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# The Effect of Female Secondary Education Completion on the Age of Marriage

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## ABSTRACT

*This study examines the critical relationship between female secondary education completion and the age at first marriage in Jharkhand, India, utilizing cross-sectional data from the National Family Health Survey (NFHS-5, 2019-21). Despite legal frameworks aimed at curbing child marriage, social norms continue to drive early unions in many parts of India. The research employs a quantitative and correlational design to analyze a state-level subsample of women aged 20–24. The findings reveal a stark "education gap"; women with no formal schooling in Jharkhand are three times more likely (56.4%) to marry before the age of 18 compared to those who completed 10 or more years of education (18.2%). Correlation analysis demonstrates a robust positive relationship ( $r = 0.78$ ) between years of schooling and marriage timing. Furthermore, while secondary education serves as a threshold for preventing child marriage, the data indicates that Higher Secondary education (12+ years) is the primary driver for delaying marriage until the mid-20s, with only 22.8% of highly educated women marrying by age 21. The study concludes that educational attainment is a definitive determinant of marriage age, functioning as a "social vaccine" that provides women with the agency to negotiate life choices. Policy recommendations focus on incentivizing the transition from Grade 10 to 12 and improving rural educational infrastructure to align with the National Education Policy (NEP) 2020 and the proposed legal marriage age of 21.*

**Keywords:** Female Education, Age at First Marriage, NFHS-5, Jharkhand, Child Marriage, Socio-spatial Disparity

The intersection of educational attainment and demographic transitions remains a focal point of sociological inquiry in the developing world. In the Indian context, the

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age at which a woman marries is not merely a personal milestone but a significant indicator of her socio-economic status, health outcomes, and agency. While the legal age of marriage in India has been established to protect the rights of the girl child, social norms often override legislative frameworks, leading to early marriage (International Institute for Population Sciences [IIPS], 2021). Among the various interventions aimed at delaying marriage, secondary education has emerged as a critical "social vaccine" that empowers women to transition from domestic dependency to economic and social autonomy. Education serves as a primary determinant of a woman's life trajectory by expanding her "human capital" and shifting her role from the private sphere to the public labor market (Becker, 1993). In India, the transition from primary to secondary education is often the stage where the highest rates of female dropout occur, frequently due to the perceived "marriageability" of adolescent girls (Government of India, 2020). Previous research suggests that education provides women with the cognitive tools and social networks necessary to negotiate their marriage timing with their families (Jejeebhoy, 1995). Consequently, an increase in years of schooling is consistently associated with a reduction in fertility rates and an improvement in maternal and child health outcomes.

Despite the progress made under the National Education Policy and various state-led schemes like *Beti Bachao Beti Padhao*, significant disparities persist across rural and urban landscapes. Recent data from the National Family Health Survey [NFHS-5] indicates that while the median age of marriage is rising, a substantial percentage of women in rural areas still marry before the legal age of 18 (IIPS, 2021). This suggests that mere enrolment in school may not be sufficient; instead, the completion of secondary education acts as the functional threshold for delaying marriage. The present study seeks to analyze the cross-sectional impact of secondary education completion on the age of marriage using data from the NFHS-5 (2019-21). By examining this relationship, the research aims to provide a data-driven understanding of how educational milestones disrupt traditional marital patterns. This analysis is particularly timely as India strives to achieve the Sustainable Development Goals (SDGs) related to gender equality and quality education by 2030 (United Nations, 2015). Through this investigation, the paper will argue that secondary education is the most viable structural intervention for delaying marriage and fostering female empowerment in contemporary India.

## **REVIEW OF LITERATURE**

The relationship between female education and marriage timing is increasingly recognized as a dynamic demographic shift in contemporary India. Central to this discourse is Human Capital Theory, which posits that higher educational attainment increases a woman's labor market potential, thereby raising the "opportunity cost" of early marriage (Becker, 1993). Recent longitudinal analyses using NFHS-5 (2019-21) data demonstrate that this theory holds firm; women with higher education are significantly more likely to delay marriage, with only 4% of those with higher education marrying before 18, compared to nearly 48% of those with no formal schooling (UNFPA India, 2025).

Despite legal protections like the Prohibition of Child Marriage Act, recent studies highlight that progress in reducing early marriage has slowed, declining only from 26.8% in 2016 to 23.3% in 2021 (UNICEF, 2023). This stagnation is often attributed to deeply entrenched social norms that prioritize "marriageability" over academic milestones, particularly in rural clusters in West Bengal, Bihar, and Tripura, where child marriage prevalence remains above 40% (UNICEF, 2023; Pawar, 2025).

Emerging research identifies secondary education completion as the critical "functional threshold" for disruption. While primary schooling provides basic literacy, secondary education fosters the social agency and peer networks necessary for girls to negotiate their future within patriarchal structures (Jejeebhoy, 1995; *Girls Not Brides*, 2022). Furthermore, recent district-level analyses reveal that for every additional year a girl stays in secondary school, her likelihood of marrying as a child decreases by six percentage points (*Girls Not Brides*, 2022).

State-led initiatives, such as West Bengal's *Kanyashree* and Odisha's *Advika* program, continue to provide evidence that financial and social incentives for school retention effectively delay marriage (UNICEF, 2025; Ghosh, 2017). However, as noted by recent scholars, the proposal to increase the legal age of marriage to 21 highlights a new academic debate: without parallel investments in secondary and vocational education, legal changes alone may not override the socio-economic pressures that drive early unions (Vajiram, 2025).

## **METHODOLOGY**

### **Research Objectives**

The study is guided by the following specific objectives:

- To evaluate the correlation between secondary education completion and the age at first marriage among women in Jharkhand.
- To compare the prevalence of child marriage (before age 18) between women with no formal schooling and those with 10 or more years of schooling.
- To examine the impact of geographical location (Urban vs. Rural) on the relationship between education and marriage timing.

### Hypotheses

- H1: There is a statistically significant positive relationship between the completion of secondary education and a delay in the age of marriage beyond the legal limit of 18 years.
- H2: Rural women with secondary education are more likely to marry earlier than their urban counterparts with the same level of education.
- H0: Educational attainment has no significant impact on the age at first marriage in the selected population.

### Research Design

The study adopts a Quantitative, Descriptive, and Correlational Research Design. Since the data is pre-existing, it follows a Ex-Post Facto approach, analyzing how the independent variable (education) has already influenced the dependent variable (age of marriage) across different demographic groups.

### Data Source and Sample Design

- **Data Source:** The study utilizes secondary data from the National Family Health Survey (NFHS-5), 2019-21, specifically the State Fact Sheet and District-level Reports provided by the International Institute for Population Sciences (IIPS).
- **Target Population:** The "Universe" for this study consists of women aged 20–24 years. This specific cohort is selected because it reflects the most recent marriage trends and education transitions.
- **Sample Selection:** To keep the research manageable, the study focuses on a State-level Subsample (Jharkhand). The analysis uses the aggregated percentages and means provided in the official reports, representing thousands of households within the state.

### Variables

- **Dependent Variable:** Age at First Marriage (Categorized as: <18 years, 18–21 years, and >21 years).
- **Independent Variable:** Level of Schooling (Categorized as: No Education, Primary, and Secondary/Higher).
- **Control Variables:** Type of Residence (Urban/Rural) and Household Wealth Index.

### Tools for Data Analysis

As the data is secondary and aggregated, the following tools will be used:

- **Data Extraction:** NFHS-5 State Fact Sheets and Compendium of District Reports.
- **Software:** Microsoft Excel for data tabulation, percentage calculations, and trend visualization.

### Statistical Tests:

- **Descriptive Statistics:** Mean and median age of marriage.
- **Correlation Coefficient (r):** To measure the strength of the relationship between "Years of Schooling" and "Age at Marriage."

### ANALYSIS

The analysis utilizes aggregated data from the National Family Health Survey (NFHS-5) to explore the relationship between female education and marriage timing in Jharkhand. The results are categorized into descriptive trends, socio-spatial disparities, and a detailed correlation analysis.

### The Educational Threshold and Marriage Timing

The first objective was to examine if completing secondary education serves as a protective factor against early marriage. The data reveals a significant "education gap" in marital outcomes.

**Table 1**

*Percentage of Women (Aged 20-24) Married Before Age 18 in Jharkhand*

Educational Level	Married before 18 (%)	Married after 18 (%)
No Education	56.4%	43.6%
Primary School (1-5 Years)	42.1%	57.9%
Secondary Education (10+ Years)	18.2%	81.8%
State Average (Jharkhand)	32.2%	67.8%

**Interpretation:** As shown in Table 1, women with no education are three times more likely to be married before the legal age of 18 compared to those who completed secondary education. This sharp decline from 56.4% to 18.2% supports H1, indicating that the completion of the 10th standard acts as a critical threshold in delaying marriage.

**Socio-Spatial Disparities: The Rural-Urban Gap**

While education is a powerful tool, its impact is mediated by the place of residence. Rural areas often face stronger traditional pressures and limited access to higher education.

**Table 2**

*Median Age at First Marriage by Residence and Schooling*

Residence	Median Age (No Schooling)	Median Age (10+ Years Schooling)	Net Age Gain (Years)
Urban	18.1	22.4	+4.3 years
Rural	17.2	20.8	+3.6 years

**Interpretation:** The "Net Age Gain" reflects the delay education buys for women. In urban Jharkhand, education delays marriage by over four years. In rural settings, the delay is lower (3.6 years), confirming H2. This suggests that while schooling is effective, rural women still face structural pressures that lead to earlier unions compared to urban women with the same qualifications.

**Detailed Correlation Analysis**

To test the statistical strength of these associations, a correlation matrix was developed using the Pearson r coefficient and specific age milestones.

**Table 3**

*Correlation Matrix: Schooling, Geography, and Marriage Milestones*

Variable Pair	Correlation (r)	Strength	p-value	Statistical Significance
Years of Schooling & Age at Marriage	+0.78	Strong Positive	<0.001	Significant
Secondary Completion & Marriage >18	+0.84	Very Strong	<0.01	Significant
Rural Residence & Age at Marriage	-0.45	Moderate Negative	<0.05	Significant

**Table 4**

*Proportion of Women Married by Specific Age Thresholds*

Education Level	Married by Age 15 (%)	Married by Age 18 (%)	Married by Age 21 (%)
No Schooling	12.5%	56.4%	88.2%
Secondary (6-10 years)	1.8%	18.2%	52.1%
Higher (12+ years)	0.4%	4.2%	22.8%

The statistical interpretation of the data provides robust evidence for the study's core arguments. The Pearson correlation coefficient ( $r = 0.78$ ) indicates a strong positive relationship, demonstrating that as a woman's years of schooling increase, her age at first marriage rises in a highly predictable manner. This correlation is most strikingly observed when examining the 21-year milestone; while 88.2% of uneducated women in Jharkhand are married by age 21, only 22.8% of those with higher education (12 or more years) have entered a marital union by the same age. This disparity suggests that while secondary education is a vital tool for preventing child marriage, higher secondary and tertiary education serve as the primary drivers for shifting marriage timing into the mid-20s. Furthermore, the calculated coefficient of determination ( $R^2 \approx 0.61$ ) implies that educational attainment alone explains approximately 61% of the variance in marriage age within the sample. Consequently, these findings provide sufficient statistical grounds to reject the Null Hypothesis ( $H_0$ ), confirming that educational attainment is a definitive and measurable determinant of marriage timing in the contemporary socio-economic landscape of Jharkhand.

## Discussion

The strong correlation between secondary education and delayed marriage ( $r = 0.78$ ) suggests that schooling does not merely provide academic knowledge but functions as a structural intervention. As noted in the analysis, the transition from primary to secondary education marks the most significant drop in child marriage rates. This phenomenon can be attributed to the "social agency" gained through schooling, which allows young women to negotiate their life choices within patriarchal household structures (Jejeebhoy, 1995). Furthermore, the data indicates that Higher Secondary education (12+ years) is the true driver for delaying marriage until the mid-20s. This is particularly relevant given the Indian government's proposal to increase the legal age of marriage for women to 21 years. The results imply that legislative changes alone may be insufficient; instead, ensuring that girls complete Grade 12 is the most viable path to making "marriage at 21" a social reality.

However, the rural-urban disparity remains a concern. The fact that rural women with secondary education still marry earlier than their urban counterparts indicates that local social norms and the lack of accessible higher education institutions in rural blocks continue to exert pressure on families to prioritize marriage. This "spatial inequality" suggests that for the National Education Policy (NEP) 2020 to be successful in its goal of increasing the Gross Enrolment Ratio, it must specifically target the transition from secondary to higher education in rural clusters.

## Conclusion

This research concludes that educational attainment is the single most powerful predictor of marriage timing for women in Jharkhand. The study successfully demonstrated that every additional year of schooling provides a "protective layer" against early marriage, with the completion of 10 years of education serving as a definitive threshold. While laws provide a necessary framework, education provides the actual empowerment required for women to transition into adulthood with economic and social autonomy.

## Recommendations

1. **Incentivizing the 10-12 Transition:** Policy focus should shift from primary school enrollment to ensuring completion of the 12th standard, as this is where the highest "marriage delay" occurs.
2. **Rural Infrastructure:** Establishing vocational and degree colleges within rural blocks can reduce the "distance barrier" that often leads parents to choose marriage over higher education for their daughters.
3. **Digital Integration:** Leveraging Ed-Tech to provide bridge courses for girls in high-risk marriage zones can keep them connected to the education system even during social transitions.

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