The Literacy Paradox: Understanding Violence Against Women in Bihar

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Abstract

This study examines the relationship between literacy rates and violence against women in the districts of Bihar. Using secondary data from the National Crime Records Bureau (NCRB) and the Census of India, 2011, statistical analyses were conducted to explore correlations between female literacy and crime rates. The findings reveal a weak yet positive correlation, suggesting that as female literacy rates increase, reported crimes against women also rise. This counterintuitive trend indicates that factors beyond literacy, such as socio-cultural influences, economic conditions, and law enforcement efficacy, significantly impact women's safety. The study underscores the need for a holistic approach that integrates education with broader socio-economic and legal reforms to effectively combat gender-based violence.

Keywords: Female literacy, gender-based violence, crime against women, Intimate Partner Violence physical (IPV), sexual or psychological harm, socio-economic factors, regression analysis, women education and empowerment, UNESCO.

Introduction

Violence against women is defined by the United Nations as "any act of gender-based violence that results in or likely to results in physical, sexual or psychological harm or suffering to a woman, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life".

This widespread and deeply entrenched issue is often described as a global pandemic, one that persists without any universal remedy or vaccine. One of the most effective and immediate solutions to combat violence against women lies in the empowerment, awareness and improved socio-economic status of women. Among the key factors that contribute to this empowerment, literacy plays a crucial role. Researchers emphasize that literacy is a fundamental driver of women's empowerment, greater awareness and enhanced socio-economic standing.

In 2020, UNESCO (United Nation Educational, scientific and Cultural Organization) highlighted literacy as not only a fundamental human right but also an essential tool for achieving gender equality and women's empowerment by increasing literacy rates, women are better equipped to navigate societal challenges, assert their rights and create meaningful change in their communities. This reinforces the critical connection between education and the fight to eliminate violence against women, advocating for the widespread adoption of literacy programme as a foundational strategy for social progress.

Researchers consistently indicates that higher literacy rates can significantly improve awareness of legal rights and societal norms, thereby reducing the incidence of violence and crime against women. Literacy empowers women by equipping them with the knowledge, skills and confidence to participate more fully in society. This not only foster personal growth but also helps reduce their vulnerability to crime and

abusive situations. On the other hand, low literacy rates can exacerbate women's susceptibility to violence, as they may lack the resources or awareness needed to protect themselves and seek justice.

Numerous studies have shown a clear link between lower educational attainment and higher rates of domestic violence and other form of abuse. For instance, research by Ackerson and Subramanian (2008) found that women with lower education level were more likely to experience intimate partner violence (IPV). However, the relationship between literacy and crime against women is not straightforward; it is shaped by a complex interplay of socio-economic factors, cultural norms and regional disparities.

By employing statistical methods to analyse data from different districts of the state of Bihar this study seeks to provide a nuanced understanding of how literacy rate correlate with crime rate against women.

Literature review

Illiteracy stands as the root of all societal maladies, for it gives rise to a host of other grave issues- unemployment, poverty, unchecked population growth and perhaps most perilously the rampant crime against women (Gupta, 2016; Literacy and Crime against women in India). The subordinate position of women, compounded by societal and cultural norms steeped in patriarchy and masculinity, stands a significant contributor to the widespread violence faced by women. Despite the numerous legal measures and the government's earnest attempts, the scourge of crime against women continues in India. The negative correlation observed between female literacy rate and the prevalence of such crimes suggests that as the education of women rises, the incidence of violence against them diminishes markedly (Singh, 2018; Crime against women in India: A correlation between female literacy rate and Crime rate). Heise and Katsadam (2015) study demonstrated that gender equality, often nurtured by increased literacy rates, is linked to a decline in intimate partner violence across a range of countries. This finding emphasizes the significant influence of education in fostering attitude and behaviour that combat gender-based violence. Ackerson and Subramanian (2008) identified that Indian States with greater female literacy experienced lower rates of intimate partner violence (IPV). Their study underscores the idea that literacy not only empowers women but also impacts societal attitudes towards gender-based violence, thereby reducing its occurrence.

Methodology

The present study seeks to examine the relationship between the literary rate and the incidence of crimes committed against women across various districts of Bihar. To this end, secondary data was gathered on these two key variables: the crime data pertaining to women for the year 2022, sourced from the annual report of the National Crime Records Bureau (NCRB), and the literary rate for each district, drawn from the census of India, 2011.

The central hypothesis of the study posits that no significant relationship exists between the literacy rate and the crime rate against women. To explore this hypothesis, we employed an array of advanced statistical methods. These included regression analysis and correlation studies, both designed to unravel the nature of the connection between these two variables.

Through linear regression analysis, we sought to comprehend both the strength and the direction of the relationship, with literacy rate serving as the independent variable and the crime rate against women as the dependent variable. Additionally, the correlation coefficient was utilized to gauge the degree of association between these two variables, providing a quantitative measure of their interrelationship.
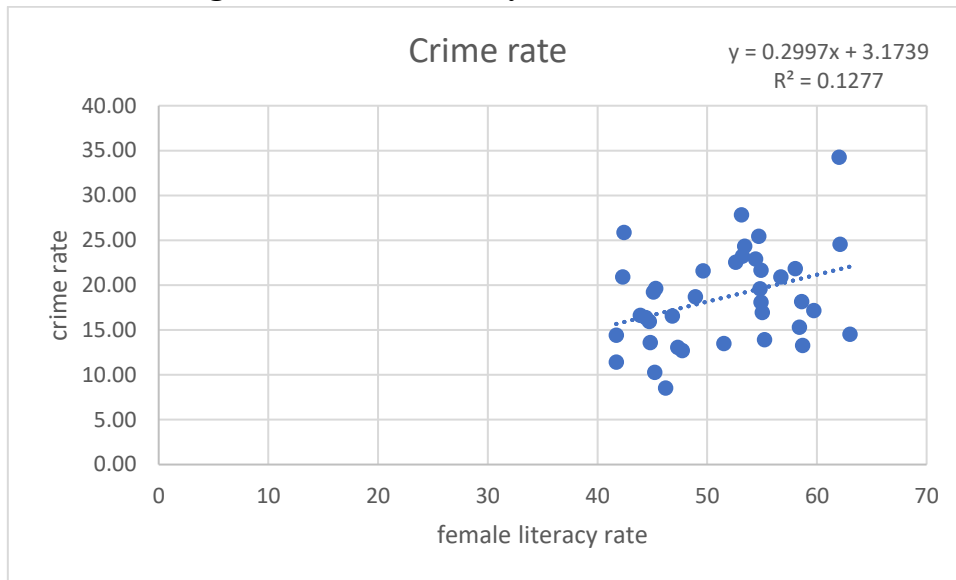
Table: 1

districts name	Total No. of crime, 2022	Total population,2011	Crime rate, 2022	Female Literacy 2011	Total literacy, 2011	Rank (crime)	Rank (female literacy)
Patna	2001	5838465	34.27	62	70.7	1	3
Nalanda	801	2877653	27.84	53.1	64.4	2	19
Sitamarhi	886	3423574	25.88	42.4	52.1	3	35
Muzaffarpur	1222	4801062	25.45	54.7	63.4	4	15
Munger	336	1367765	24.57	62.1	70.5	5	2
Sheikhpura	155	636342	24.36	53.4	63.9	6	17
Gaya	1021	4391418	23.25	53.2	63.7	7	18
Saran	906	3951862	22.93	54.4	66	8	16
Lakhisarai	226	1000912	22.58	52.6	62.4	9	20
Bhojpur	596	2728407	21.84	58	70.5	10	8
Bhagalpur	658	3037766	21.66	54.9	63.1	11	12
Khagaria	360	1666886	21.60	49.6	57.9	12	22
Purnea	683	3264619	20.92	42.3	51.1	13	36
Vaishali	731	3495021	20.92	56.7	66.6	14	9
Sheohar	129	656246	19.66	45.3	53.8	15	28
Gopalganj	502	2562012	19.59	54.8	65.5	16	14
Motihari	981	5099371	19.24	45.1	55.8	17	30
Nawadah	415	2219146	18.70	48.9	59.8	18	23
Buxar	310	1706352	18.17	58.6	70.1	19	6
Arwal	127	700843	18.12	54.9	67.4	20	12
Aurangabad	436	2540073	17.16	59.7	70.3	21	4
Jahanabad	191	1125313	16.97	55	66.8	22	11
Araria	468	2811569	16.65	43.9	53.5	23	34
Kishanganj	280	1690400	16.56	46.8	55.5	24	26
Katihar	504	3071029	16.41	44.4	52.2	25	33
Bettaih	628	3935042	15.96	44.7	55.7	26	32
Kaimur	249	1626384	15.31	58.4	69.3	27	7
Rohtas	430	2959918	14.53	63	73.4	28	1
Madhepura	289	2001762	14.44	41.7	52.3	29	37
Begusarai	414	2970541	13.94	55.2	63.9	30	10
Supaul	303	2229076	13.59	44.8	57.7	31	31
Samstipur	576	4261566	13.52	51.5	61.9	32	21
Siwan	443	3330464	13.30	58.7	69.5	33	5
Jamui	230	1760405	13.07	47.3	59.8	34	25
Banka	259	2034763	12.73	47.7	58.2	35	24
Saharsa	217	1900661	11.42	41.7	53.2	36	37
Darbhanga	405	3937385	10.29	45.2	56.6	37	29

Madhubani	383	4487379	8.54	46.2	58.6	38	27
total	19751	104099452	18.58	51.39	61.77		

Source: Census of India, 2011; National Crime Record Bureau, 2022

Discussion:

Figure: 1 Female literacy rate and crime rate

Table: 2 Regression analysis

SUMMARY OUTPUT						
Regression Statistics						
Multiple R	0.357335216					
R Square	0.127688457					
Adjusted R Square	0.10345758					
Standard Error	5.056909811					
Observations	38					
ANOVA						
	df	*SS*	*MS*	*F*	*Significance F*	
Regression	1	134.7574968	134.7574968	5.269659072	0.027632277	

Residual	36	920.604126	25.57233683			
Total	37	1055.361623				
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	3.173926194	6.759660988	0.469539256	0.641515872	-10.5353017	16.88315409
female Literacy	0.299707691	0.130558944	2.2955738	0.027632277	0.03492188	0.564493501

The correlation coefficient value for female literacy (independent variable) and crime against women is 0.36. The value indicates that there is a weak and positively correlation between the literacy rate and crime against women in Bihar.

The regression analysis reveals that the model is statistically significant, suggesting that female literacy contributes meaningfully to predicting the outcome. However, the model leaves much of the variation unexplained, indicating there is room for improvement.

The model's R^2 value of 15.77 percent indicates that female literacy (independent variable) accounts for only a small portion of the variability in the crime rate against women (dependent variable). In other words, while the model provides some insight, it fails to capture the majority of the factors driving the outcomes. The adjusted R^2 which accounts for the number of predictors, is slightly lower at 10.35 percent reinforce this point.

Despite its limitation, the model as a whole is statistically significant, as evidenced by the 'F' statistics of 5.27 and its corresponding P- value of 0.0276. This suggests that female literacy has a real measurable impact on the crime rate against women. For every one unit increase in female literacy, the crime rate against women is expected to rise by approximately 0.30 units, assuming all other factors remain constant. This positive relationship is further supported by the confidence interval, which ranges from 0.03 to 0.56 and does not include zero, providing additional evidence of its significance. Thus, the null hypothesis i.e there is no association between female literacy rate and crime rate against women is rejected and the alternative hypothesis i.e there is an association between female literacy rate and crime rate in Bihar is accepted.

The intercept of the model, which represents the predicted value of the crime rate against women when female literacy rate is zero, is not statistically significant. With a P-value of 0.6415 and a wide confidence interval spanning from -10.54 to 16.88, the intercept does not provide meaningful insights and likely reflects the model's limited explanatory power.

Conclusion:

The preceding studies reveal a marked inverse relationship between female literacy and the crime rate against women, a pattern observed across many states in India and the World at large. As female literacy rises, the incidence of crime against women tends to diminish, offering a hopeful narrative for the correlation between these two variables does exist, it is characterized by weak, albeit positive correlation. In this region, as female literacy increases the rate of crime against women similarly rises.

This unexpected trend suggest that the dynamics in Bihar are shaped by forces beyond education alone. Socio-cultural factors, economic condition of the women as well as man, law enforcement, and demographic elements seem to play a more substantial role in determining the safety and security of women in this context. The interplay of these factors thus demands a deeper investigation, as they hold the key to understanding why the pattern observed in other parts of the world and India do not entirely mirror the situation in Bihar.

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