

Exploring the Intersection of Gender, Ethnicity, and Physical Activity in Global Adolescents

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Abstract

Gender inequality is a continuing problem that affects many aspects of life, including welfare, schooling, and job chances. The influence of gender inequality in schooling, employment, and physical activity on economic growth and health outcomes is investigated in this literature review. This review investigates the magnitude of gender differences and their ramifications by analyzing data from various countries such as Belgium, China, Italy, Japan, Qatar, Turkey, the United States, the Russian Federation, Brazil, and South Africa. The findings underline the necessity of evidence-based policies and initiatives for effectively addressing gender inequality. Data scientists and politicians may use this data to make informed decisions and strive toward minimizing gender inequities, which will promote economic growth and improve health outcomes.

1 Introduction

Gender inequality is a pervasive problem in many parts of the world, affecting various aspects of life such as health, education, and employment opportunities. It is essential to understand the effects of gender inequality on different aspects of society to develop effective policies and strategies for reducing these disparities. In this literature review, we explore the impact of gender inequality in education, employment, and physical activity on economic growth and health outcomes. Understanding the findings of these studies is crucial for data scientists and policymakers alike to inform evidence-based decision-making for reducing gender inequalities.

1.1 Literature Review

Several studies have investigated the impact of gender inequality in education on economic growth. (Klasen & Lamanna, 2009) finds that gender inequality in education and employment negatively affects economic growth in a panel of countries. Similarly (Mekkodathil et al., 2016) found that gender inequalities in education have negative economic impacts. In contrast, (Ricardo et al., 2022) explored gender inequalities in physical activity and found that it negatively impacts the health outcomes of adolescents from Global South countries. (Stamarski & Son Hing, 2015)

The effects of gender inequality in employment have also been studied. World Bank (2021) found that gender gaps in employment result in economic inefficiencies and losses. Additionally, (Mekkodathil et al., 2016) investigated occupational injuries in workers from different ethnicities and found that gender differences in occupational injuries are prevalent and require attention. Finally, (Organization et al., 2009) guide provides a comprehensive framework for identifying and measuring the economic consequences of disease and injury, emphasizing the need to consider the social and economic impact of health conditions on individuals and society as a whole. (Kitov, 2006) The findings of these studies demonstrate the importance of continued research and policy development aimed at addressing gender inequalities in education, employment, and physical activity.

1.2 Data set

The Gender Statistics database dataset contains information on numerous metrics relating to gender inequality in various nations.. Each column has a description and a one-sentence explanation:

- **Country Name:** The name of the country.
- **Time:** The year of the data.
- **Death, by injury, male %:** The percentage of male deaths caused by injuries.
- **Death, by injury, female %:** The percentage of female deaths caused by injuries.
- **Population, female:** The female population count.
- **Population, male:** The male population count.
- **GDP per capita (\$):** The Gross Domestic Product per capita in US dollars.
- **School enrollment, M %:** The percentage of male school enrollment.
- **School enrollment, F %:** The percentage of female school enrollment.
- **Unemployment, male %:** The percentage of unemployed males.
- **Unemployment, female %:** The percentage of unemployed females.

All the variables used in data are numerical. The dataset consists of 51 observations and 11 variables. Each observation represents a country, and the variables provide information on gender-related indicators for those countries.

This dataset provides a comprehensive view of gender-related statistics across countries, enabling comparisons and analysis to identify areas for improvement in gender equality. It is a valuable resource for policymakers, researchers, and organizations working towards fostering gender equality and social progress.

1.3 Data summary statistics

Table 1 provides summary information for important gender inequalities characteristics. The percentage of female deaths caused by injuries is 4.02% (standard deviation 1.68%), while the percentage of male deaths is 8.50% (standard deviation 4.83%). The GDP per capita

averages \$31,580.04 (standard deviation: \$26,424.87), with values ranging from \$2,047.23 to \$112,621.82. The average population count for females is 48,081,304.73 (std. dev. 132,363,420.10) and 49,032,641.49 (std. dev. 139,582,052.67). In terms of school enrollment, the mean proportion for females is 101.32% (standard deviation 6.86%), while the mean percentage for boys is 101.12% (standard deviation 6.79%). Gender inequalities in mortality rates, economic production, population distribution, and school enrollment are highlighted in these figures.

Table 1: Summary Statistics

	Mean	Std.Dev	Min	Median	Max
Death, by injury, female %	4.02	1.68	1.35	3.83	9.76
Death, by injury, male %	8.50	4.83	3.38	6.64	25.19
GDP per capita (\$)	31580.04	26424.87	2047.23	23424.48	112621.82
Population, female	48081304.73	132363420.10	175683.00	5821746.00	688179990.00
Population, male	49032641.49	139582052.67	184880.00	5667234.00	719565010.00
School enrollment, F %	101.32	6.86	81.10	101.19	128.68
School enrollment, M %	101.12	6.79	82.25	101.03	123.78

2 Methods and Data Analysis

The analysis include 10 observations for graphs as they were representing different geographical patterns and varieties .

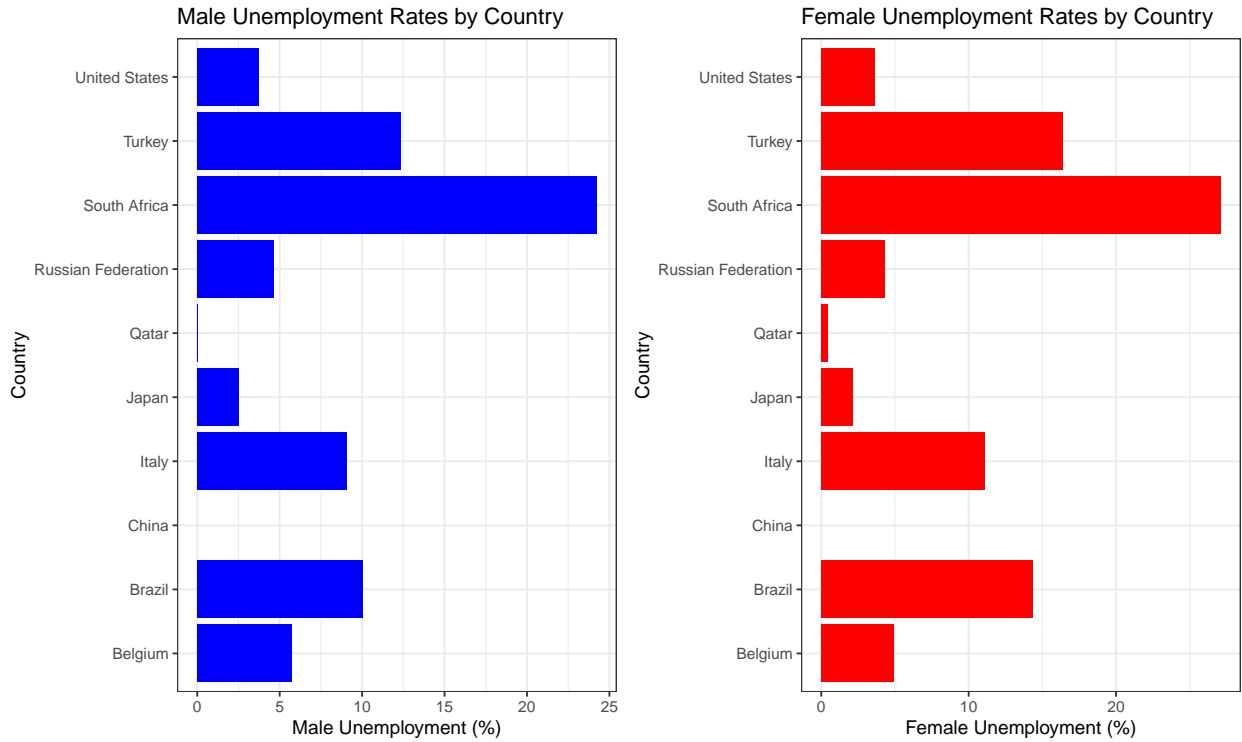
2.1 Data Analysis of Rates of Male and Female Unemployment by Nation

The unemployment rates for men and women in particular nations are shown in bar plots. Understanding the differences and patterns in the data can be gained by analyzing *figure 1* Belgium, Japan, Qatar, and the United States all have male unemployment rates that are considerably lower than those of other nations. Nevertheless, Turkey, South Africa, and Brazil have higher unemployment rates. These variations imply that the economies, job markets, and employment opportunities for men vary across the nations. Italy, Japan, Qatar, and the United States all have relatively lower female unemployment rates than other nations. This suggests that women in these nations have better employment prospects and more favorable labor market circumstances. The higher female unemployment rates in Turkey, Brazil, and South Africa stand out, indicating that there may be obstacles and difficulties for women in finding suitable employment opportunities.

In conclusion, the unemployment rates of men and women can describe the gender disparities in the labor market. Most countries tend to have higher men's unemployment rates than

the women’s unemployment rate. This demonstrates how crucial it is to address gender disparities, advance equal employment opportunities, and put supportive policies in place to lessen inequalities and promote inclusive economic growth.

Figure 1



2.2 Data Analysis for Relationship between School Enrollment and Unemployment Rate among Male

The scatter plot compares the GDP per Capita (Current US\$) and the School Enrollment (% gross) for females in primary education for ten various nations. We can see a number of significant conclusions.

First, it appears that the relationship between school enrollment and GDP per capita is improving. The GDP per capita of nations with higher school enrollment is typically higher. This implies that school spending, especially primary education for female, can support economic growth and prosperity. Regardless of the percentage of students enrolled in school, every country displays a different unemployment rate. For instance, despite having different levels of student enrollment, Qatar and the United States both have low unemployment rates. In contrast, despite having distinct levels of enrollment in schools, South Africa and Turkey both have high unemployment rates. This suggests that other underlying factors have a big impact on how these countries’ job markets behave.

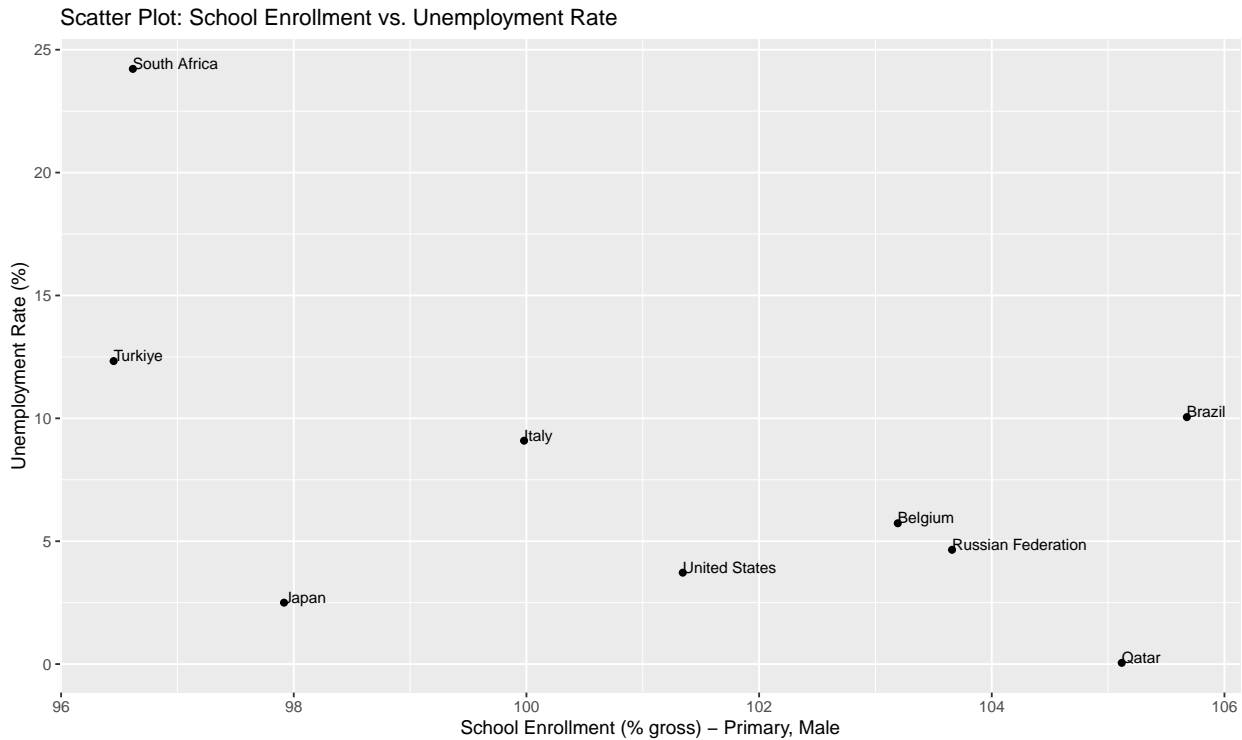
In this analysis, China stands out as an anomaly. Despite having a sizable population and a high percentage of students enrolled in schools, data on the unemployment rate are

not available. As a result, this graph cannot be used to draw any conclusions about China’s connection between school enrollment and unemployment rate. Comparing various nations is possible by looking at the labels on the graph. For instance, relatively high school enrollment and lower unemployment rates are found in Belgium and Japan, raising the possibility of a causal relationship. However, despite having relatively lower school enrollment, South Africa and Turkey have higher unemployment rates, suggesting the presence of additional influencing factors in their labor markets.

It’s crucial to note that this analysis only considers how male primary school enrollment and unemployment rates relate to one another. It would be vital to take into account additional elements like quality of schools, higher education enrollment, and labor market dynamics in order to gain a more thorough understanding.

In conclusion, scatter plot reveal a connection between school enrollment and unemployment rate and serve as a starting point for further investigation. The complexities of labor market dynamics across countries necessitate the inclusion of additional variables and analyses in order to gain a more complete understanding of the factors influencing rates of unemployment.

Figure 2



2.3 Data Analysis for Relationship between School Enrollment and GDP per Capita among Female

The scatter plot provided compares the school enrollment rate (% gross) of females in primary education with GDP per capita (current US dollars) for a group of countries.

We can see the correlation between female school enrollment and the financial wellness of the countries represented in the scatter plot. Each data point on the plot represents a country, with the x-coordinate indicating the rate of school enrollment and the y-coordinate representing GDP per capita.

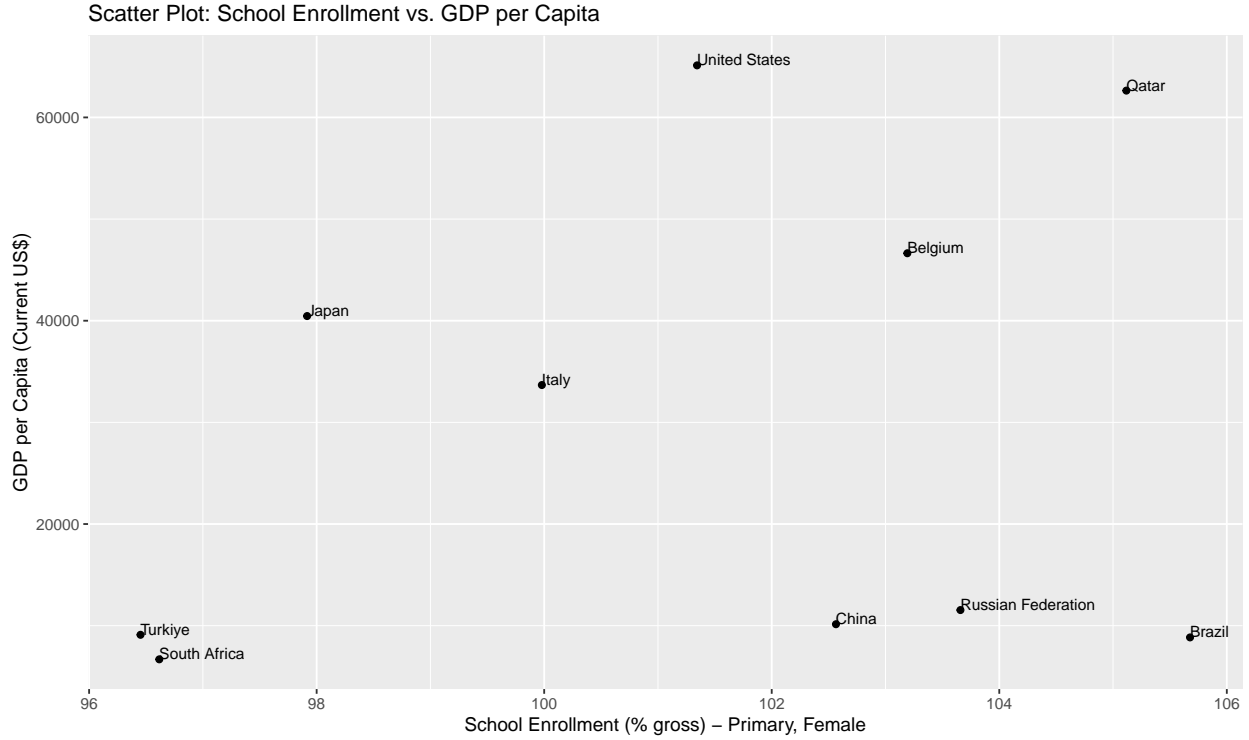
We can use the scatter plot to figure out patterns and trends in the data. Most countries group around the center of the school enrollment range, with a few exceptions at either end. Similarly, GDP per capita varies by country, with a few outliers having significantly higher values. The scatter plot analysis provides several compelling observations. Countries with higher school enrolment rates have higher GDP per capita, indicating a link between education and economic development. This conclusion supports the view that education is critical to economic development and human capital growth.

By referring to the labels connected to each data point, we may also identify certain countries on the plot. Belgium, Italy, and the United States, for example, have relatively greater levels of female school enrolment and GDP per capita, reflecting strong educational and economic positions. Countries such as China and South Africa, on the other hand, have modest school enrollment rates but variable GDP per capita levels. Furthermore, despite lower school enrollment rates, certain nations, such as Qatar and Turkey, have relatively high GDP per capita. This shows that other variables, such as natural resources or certain industries, may be contributing to these countries' economic development.

It is critical to remember that the scatter plot is a graphical representation of the data that illustrates connections rather than causality. Other factors, such as government policies, facilities, and cultural features, might have an impact on the economic growth of a nation.

Finally, the graph allows us to investigate and comprehend the connection between female school attendance and GDP per capita in various countries. With some variances and outliers, the figure demonstrates a positive association between education and economic prosperity. To completely comprehend the relationships between education and economic development, a comprehensive analysis would need to take into account more aspects and perform additional research.

Figure 3



2.4 Prediction

$$Unemployment = \beta_0 + \beta_1 \text{Population male} + \beta_2 \text{Population female} + \beta_3 \text{Death rate} + \beta_4 \text{School enrollment} + \varepsilon$$

A linear regression model for predicting the unemployment rate is represented by the equation. The impacts of population male, population female, death rate, and school enrollment on the unemployment rate are represented by the coefficients β_0 , β_1 , β_2 , β_3 , and β_4 . Based on the available data, the model seeks to estimate these coefficients and use them to generate predictions or comprehend the link between the independent variables and the unemployment rate in a given demographic or setting.

3 Conclusion

Gender inequality is a continuing problem that affects many aspects of life, including welfare, schooling, and job chances. The influence of gender inequality in schooling, employment, and physical activity on economic growth and health outcomes is investigated in this literature review. This review investigates the magnitude of gender differences and their ramifications by analyzing data from various countries such as Belgium, China, Italy, Japan, Qatar, Turkey, the United States, the Russian Federation, Brazil, and South Africa. The findings underline the necessity of evidence-based policies and initiatives for effectively addressing gender inequality. Data scientists and politicians may use this data to make informed decisions

and strive toward minimizing gender inequities, which will promote economic growth and improve health outcomes. Gender inequality remains a serious issue that affects many parts of life, including welfare, education, and career chances. Using data from Belgium, China, Italy, Japan, Qatar, Turkey, the United States, the Russian Federation, Brazil, and South Africa, this literature review investigates the influence of gender inequality in schooling, employment, and physical activity on economic growth and health outcomes.

The findings emphasize the need for evidence-based initiatives and approaches in effectively addressing gender inequality. Gender differences in education and employment have a negative economic impact, stifling progress and resulting in inefficiencies and losses. Furthermore, gender disparities in physical activity might harm individuals' health outcomes, particularly among Global South countries. This review's dataset contains useful gender-related information such as mortality rates, population counts, GDP per capita, school enrolment, and unemployment rates. Government officials, data scientists, and researchers can acquire insights into gender discrepancies and find opportunities for improvement in gender equality by evaluating these characteristics. The summary figures reveal gender disparities in mortality rates, with males dying from injuries at a higher rate. GDP per capita reflects the average economic output per person, but school enrollment and unemployment rates highlight gaps in education and work possibilities.

Overall, this review of the literature underlines the significance of ongoing study and policy creation to address gender disparities in education, employment, and physical activity. Societies can stimulate economic growth and enhance health outcomes for all persons by encouraging gender equality. The information supplied can be a significant resource for politicians, researchers, and groups working to make society more equal and inclusive.

4 References

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