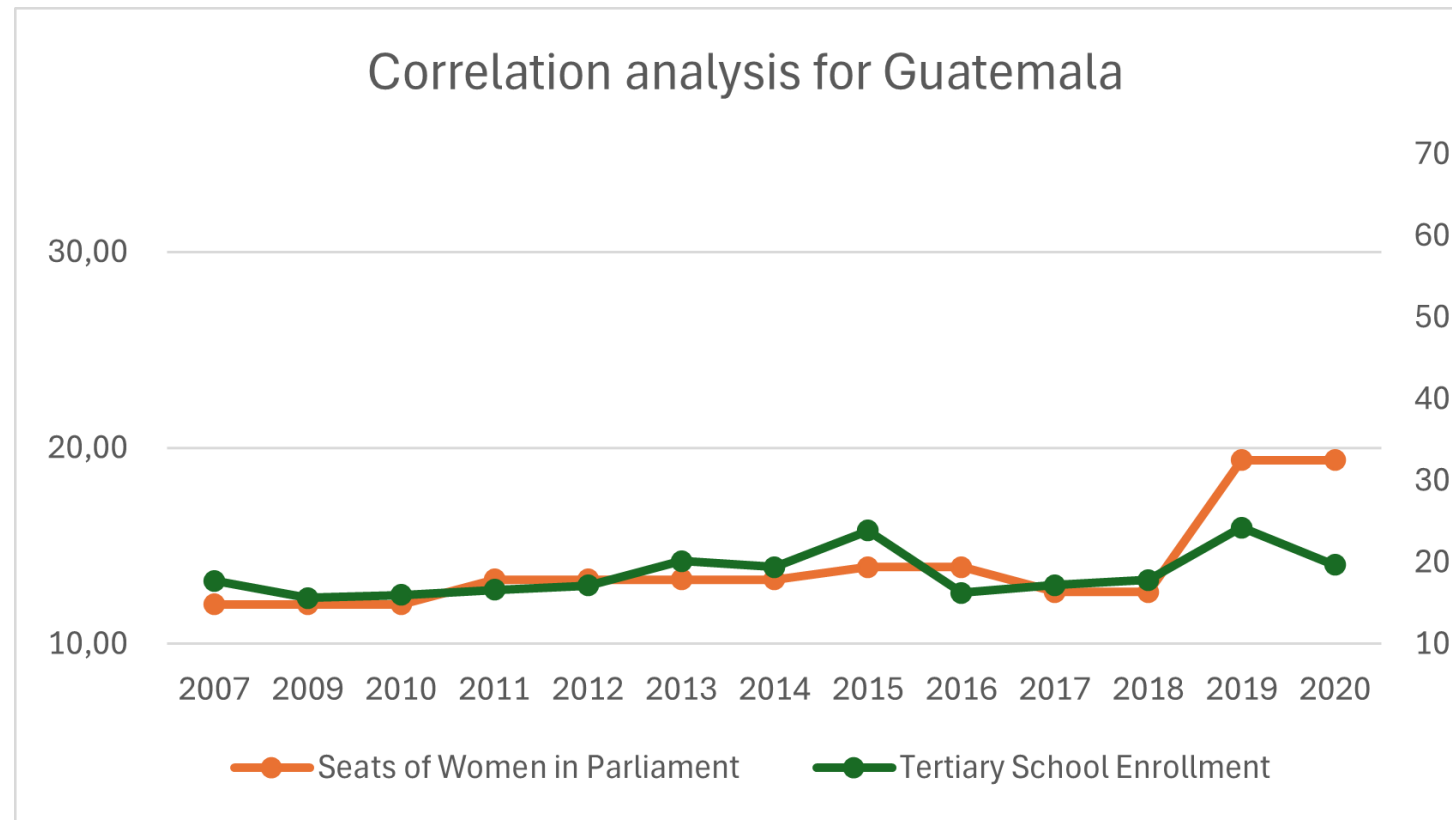
1. Methodology

- *Tertiary School Enrollment* data and *Shares of Women in Parliament* data were compared
- With the help of line charts
- One line chart for each country
- The years and values for all countries were aligned, to make the data comparable

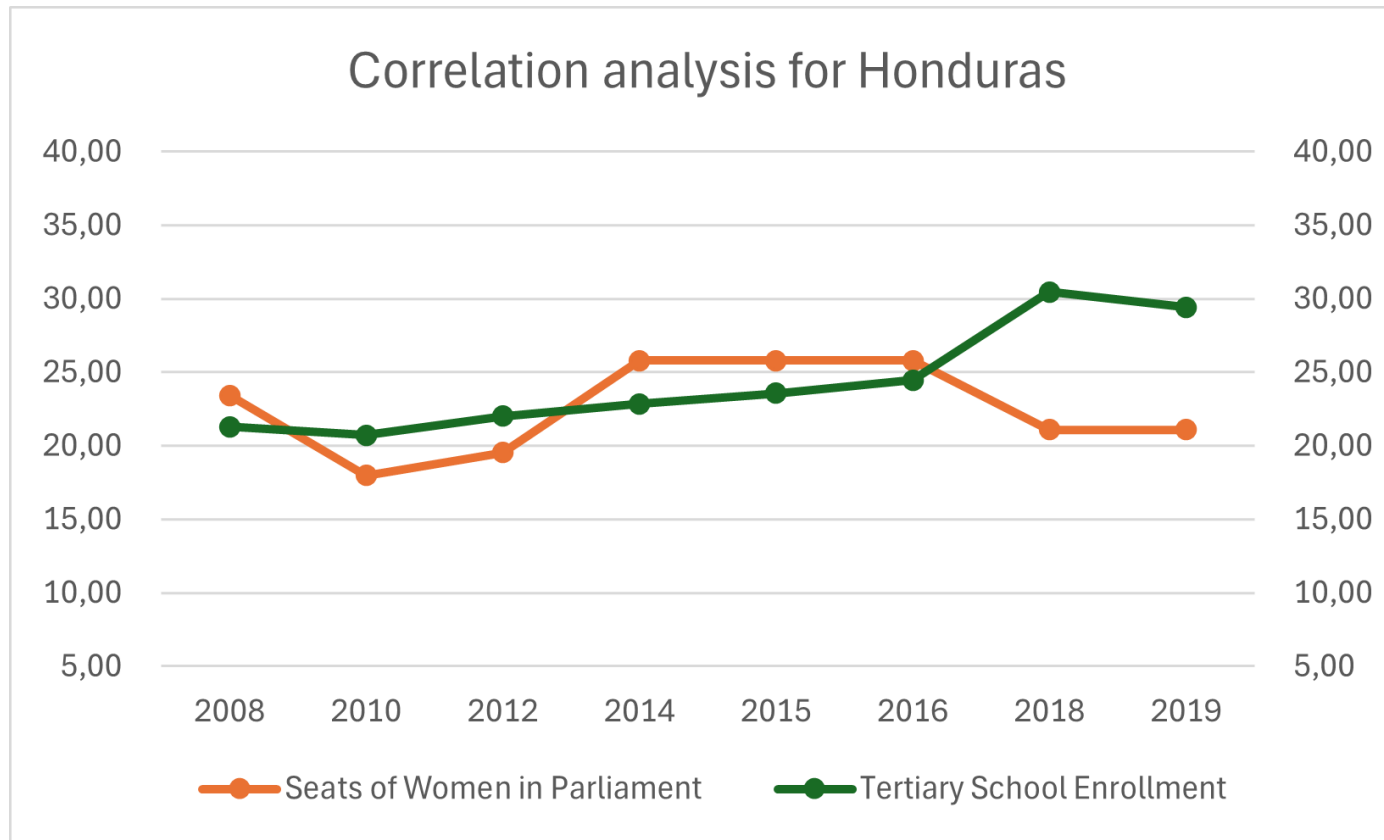
1. Results and Interpretation



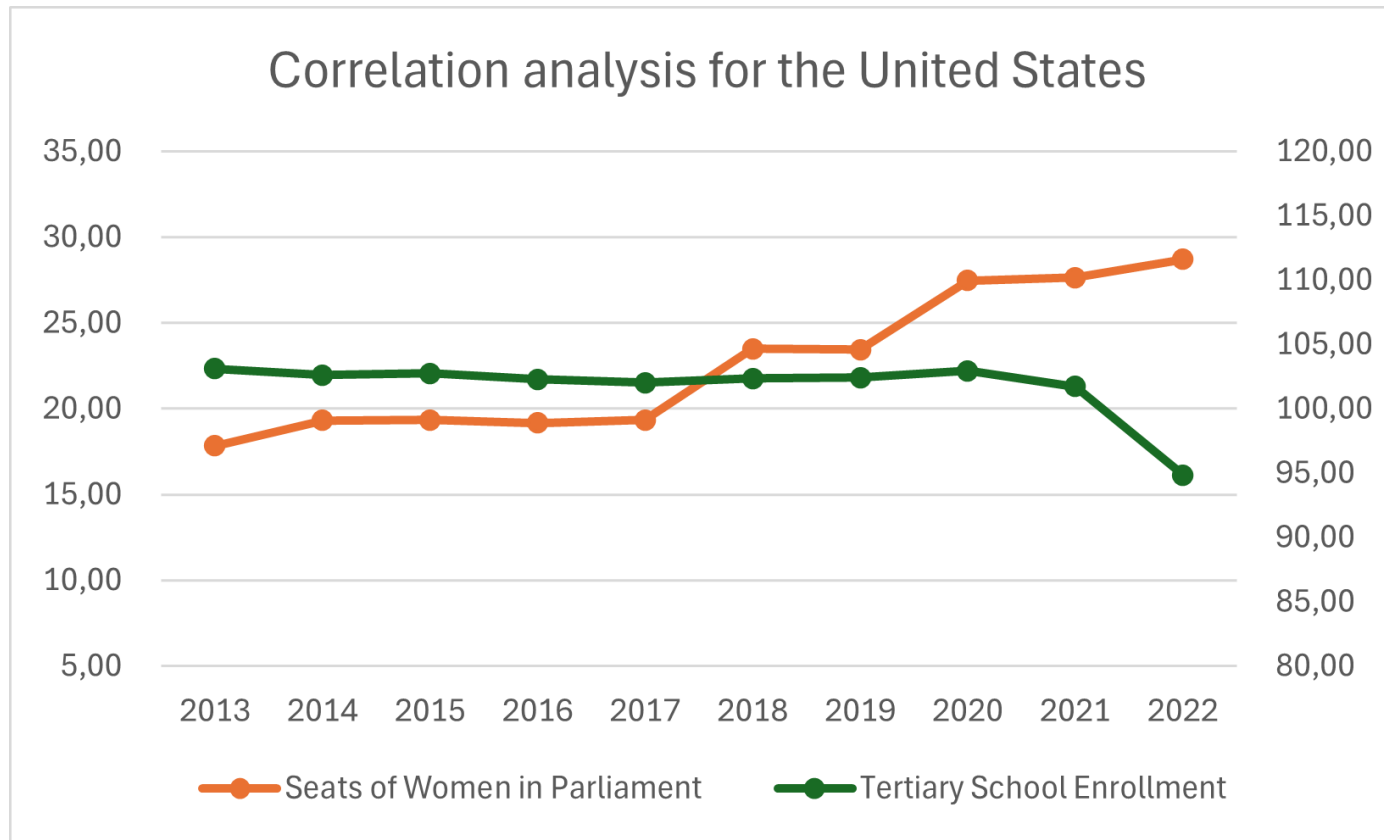
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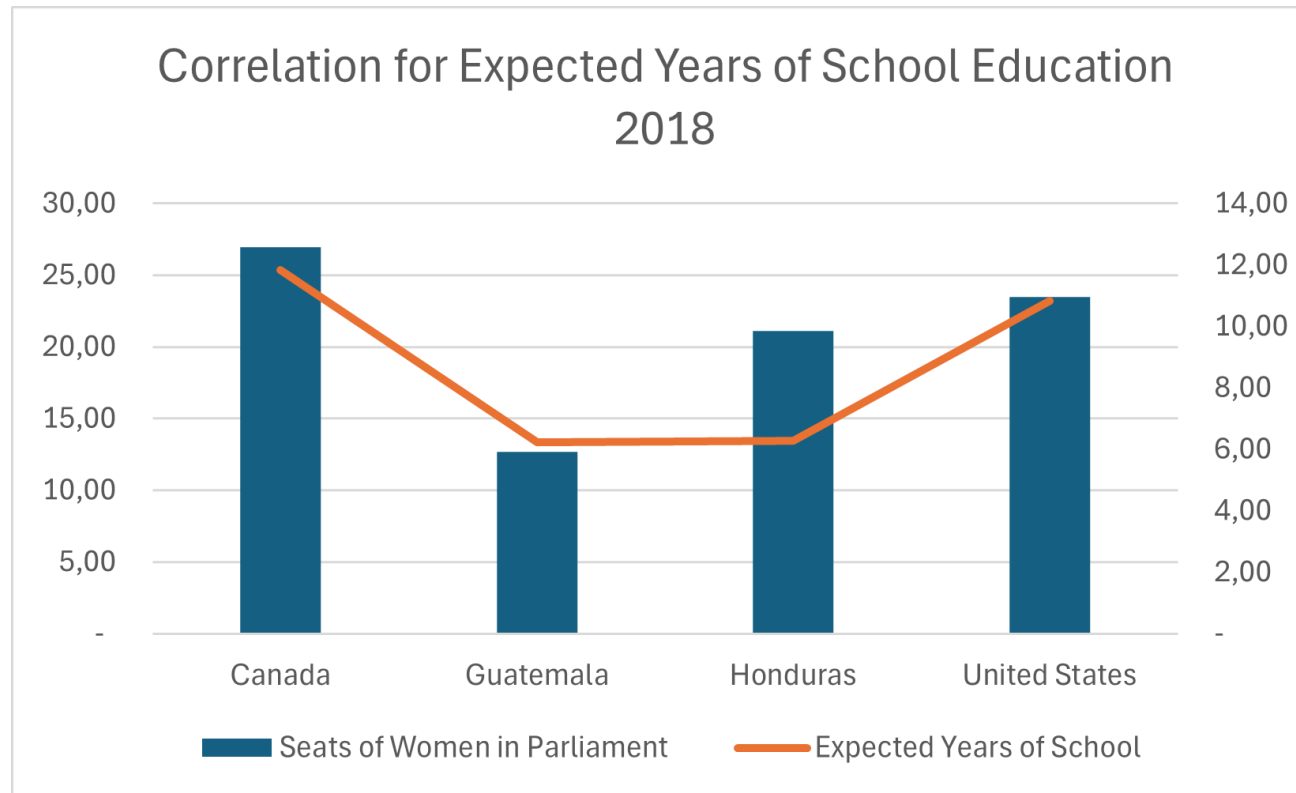
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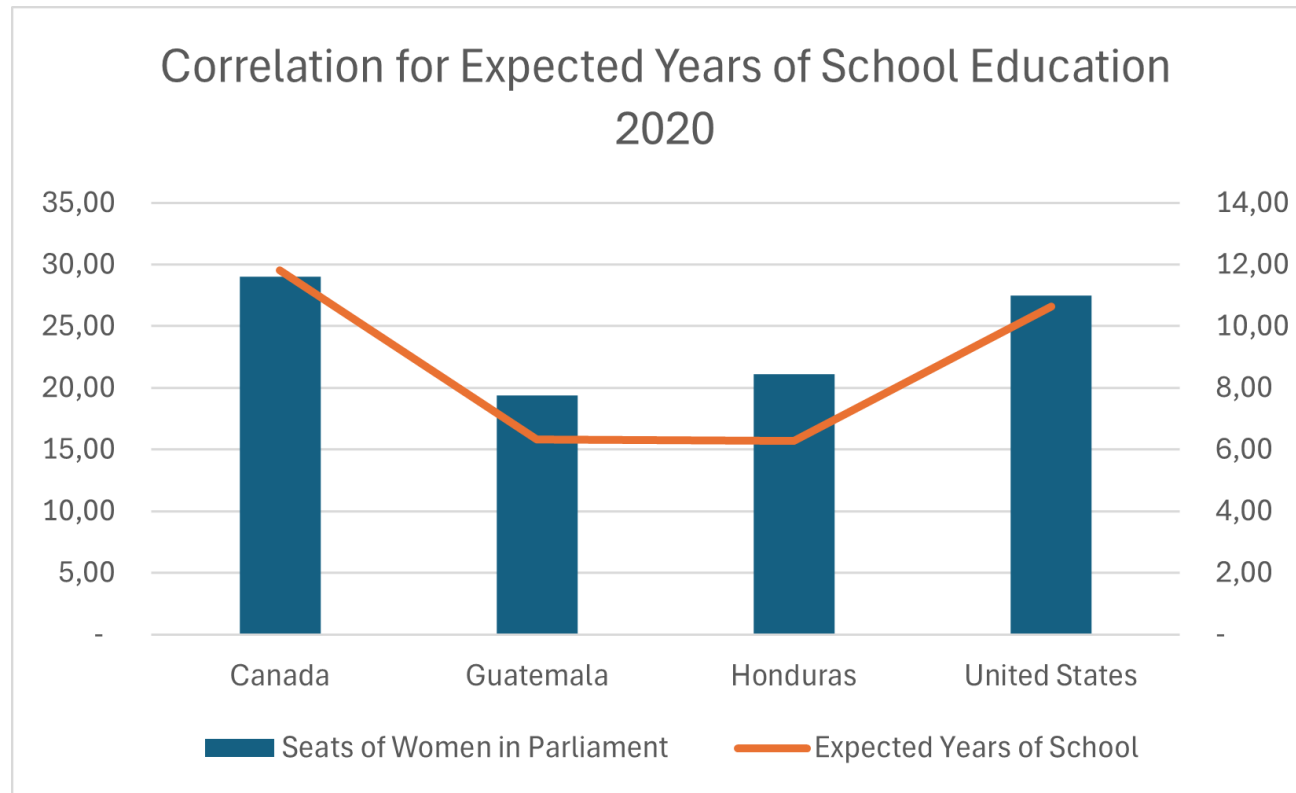
2. Methodology

- *Expected Years of School* data and *Shares of Women in Parliament* data were compared
- With the help of a combination of column charts and line charts
- One chart for 2018 and one for 2020

2. Results and Interpretation



2. Results and Interpretation



- **Methodology**
 - Correlation Coefficients (Pearson Correlation Coefficient) were calculated for each country
 - Help identifying relationships between numerical features
 - Value between -1 (strong negative correlation) and 1 (strong positive correlation)
- **Results and Interpretation**
 - ***Canada: 0.91***
 - ***Guatemala: 0.62***
 - ***Honduras: - 0.03***
 - ***United States: - 0.55***

Conclusions

Limitations

- *Expected Years of Schooling* dataset has some gaps in the temporal coverage → may have affected the conclusions
- Focus on only four countries → results cannot be generalized to the entire America

Conclusions

- The analysis for Canada and Guatemala showed a positive correlation
 - suggesting, that higher levels of female education are associated with greater political representation
 - ↔ The analysis for Honduras showed no meaningful correlation, for the United States a moderate negative correlation
 - increases in education levels did not translate into greater political representation
 - Education can play a role in improving gender equality...
 - ... but is it the only factor for female political representation?
 - Cultural, economic or social factors may also play roles in shaping political representation
- A more in-depth analysis with more factors is needed!

Thank you!

The background of the slide features a series of concentric, wavy blue lines that create a sense of motion and depth, starting from the bottom and curving upwards towards the right.