The Impact of Women's Political Empowerment on Reproductive Health

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This study explores the relationship between women's political empowerment and reproductive health outcomes. More specifically, it explores how women's access to political decision-making roles influences maternal mortality rates and abortion access their respective states hold. Using secondary data sources, a correlational analysis was performed to assess these relationships. The results revealed a moderately strong positive correlation between women's political empowerment and improved reproductive health outcomes. However, socioeconomic status emerged as a significant confounding factor, reducing the significance of political empowerment in the presence of socioeconomic variables. These findings highlight the importance of addressing multicollinearity and exploring mediating factors. This research contributes to the understanding of how political empowerment shapes health policies, with implications for future interventions.

Introduction

The study investigates the relationship between women's political empowerment and outcomes in reproductive health, particularly focusing on maternal mortality. Women's access to political decision-making roles, legislative power, and leadership positions has long been a topic of discussion in the context of gender equality. Numerous studies suggest that political empowerment can lead to more inclusive policies that prioritize women's health and well-being, but the specific impact on reproductive health outcomes remains underexplored.

Maternal mortality, a very important indicator of reproductive health, is influenced by several factors, including access to healthcare, socioeconomic conditions, poverty, and the overall health system. It has been shown that women's political empowerment may affect these factors through policy advocacy, resource allocation, and the promotion of gender-sensitive health initiatives.

This study hypothesizes that women's political empowerment has a significant effect on maternal mortality rates. Previous research has indicated that women in leadership positions are more likely to advocate for policies that benefit women's health, yet there is limited empirical evidence on the direct correlation between women's political representation and maternal health outcomes.

By examining this relationship, this study aimed to fill a critical gap in the literature and contribute to the understanding of how political empowerment can positively influence reproductive health.

Literature Review

The relationship between women's political empowerment and reproductive health has garnered significant scholarly attention, with numerous studies documenting the positive impact of women's political participation on health outcomes, including maternal mortality rates. A 2023 study by Bhalotra et al. published in the Journal of the European Economic Association provides compelling evidence that increasing women's political power can significantly reduce maternal mortality, finding that higher female representation in government led to an 8-12% reduction in maternal mortality rates, including in the United States. This study supports the notion that political empowerment can have direct health benefits for women [1].

Despite this progress, maternal mortality remains a critical issue, with the World Health Organization (WHO) reporting that approximately 810 women die each day from preventable causes related to pregnancy and childbirth. In the United States, the maternal mortality rate is notably high compared to other developed countries, with about 32.9 deaths per 100,000 live births in 2021. This rate is even more alarming among black women, who are approximately three times more likely to die from pregnancy-related complications than their white counterparts [2]. These statistics highlight the urgent need for comprehensive strategies to address factors contributing to maternal mortality, such as healthcare access and socioeconomic disparities.

Several gaps remain in the literature surrounding this topic. While existing studies have established a correlation between women's political representation and improved health outcomes, fewer studies have explored the specific mechanisms through which political empowerment influences reproductive health.

For example, Htun and Weldon (2012) examined the broader impact of political empowerment on policy change but did not focus on reproductive health outcomes[3]. The civic origins of progressive policy change: Combating violence against women in global perspective, 1975–2005. American Political Science Review, 106(3), 548–569. This gap is particularly evident in the intersection of political empowerment with other factors, such as economic development and cultural norms, which also affect reproductive health outcomes.

A feminist political theory framework offers valuable insights into the role of political empowerment in improving reproductive health. According to Krook and Mackay (2011), women's inclusion in political decision-making processes is essential for achieving gender equity in health and beyond. Their feminist institutionalism framework emphasizes the need to transform political institutions and structures to support gender-responsive policies, particularly those addressing health disparities[4].

Moreover, Reingold and Smith's 2012 study highlights how female governors in the United States are more likely to adopt progressive reproductive health policies, thereby improving access to maternal healthcare and family planning services at the state level[5]. These findings suggest that women's political leadership directly impacts reproductive health outcomes by fostering more equitable access to essential health services.

Additionally, Braveman and Gottlieb (2014) argue that reproductive health outcomes are not solely influenced by political factors but are also shaped by broader socioeconomic determinants. Their work emphasizes that factors such as income, education, and employment play a significant role in shaping health disparities and calls for policies that address these root causes[6].

The independent variables in this study, Women's Political Empowerment Index (WPEI) and Socioeconomic Status (SES), are integral to understanding maternal mortality. The WPEI, which aggregates diverse components of women's political participation, captures the extent to which women hold decision-making power in political spheres, which is crucial for health advocacy. Political empowerment enables women to influence policy decisions, advocate for reproductive health services, secure funding for healthcare initiatives, and create laws that improve maternal health. For example, higher representation in legislative bodies allows women to push for policies that ensure better healthcare access, family planning services, and maternal health education, all of which can lower maternal mortality rates.

Finally, SES, which includes factors like income, education, and occupation, is a critical determinant of access to quality healthcare. Higher SES typically correlates with better healthcare access, healthier living conditions, and greater awareness of health issues, all of which contribute to reduced maternal mortality. These variables, together, offer a comprehensive understanding of how political and socioeconomic factors can shape reproductive health outcomes.

Present Study

The aim of this study is to investigate how women's political empowerment influences reproductive health indicators, specifically focusing on maternal mortality. This study will also examine the role of economic development, cultural norms, and healthcare infrastructure as key factors influencing these outcomes. The primary objective is to explore how different dimensions of political empowerment, socioeconomic factors, and healthcare access contribute to variations in maternal mortality rates across different regions in the United States.

The study's research question is centered on identifying the correlation between women's political empowerment and reproductive health, with an emphasis on maternal mortality as the outcome variable. We hypothesize that increased political empowerment among women, measured through various indices and socio-political factors, will be associated with lower maternal mortality rates. In addition to political empowerment, we will assess the effects of socioeconomic status, healthcare access, and other demographic variables on reproductive health outcomes.

Measurement of Variables

The measurement of the variables in this study will be discussed in the Research Methodology section, where theoretical constructs will be operationalized. Below is a brief overview of the key variables:

- **Women's Political Empowerment Index (WPEI):** This composite index evaluates the level of political empowerment and participation of women. It includes various factors such as voter turnout, candidacy rates, legislative and executive representation, political party leadership, committee chair positions, policy influence, and the broader legal and social environment that supports women's political engagement.

- **Socioeconomic Status (SES):** SES will be measured through a composite score that includes household income, educational attainment, occupation type, wealth, and living conditions.

- **Healthcare Access:** This variable will consider the availability of healthcare services, insurance coverage, the density of healthcare facilities, and the utilization of services by women.

- **Education:** We will measure the effectiveness of health education programs, literacy rates, and general access to education as factors influencing reproductive health.

- **Demographics:** This includes age distribution, gender ratio, and racial/ethnic composition, which may influence maternal health outcomes.
- **Political and Social Environment:** We will examine the influence of relevant legislation (such as abortion rights) and societal attitudes towards women's health on reproductive health outcomes.
- **Geographic Factors:** This will involve examining urban versus rural differences, as well as environmental quality, in relation to maternal health outcomes.
- **Abortion Rights:** Abortion rights will be measured on a scale from 1 to 5, where 1 represents easy access and availability, and 5 indicates almost complete restriction or outlawing of abortion.
- **GINI Index:** This index measures income inequality, with values ranging from 0 (perfect equality) to 1 (maximum inequality). It will be used to assess the economic disparity within the population, which is expected to correlate with reproductive health outcomes.

Methods

For this study, secondary data were obtained from multiple publicly available sources to analyze the relationship between various socioeconomic and political factors and access to abortion. These data sources include the Women's Political Empowerment Index (WPEI), Socioeconomic Status (SES) measures, the GINI Index, access to abortion, and maternal mortality rates. The detailed list of data sources, including links for each variable, is provided in Table 1. This study uses a correlational research design to examine the relationships between women's political empowerment, socioeconomic factors, access to abortion, and maternal mortality. Correlation is appropriate for this study because the goal is to explore associations between variables rather than establish causality. Given the secondary data used and the inability to manipulate variables, correlational analysis is the most suitable method for identifying patterns in the data. While this design does not test causal pathways, it provides valuable insights into how these factors may be related. Future research could employ quasi-experimental designs or longitudinal studies to better understand causal relationships. All data used were publicly accessible, and no personal identifiers were included to ensure compliance with ethical standards for data use.

Data Preparation and Statistical Techniques

The collected data were carefully compiled, cleaned, and checked for consistency and accuracy. In particular, data inconsistencies and outliers were addressed before conducting further analyses. Descriptive statistics were computed to provide an overview of the variables, followed by correlation analysis to examine the relationships between the independent variables (political empowerment, SES, abortion access, etc.) and the dependent variable (maternal mortality). The data were analyzed using the statistical software JASP.

Table 1 List of the variables used in this study and their sources

Variable	Link
Women's Political Empowerment Index (WPEI)	WPEI
Socioeconomic Status (SES)	Socioeconomic-Status
GINI index	Gini-Index-link
Access To Abortion	Access-To-Abortion
Mortality Rate	Mortality-Rate

To evaluate the relationships between ranked variables, we performed a Spearman correlation analysis. This technique was selected because the Women's Political Empowerment Index is an ordinal variable, making the use of a Pearson correlation inappropriate. Spearman's correlation was used to assess the strength and direction of the association between the variables.

Additionally, a multiple linear regression analysis was conducted to predict maternal mortality based on the significant independent variables. The GINI Index, which showed no significant correlation with maternal mortality, was excluded from the regression model.

Statistical Approach

- **Spearman Correlation:** This non-parametric measure was used to examine the association between ranked variables.
- **Multiple Linear Regression:** A regression model was fitted to predict maternal mortality, considering only significant predictors. The regression analysis explained 34% of the variance ($R^2 = 0.34$) in maternal mortality, with SES emerging as the most influential variable in the model.

The Abortion Access variable is measured on a 1–5 scale, where 1 represents the most accessible and liberal abortion laws, and 5 represents the most restrictive, with near-total abortion bans. This scale was derived by reviewing state-level abortion laws in the United States, focusing on factors such as the legality of abortion, gestational limits, waiting periods, parental consent/notification laws, and access to clinics. A score of 1 corresponds to states with the least restrictions, such as those with no mandatory waiting periods, no parental consent laws, and broad access to clinics. A score of 5 corresponds to states with near-total bans or highly restrictive laws, such as those that only allow abortion in cases of life-threatening circumstances. This scale was constructed based on a review of existing legal

frameworks and expert analysis, ensuring it accurately reflects the variation in access across states.

The Women's Political Empowerment Index (WPEI) is an ordinal variable that aggregates multiple dimensions of political empowerment, such as voter turnout, legislative and executive representation, and policy influence. As an ordinal variable, WPEI ranks states or regions based on the level of women's political participation, from 1 (most empowered) to 50 (least empowered). Due to its ordinal nature, the WPEI does not satisfy the assumptions of parametric methods, which generally require interval-level data.

To address this, we utilized nonparametric methods for most of the analyses involving WPEI, including Spearman's rank correlation, which is appropriate for ordinal data. Spearman's correlation assesses the strength and direction of the relationship between two ranked variables, which is well-suited for WPEI.

Alternatively, if parametric analysis was deemed necessary for some aspects of the study, we performed an ordinal-to-interval conversion for WPEI using a linear approximation method, in which we treated the ordinal ranks as interval data. However, the nonparametric approach remains the primary method used in this study due to its alignment with the nature of the WPEI and its robustness for ordinal data.

Results

Descriptive statistics were calculated for each variable, though the primary focus of this analysis lies in understanding the relationships between the key factors and maternal mortality. The correlation between the Women's Political Empowerment Index (WPEI) and maternal mortality was found to be moderately strong and positive ($r = 0.434$, $p = 0.002$). This suggests that in states with lower political empowerment (i.e., higher ranking on the WPEI), maternal mortality rates are higher. In other words, political disempowerment is associated with poorer reproductive health outcomes. For policymakers, this finding implies that increasing women's political representation and participation could play a critical role in addressing maternal mortality, underscoring the importance of political reforms that empower women in decision-making positions.

	abortion_right (from 1 ""super legal"" to 5 ""illegal"")	SES (socio-econom-st)	GINI_index
Mean	3.200	68.382	0.469
Std. Deviation	1.485	11.028	0.018
Minimum	1.000	49.111	0.430
Maximum	5.000	91.431	0.520
25th percentile	2.000	61.227	0.460
50th percentile	3.000	66.279	0.470
75th percentile	5.000	77.069	0.480

Table 2. Descriptive analysis for the independent variable.

To explore the relationship between variables we computed a Spearman correlation (see Table 3). A Spearman correlation is a measure of the strength and direction of association between two ranked variables. Spearman's correlation evaluates how well the relationship between two variables can be described by a relationship that consistently increases or decreases, because we included the political empowerment variable which is ordinal/ranking and therefore it was not suitable for a Pearson correlation.

In the table, beginning with the second column (abortion rights), we can observe a significant result.

Similarly, the correlation with abortion access was significant, showing that as access to abortion becomes more restricted, maternal mortality increases. This finding highlights the importance of maintaining or expanding access to abortion services as a key factor in reducing maternal mortality. Policymakers should consider how legal and logistical barriers to abortion could contribute to higher risks for women, particularly in states with restrictive laws. The correlation between maternal mortality and the ranking of political empowerment is also moderately strong and positive ($r = 0.434$, $p = 0.002$). Which means that the lower the ranking of political empowerment the higher is the maternal mortality. As a reminder we ranked all the USA from the top 1, highest political empowerment, to top 50, lowest political empowerment. Thus, political empowerment itself is negatively correlated with maternal mortality. The correlation with Socioeconomic Status (SES) was also significant, indicating that higher SES—characterized by factors like higher income, better education, and improved living conditions—was associated with lower maternal mortality. This finding supports the need for policies that address economic disparities and provide greater access to healthcare and resources, which can contribute to safer pregnancies and childbirth experiences.

However, the lack of correlation with the GINI index suggests that income inequality, as measured by the GINI index, does not have a direct impact on maternal mortality in this study. This finding may indicate that other factors, such as direct access to healthcare or social determinants of health, play a more significant role in influencing maternal mortality than overall income inequality within a population.

A multiple linear regression was conducted to predict maternal mortality, excluding the GINI index due to its lack of correlation with the dependent variable. The regression model explained over 34% of the variance in maternal mortality ($R^2 = 0.34$), and was statistically significant ($p = 0.001$). Socioeconomic status (SES) emerged as the most influential predictor of maternal mortality, with other independent variables losing significance when SES was included in the model.

While the regression model explained 34% of the variance in maternal mortality, the remaining 66% points to other important factors not explored in this study. This unexplained variance is crucial, as it suggests that many factors influencing maternal mortality are still unaccounted for. Future research should consider additional variables, such as healthcare quality, public health interventions, and regional healthcare policies, to provide a more complete picture of the determinants of maternal

Spearman's Correlations ▼

Variable		political_empowerment	abortion_right (from 1 ""super legal"" to 5 ""illegal"")	SES (socio-econom-st)	GINI_index
1. political_empowerment	Spearman's rho	—			
	p-value	—			
2. abortion_right (from 1 ""super legal"" to 5 ""illegal"")	Spearman's rho	0.351*	—		
	p-value	0.012	—		
3. SES (socio-econom-st)	Spearman's rho	−0.478***	−0.456***	—	
	p-value	< .001	< .001	—	
4. GINI_index	Spearman's rho	0.081	0.135	−0.205	—
	p-value	0.574	0.348	0.154	—
5. DV (Maternal mortality)	Spearman's rho	0.434**	0.315*	−0.711***	0.246
	p-value	0.002	0.026	< .001	0.085

* p < .05, ** p < .01, *** p < .001

Table 3: Correlation

Model Summary - DV (Maternal mortality)

Model	R	R^2	Adjusted R^2	RMSE
H_0	0.000	0.000	0.000	11.070
H_1	0.586	0.343	0.300	9.261

ANOVA

Model		Sum of Squares	df	Mean Square	F	p
H_1	Regression	2059.937	3	686.646	8.006	< .001
	Residual	3945.110	46	85.763		
	Total	6005.047	49			

Note. The intercept model is omitted, as no meaningful information can be shown.

Coefficients ▼

Model		Unstandardized	Standard Error	Standardized	t	p
H_0	(Intercept)	22.816	1.566		14.574	< .001
H_1	(Intercept)	6.136	4.221		1.454	0.153
	abortion_right (from 1 ""super legal"" to 5 ""illegal"")	−1.055	1.025	−0.141	−1.029	0.309
	SES_R	0.649	0.144	0.647	4.502	< .001
	political_empowerment	−0.019	0.105	−0.025	−0.180	0.858

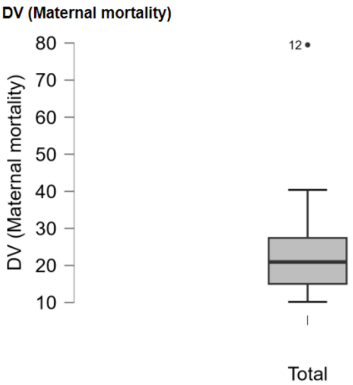

Fig. 1 Boxplot of the distribution of the maternal mortality scores, including one outlier (i.e., New Mexico) labeled "12" in the figure.

mortality.

Discussion

This research aimed to explore the relationship between women's political empowerment and reproductive health outcomes, specifically maternal mortality, as a key indicator. The rationale for this study aligns with previous research suggesting that women's participation in political decision-making significantly influences policies that improve reproductive health[7]. The findings in this study echo these perspectives, showing that higher political empowerment is associated with lower maternal mortality rates. This supports the notion that when women hold political power, they are better positioned to advocate for policies and allocate resources that improve healthcare access and quality[8]. Moreover, socioeconomic status, a variable fre-

quently highlighted in public health research[9], was also found to be a significant predictor of maternal mortality, reinforcing the broader consensus on the importance of economic conditions in shaping health outcomes.

While the association between political empowerment and maternal mortality is significant, the study revealed complexities in the relationships among variables. For instance, socioeconomic status emerged as a dominant predictor in the regression model, leading to other independent variables losing significance. This suggests potential multicollinearity, where highly correlated predictors obscure the distinct contributions of each variable. Future research should address this issue through methods such as standardizing variables or employing alternative model specifications, like ridge regression or hierarchical regression. Additionally, incorporating interaction terms between key variables, such as political empowerment and socioeconomic status, or exploring non-linear relationships, could better capture the complexities underlying these interactions.

Despite these contributions, this study has limitations. By focusing solely on maternal mortality as the dependent variable, it does not capture the full spectrum of reproductive health outcomes. As noted by other researchers[10], maternal mortality, while critical, is only one indicator of women's reproductive health. Future studies could employ a composite measure encompassing factors such as access to contraception, prenatal care, and maternal morbidity, offering a more comprehensive view of how political empowerment impacts health. Moreover, cultural norms, healthcare quality, and gender-based violence—factors significant in other studies[11], should be included to better understand the mechanisms through which political empowerment affects health outcomes. Furthermore, a significant limitation of this study is the omission of potential confounding variables, such as state-level healthcare policies and infrastructure, which may independently influence both women's political empowerment and maternal mortality rates. For instance, states with robust healthcare systems and progressive policies may simultaneously foster better health outcomes and higher levels of political participation among women. The failure to account for these factors could lead to an overestimation or underestimation of the true relationship between political empowerment and maternal mortality. Future research should include such variables to provide a more nuanced understanding of the mechanisms at play and ensure that the observed associations are not spurious.

An additional consideration is the potential for reverse causality in the relationship between women's political empowerment and maternal mortality. While this study highlights an association suggesting that higher political empowerment is related to better health outcomes, it is also plausible that improved maternal health may enable greater political participation. Healthier populations are more likely to engage in civic activities, including voting and running for office, as they face fewer physical and socioeconomic barriers. Future research employing longitudinal or experimental designs could better disentangle the directionality of this relationship, providing deeper insights into the interplay between health and political empowerment.

Finally, the multiple regression model explained only 34% of the variance in maternal mortality, leaving 66% unexplained. This highlights the need to examine additional factors influencing maternal mortality. The focus on the United States also limits the generalizability of the findings. Future research could include cross-national comparisons to explore how political empowerment influences maternal health in diverse cultural and political settings, providing a broader understanding of the global impact of empowerment on health outcomes.

Implications

This study has several important implications for policymakers, public health officials, and advocates for gender equality. First, the findings suggest that promoting women's political empowerment could be an effective strategy for reducing maternal mortality and improving overall health outcomes for women. Policymakers should consider implementing policies that increase women's participation in political and decision-making processes, which may, in turn, lead to better health policies and resource allocation for women's health. Furthermore, this research highlights the importance of addressing socioeconomic factors, such as income inequality and access to healthcare, as part of a holistic approach to reducing maternal mortality.

Additionally, this study contributes to the growing body of literature advocating for gender equality in political and social spheres as a means of advancing women's health. The positive correlation between political empowerment and maternal health outcomes suggests that political empowerment is not only beneficial for gender equality but also essential for ensuring that women's voices are heard in health policy discussions. Future research should explore how these findings can be applied in different cultural contexts and consider other health indicators to form a more comprehensive understanding of the intersection between political power and women's health.

Conclusion

The relationship between women's political empowerment and reproductive health outcomes, specifically maternal mortality, are complex but have shown that they are crucial to women's over well being. The findings of the study indicate that higher levels of political empowerment are associated with lower maternal mortality rates, stressing the positive role that women's participation in political decision-making plays in improving health outcomes. Throughout this process we have learned that when women hold positions of power and influence, they can advocate for policies that address key determinants of reproductive health, such as access to healthcare and better socioeconomic

conditions. While the study is limited in scope, focusing solely on the United States and maternal mortality, it paves the way for future research that could explore a more comprehensive range of reproductive health indicators and include cross-cultural comparisons. Overall, this research paper has contributed to my understanding of how political empowerment can serve as a powerful tool for enhancing women's health and well-being.

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