

Analyzing the correlation between cases of gender-based violence against women and human development index

A case study of GBV in Sub-Saharan African countries

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Abstract

Sub-saharan Africa has one of the highest rates of gender-based violence(GBV) cases. It's countries also have the lowest Human Development Index (HDI) scores. I examine how HDI correlates with proportions of women subjected to GBV.

Keywords— *gender; gender-based violence; femicide; Human Development index, education index*

I. INTRODUCTION

In current African societies, women and girls are subjected to physical, sexual and psychological abuse. This abuse cuts across the different lines of income, education levels, culture and legal and justice landscapes. In recent times, the cases of femicide in countries such as South Africa[4] and Kenya [3] have been on the rise. This study aims to investigate the relationship between gender-based violence(GBV) against women and the Human Development Index(HDI) in certain African countries. Human Development Index[1] is an indicator developed by the United Nations that is a summary measure of achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having decent standards of living. I will pay attention to the education(being knowledgeable) Dimension of HDI. Officially, Violence against women is defined as an act of “gender-based violence that results in or is likely to

result in physical, sexual or psychological harm or suffering to women, including threats of acts such as coercion or arbitrary deprivation of liberty, whether occurring in public or in private life”. [2]

II. OBJECTIVES

A. Main Objective.

To establish how the Human Development Index in Sub-Saharan Africa affects gender-based violence.

OTHER OBJECTIVES

- To investigate if there is a relationship between education levels and cases of gender-based violence in Sub-Saharan African countries

III. RESOURCES

B. Methodology

To achieve the objectives stated, a model will be created to examine the HDI over the years and this will be cross-referenced with the rate of gender-based violence over time. From this comparison, this will generate insights into how HDI affects GBV rates.

1) Tools:

Method	Familiarity	Description
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Python programing	Moderate	General creation of the model
Scikit Learn	Moderate	Has algorithms that will be used for the creation of the model
Pandas and Numpy	Moderate	Data wrangling and preprocessing
Matplotlib and Seaborn	Moderate	Data visualization
Regression analysis	Moderate	To identify trends and correlations in the continuous numerical data
Time series analysis	Beginner	To identify trends and predict future statistics

Figure 1: Table highlighting methodology to be used in the execution of the proposed study

C. Datasets

1. Gender-Based Violence Statistics by UNSTATS

This dataset reports on the gender-based violence statistics for countries in the world. The two indicators of focus are:

- a. **Indicator 48: Proportion of women subjected to physical and/or sexual abuse by a former or current intimate partner in the last 12 months**

According to research, intimate partners are major perpetrators of gender-based violence especially of the physical and sexual nature. The fact that this aggregates proportions in the last 12 months makes it very recent and can be used to accurately mirror the state of the society today with respect to GBV

This dataset also contains information on whether a particular country has Domestic Violence Law, Sexual Harassment Law, and Marital Rape Law which will help us establish whether legal frameworks have a relationship with the number of GBV cases.

2. Human Development Index Statistics

Being that HDI was developed to emphasize that people and capabilities should be the ultimate criteria for assessing the development of a country and not economic growth alone, this dataset serves as a good indicator to test how development and treatment of fellow human beings are related.

The indicator encapsulates, in my opinion and the UN-HDR's, the most important aspects of human development which are education, long and healthy life and decent standards of living. The dimensions of this index have robust indicators such as Mean years of schooling and GNI per capita which feed into it. It is good to measure human progress with the progress or lack of that we make in our treatment of other human beings.

IV. HYPOTHESIS

The higher the HDI, the lower the proportions of women who are victims of gender-based violence.

D. Assumptions

- The countries being studied have equal legal frameworks and policies for dealing with gender-based violence.
- The cultures in the countries being studied are similar.

E. Expected results

- Result 1:

If the increase in HDI causes a reduction in the number of GBV cases, then I expect the correlation of the GBV to be strong and negative.

- Result 2:

The increase in the education index for women has a strong negative correlation to the proportion of GBV cases against women.

V. RESULTS

Upon completion of the analysis, the result disproved my hypothesis on the main objective.

● Result 1:

Equation

y= Proportion of women abused (percentage)

x= Human Development Index

$$y=8.13x+18$$

The results showed that an increase in HDI causes an increase in the proportion of women who have experienced gender-based violence.

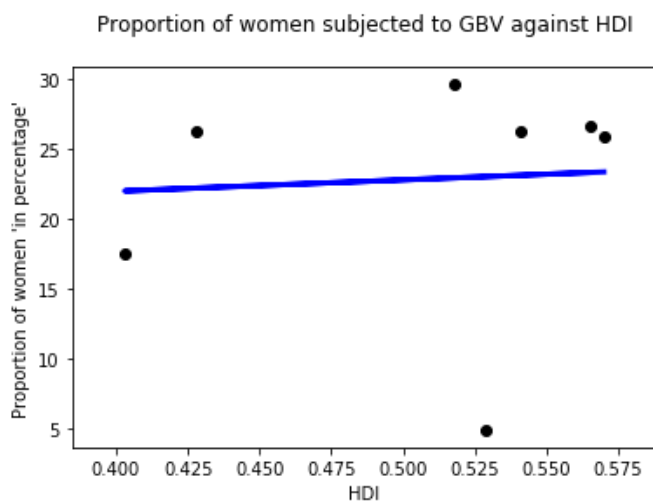


fig 1: HDI vs Proportion of women subjected to GBV

● Result 2:

Equation

y= Proportion of women abused (percentage)

x= Education Index

$$y=21.62x+13.98$$

The results showed that an increase in education index causes an increase in the proportion of women who have experienced gender-based violence.

Proportion of women subjected to GBV against Education Index

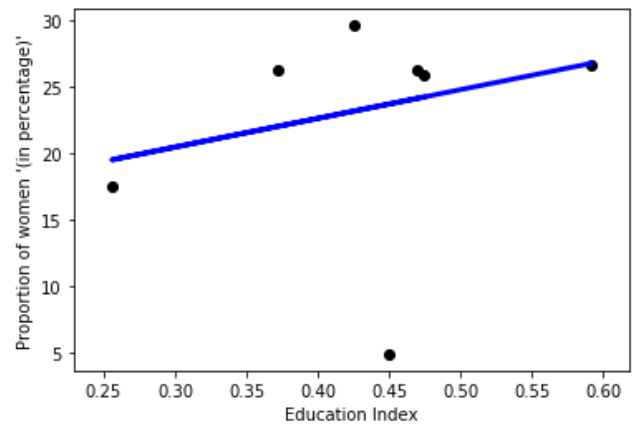


fig 2: HDI vs Proportion of women subjected to GBV

VI. CONCLUSION

I developed the following theory to explain these results: *With the increase in HDI which is an indicator of increased development across all facets of life, there is better reporting of gender-based violence cases, thus the higher proportions in higher ranking countries.*

This is a theory that I suggest be investigated to come to a meaningful conclusion about the relationship between HDI and GBV against women. Lack of updated data was a major challenge during this project.

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