

# Determinants of Child Marriage of Girls in West Bengal

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## Abstract

The present study aimed to investigate the determinants of girls' child marriage in West Bengal. The purpose of the study was to analyze various demographic, socioeconomic, cultural, and village level characteristics that are important in determining factors of child marriage in West Bengal. Binary logistic regression was applied to analyze secondary data (DLHS- 4 data of 2012 -13) of 8509 women in West Bengal. The results of this study indicated that the individual and household socioeconomic and demographic characteristics, such as place of residence, education, religion, and caste were important factors for child marriage in West Bengal. Furthermore, it was also found that the largest drop in the prevalence of child marriage was in the under-15 marriages, while marriages in the age group of 15 - 17 years continue to occur quite commonly in West Bengal. The results showed that the wealth quintile, village infrastructure quintile, and households that had a BPL card - these variables did not play any significant role in child marriages in West Bengal. Moreover, it was observed that there was a greater tendency towards child marriage among rural women, irrespective of educational and wealth differences between rural and urban women in West Bengal. In this study, we observed that girls with secondary and higher education had much lower chances of early marriage as compared to illiterate girls. Thus, education and early marriage were found to be closely linked. In this context, the Kanyashree Prakalpa scheme (girls with secondary education) of the Government of West Bengal can be a good instrument to reduce child marriages in West Bengal.

**Keywords:** age gap, child marriage, mean age of marriage, mean year of schooling, wealth quintile

**JEL Classification :** I10, I12, J15

**Paper Submission Date :** April 13, 2018 ; **Paper sent back for Revision :** May 27, 2018 ; **Paper Acceptance Date :** June 22, 2018

Marriage is an important institution for the individual and the society at large. For the individual, it is a significant and memorable event in one's life cycle as well as the most important foundation in the family formation process. However, "Child marriage is one of the most prevalent forms of sexual abuse and exploitation, especially among adolescent girls. It serves as a means of perpetuating power imbalances between men and women, both at home and outside" (Ghosh, 2011, p.1). Child marriage has seriously affected sustainable development goals and millennium development goals in under developed countries, including India. Within India, West Bengal is the most affected state in this regard. Child marriage has five domains of impacts on adolescent girls: (a) fertility and population growth; (b) health, nutrition, and violence; (c) educational attainment; (d) labor force participation, earnings, and productivity ; and (e) decision-making and other areas (Wodon et al., 2017).

According to the Prohibition of Indian Child Marriage Act, 2006, child marriage today is defined as one where girls and boys are married below the age of 18 and 21 years, respectively. The UNICEF (2008) report revealed

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**Table 1. Percentage of Child Marriages in West Bengal**

High prevalence state in India	Census 2011 Percentage of girls married at less than 18 years of age (marriage duration 0-4 years among currently married women)	DLHS-4 (2012 - 13 ) Percentage of marriages below the legal age of marriage among women less than 18 years	NFHS-4 (2015-16 ) Currently married women aged 20-24 years married before the age of 18
West Bengal	31.7 (Highest)	31.6 (Highest)	41.7 (Highest)

Source: (i) Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India for Census-2011 data.

(ii) Ministry of Health and Family Welfare, Government of India (2013) for DLHS -4 (2012-13) data.

(iii) International Institute for Population Sciences (IIPS). (n.d.) for NFHS-4 Report.

that India has the 12<sup>th</sup> highest rate of child marriage in the world. About 40% of the world's child marriages occur in India. Similarly, 47% of Indian women and 56% of rural women aged 20-24 years marry below the age of 18. Child marriage is a serious problem in India. It is far more serious in West Bengal. A report of International Institute for Population Sciences (n.d.) showed that the percentage of women aged 20-24 years who married before the age of 18 years was the highest (40.7%) in West Bengal. The districts of Bankura, Murshidabad, Paschim Medinipur, Dakshin Dinajpur, and Nadia were found to be the areas with the highest incidences of child marriage in West Bengal. Similar results were found in case of Census-2011 as well as in DLHS-4 data, where the percentage of child marriage was highest in West Bengal. The Table 1 shows these results.

## Review of Literature

Child marriage is one of the key factors which hinders economic development in many states, including West Bengal. It makes a large section of women vulnerable. We are representing some of the literature highlighting the reasons behind child marriage among adolescent girls.

Poverty is one of the main determinants of early marriage. Poor parents think of girls as an economic burden for families. They try to marry their daughters at an early age to reduce family expenses and to minimize the cost of marriages (Nayan, 2015). Child marriage is still prevalent in India due to lack of education and awareness among people (Nayan, 2015). Girls with higher educational qualification tend to postpone their marriage in order to improve their chances of better economic livelihood and independence (International Center for Research on Women, 2012).

In highly patriarchal societies, the husband's educational attainment is likely to matter as much as that of the wife. Men with lower educational attainment have greater chances of having younger wives who are more into traditional female roles. We, therefore, postulate that women with husbands with fewer years of schooling marry earlier than those with husbands with more years of schooling (Srinivasan, Khan, Verma, Giusti, Theis, & Chakraborty, 2015). Some religious communities tend to emphasize more on child marriage among girls because of traditional customs that prevail in the communities. The authors further observed that women from socio-economically underprivileged communities, namely Scheduled Castes (SC) and Scheduled Tribes (ST) are more likely than those from other castes to marry at an early age because of cultural reasons (Srinivasan et al., 2015).

Researchers have shown that girls who marry before 18 are more likely to be married to much older men. There is a strong association between age gap and women's marriage at an early age (International Center for Research on Women, 2007). Age gap is regarded as a measure of equity between a woman and her partner. A smaller age gap indicates a higher status level for women (Amin & Cain, 1997).

## Objectives of the Study

The objectives of this paper are :

- (1) Using DLHS-4 unit level data, we have attempted to find the prevalence and determinants of girl child marriage in West Bengal.
- (2) To analyze the various demographic, socioeconomic, and cultural factors leading to girl's child marriage in West Bengal.
- (3) In this study, we try to investigate if any relationship exists between village infrastructural development and prevalence of child marriage in West Bengal.

## Data and Methodology

**(1) Data :** In this study, DLHS - 4 (2012-13) (Ministry of Health and Family Welfare, Government of India, 2013) unit level data is used as our main data source. We use unit level household data, ever-married<sup>1</sup> women data, and village level data to identify the determinants of girl's child marriage in West Bengal. We use DLHS-4 data as our main data source because this is the latest data and no other data source is available which gives information on the variable used in this paper. It gives information not only at the district level, but also at the village level in West Bengal by which we could measure prevalence of child marriages in the villages of West Bengal. Census 2011 and National Family Health Survey (NFHS)-4 data does not contain information on this variable.

**(2) Methodology :** We have used a logit model with the objective of investigating the determining factors which play a significant role in the incidence of girls' child marriage in West Bengal. Clearly, the logit model is used because our dependent variable is the dummy dependent variable which takes the value of 1 if a woman had married below 18 and 0 otherwise. The age of marriage of a woman is given in the data for ever married women in the DLHS-4 data. Three models of regression have been used to estimate the determinants of girls' child marriage in West Bengal. In the first logit model to explain whether a girl marries before 18 or not is :

$$P(y = 1|x) = G(\alpha + \beta X + \mu H + \gamma Z) \quad (1)$$

where,  $P$  is the probability of a girl marrying before 18 and  $X$  is the vector of dummies for a woman's educational qualifications (the educational dummies being primary, middle, and higher education with illiterate as the reference category). Similarly,  $H$  is the vector of dummies for husband's educational qualification (the educational dummies being primary, middle, and higher education with illiterate as the reference category).  $Z$  is the vector of household characteristics (religion, locality, caste, and wealth quintile) and other women characteristics (age gap & occupation).  $\beta$ ,  $\mu$ ,  $\gamma$  are the vectors of parameters associated with  $X$ ,  $H$ , and  $Z$ , respectively and  $\alpha$  is the intercept. The wealth quintile of a household is calculated from the data on household assets using principal component analysis.

In the second model, the wealth quintile is substituted with some vital household characteristics like whether the household has a below poverty line (BPL) card (or not), whether firewood is used as a fuel (or not) of cooking, the structure of the house pucca (or not), source of lighting, types of toilet, and drinking water in the household. This is done to isolate these very important characteristics which would go unnoticed if the wealth quintile is taken as a whole. The second model is thus specified as :

$$P(y = 1|x) = G(\alpha + \beta X + \mu H + \gamma Z') \quad (2)$$

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<sup>1</sup> Ever- married women are those persons who have been married at least once in their lives, although their current marital status may not be “married”.

where,  $Z'$  is the new vector of household characteristics and rest are as in Model 2.

In the third model, we are incorporating village characteristics in addition to educational dummies and household characteristics. The village characteristics are given in the village level data of the DLHS-4 and has been merged with the ever married women data to link every woman to the characteristics of her village. Thus, the third model is written as :

$$P(y=1|x) = G(\alpha + \beta X + \mu H + \theta V + \gamma Z) \quad (3)$$

Here,  $V$  is the vector of village characteristics (i.e., village infrastructure quintile, natural disaster, village with Mahila Mandal (MM) & self help group (SHG), village with employment scheme and other scheme facility, and  $\theta$  is the vector of parameters associated with it. The rest of the variables are as described in Model 1. The village infrastructure quintile has been calculated from the village level data of the DLHS - 4.

## Analysis and Results

**(1) Relationship Between Child Marriage and Other Socioeconomic Factors :** Needless to say, child marriage is a serious problem in West Bengal. Here, we have examined the socioeconomic and demographic characteristics of women such as place of residence, religion, caste, and household wealth status as important variables to influence the age of marriage among women who were married below the age of 18.

The Table 2 shows the mean age at marriage and percentage of girls and boys getting married below the legal age of marriage in every district in West Bengal. As per the DLHS-4 data, the mean age at marriage for men was among the highest in Kolkata (28.3 years) and lowest in Birbhum (23.9 years). Similarly, the mean age at marriage for women was among the highest in Kolkata (23.4 years) and lowest in Murshidabad (18.3 years). The overall mean age at marriage was 25.4 years for men and 19.2 years for women. For both men and women, mean age at marriage in urban areas was higher by 2 years than in rural areas. On the whole, 15.8% and 31.65% of the marriages among men and women were below the respective permissible legal ages for marriage of 21 and 18 years, respectively. The highest proportion of marriages below the legal age for women happened in Bankura (40%) followed by districts of Murshidabad (39.1%) and Paschim Medinipur (39.2%). Among all districts in West Bengal, the mean age at marriage increased among men and women from DLHS-3 to DLHS-4 data. As per the DLHS-4 data, 49.1% of the women in the age group of 20-24 years got married before 18 years, out of which 57.9% were in rural areas and 39.2% were in urban areas. However, higher incidences of early marriage for women took place in the districts of Murshidabad (62.4%), Birbhum (59.8%), Dakshin Dinajpur (59.7%), and Maldah (56.1%) etc. Comparing the DLHS-3 data with the DLHS-4 data for the currently married women aged 20-24 years who married before the age of 18, it can be seen that the overall percentage change in child marriages had not uniformly declined in all districts in West Bengal. For example, Nadia (17%), Kooch Bihar (14.3%), Puruliya (11.5%), and Uttar Dinajpur (10%) performed very well in terms of reducing child marriages in West Bengal.

We observed that child marriages mostly occurred among the category of men and women who had a higher age gap between husband and wife. Here, we have tried to ascertain whether such a pattern can be observed from the DLHS-4 data. In Table 3, we have examined the relationship between age gap and age of marriage among different age cohorts in West Bengal. We have taken four categories of age gap : (a) when the age of the wife is greater than that of her husband (in this case, the age gap is less than 0); (b) when the age of the husband is greater than that of his wife (in this case, the age gap is 0 to 3 years) ; (c) when the age gap of the husband is much more greater than that of the wife (in this case, the age gap is 4 - 6 years; (d) the age of the husband is far greater than that of the wife (in this case, the age gap is more than 7 years). Furthermore, it was also observed that there was a declining trend in the age gap in the state of West Bengal The age gap was much higher in the age cohort above 40

**Table 2. Mean Age of Marriage and Percentage of Marriages Below the Legally Prescribed Minimum Age of Marriage by Sex, Residence, and District in West Bengal**

Place of Residence /Districts	DLHS-4 Data		DLHS-4 Data		DLHS-3 Data		DLHS-3 Data		DLHS-4	DLHS-3	Change
	Mean Age at Marriage (Years)		Percentage of Marriages Below the Legal Age of Marriage		Mean Age at Marriage (Years)		Percentage of Marriages Below the Legal Age of Marriage		Currently Married Women Aged 20-24	Currently Married Women Aged 20-24	
	Men	Women	Men aged less than 21 years	Women aged less than 18 years	Men	Women	Men aged Less than 21 years	Women aged less than 18 years	Married Before 18	Married Before 18	
Darjeeling	26.2	21.5	10.7	10.2	25	20.5	12.7	22.7	43.6	34	-9.6
Jalpaiguri	26.8	21.4	8.8	16.9	25	20.3	19.5	17.1	40.9	44.8	3.9
Kooch Bihar	27	19.9	11.7	31.5	24	18.1	27.6	46.4	46.5	60.8	14.3
Uttar Dinajpur	25.6	19.4	13.9	31.4	25	18.3	25	38.2	46.8	56.8	10
DakhinDinajpur	25.9	19.4	18.8	32.1	24	18.1	24.7	48.7	59.7	59.1	-0.6
Maldah	25.4	19.2	18	25.8	23	17.3	32	55.1	56.1	64.5	8.4
Murshidabad	24.4	18.3	24.6	39.1	23	16.9	30.6	61.6	62.4	68.2	5.8
Birbhum	23.9	18.5	25.7	35.2	23	17.4	30.8	57.2	59.8	63.6	3.8
Bardhaman	25.4	18.7	15.1	34.3	24	18.5	16.9	38.9	52.8	54.6	1.8
Nadia	26.2	19.3	10.5	31.2	25	18.6	22.7	40.4	47.3	64.3	17
North 24 Parganas	26.5	19.8	13.4	29.7	26	19.4	16.1	27.1	47	53.6	6.6
Hugli	26.9	19.7	7	25	26.5	19.4	14	26.7	41.4	40	-1.4
Bankura	26.9	18.5	13.3	40	26	17.9	15.6	49.7	47.6	56.6	9
Puruliya	24.4	19.5	14	30.7	24	17.8	31.5	51.9	52.4	63.9	11.5
Paschim Medinipur	26.8	19.4	10.3	39.2	25	18.2	17.4	45.8	53.1	58.7	5.6
Haora	26.7	20.3	11.5	20.6	26	19.3	10.2	30.7	36.9	33.9	-3
Kolkata	28.3	23.4	6.5	8.5	27	20.9	17	19.1	27.5	34.9	7.4
South 24 Parganas	24.4	19	21.3	29.1	24	18.2	24.9	39.9	44.6	49.5	4.9
PurbaMedinipur	25.9	19	13.6	26.5	25	18.4	14.2	38.9	54.2	48.4	-5.8
Rural Areas	24.6	18.5	18.1	35.9	24	18	23.9	45.7	57.9	57.9	
Urban Areas	27.3	20.9	10.2	20.6	27	21	12.7	20.7	39.2	36.2	
DLHS-4	25.4	19.2	15.8	31.6					49.1		
DLHS-3					25	18.4	21.8	42		54.7	

Source : (i) Ministry of Health and Family Welfare, Government of India (2013) for DLHS -4 (2012-13) data ; (ii) International Institute for Population Sciences (IIPS) (2010) for DLHS -3 (2007 -2008) data.

years than in the age cohort of 20 - 24 years. It was also found that the incidence of child marriage was highest among couples whose age gap was more than 7 years followed by those whose age gap was 4 - 6 years. Incidence of child marriage was substantially lower among couples with lower age gap. Not only that, the extent of age gap between husband and wife also declined among women who were married before 18 years and has been declining over the generations. The reason is that among women above 40 years, 30.64% of those married before 18 had an age gap between husband and wife of over 7 years. This percentage declined to 25.87% and 22.25% in the age cohorts 30-34 years and 20-24 years, respectively. However, this age gap was slightly higher among those married below 18 than those who married above 18, irrespective of all age cohorts.



**Table 3. Age Gap and Age of Marriage Among Different Age Cohorts in West Bengal**

Age Gap Category Between Husband and Wife	Percentage of Currently Married Women Aged 20-24 years		Percentage of Currently Married Women Aged 30-34 years		Percentage of Currently Married Women Aged Above 40 years	
	Married at less than 18 years	Married at more than 18 years	Married at less than 18 years	Married at more than 18 years	Married at less than 18 years	Married at more than 18 years
Age Gap Less than 0	0.31	0.71	0.36	0.73	0.36	0.6
0 - 3 Years Age Gap	10.57	11.37	6.84	9.6	4.35	6.05
4- 6 years Age Gap	<b>17.4</b>	16.32	<b>16.88</b>	14.47	<b>14.63</b>	13.85
Above 7 Years Age Gap	<b>22.25</b>	21.07	<b>25.87</b>	25.12	<b>30.64</b>	29.47
<b>Total</b>		<b>100</b>		<b>100</b>		<b>100</b>

Source: Ministry of Health and Family Welfare, Government of India (2013) for DLHS - 4 (2012-13) data. All figures are in percentage.

**Table 4. Demographic and Socioeconomic Characteristics of Currently Married Women Aged 20-24 Years and Age at Marriage in West Bengal**

Demographic and Socioeconomic Characteristics of Girls/Women		Married Before 15 Years		Married at 15-17 Years		Married at 18 Years & above	
		RURAL	URBAN	RURAL	URBAN	RURAL	URBAN
Religion	Hindu	13.2	9.17	31.98	28.63	54.82	62.2
	Muslim	<b>16.9</b>	<b>11.9</b>	<b>33.82</b>	<b>31.5</b>	49.28	56.6
Caste	Scheduled Caste (SC)	<b>12.63</b>	<b>10.02</b>	<b>45.82</b>	<b>34.99</b>	41.55	54.99
	Scheduled Tribe (ST)	12.07	8.38	38.93	36.02	49	55.6
	Other Backward Class (OBC)	7.22	7.63	40.89	26.27	51.89	66.1
	Other Caste (OC)	11.04	7.74	40.39	32.88	48.57	59.38
	Illiterate	<b>19.59</b>	<b>15.08</b>	43.88	40.38	36.53	44.54
Highest Education	Primary	18.44	14.86	<b>46.03</b>	<b>42.72</b>	35.53	42.42
Level of Girls/Women	Middle	7.06	8.42	45.92	39.21	47.02	52.37
	Secondary	2.81	3.69	34.69	31.15	62.5	65.16
	Higher Secondary and above	1.49	0.34	12.87	11	85.64	88.66
Highest Education	Illiterate	<b>18.94</b>	<b>17.33</b>	41.1	35.15	39.96	47.52
Level of Husband	Primary	14.52	12.6	<b>45.7</b>	<b>43.7</b>	39.78	43.7
	Middle	10.02	7.83	42.11	36.75	47.87	55.42
	Secondary	3.79	4.27	42.05	34.12	54.16	61.61
	Higher Secondary and above	3.81	1.25	21.43	14.73	74.76	84.02
Households Having	Below Poverty Line (BPL) card	<b>13.1</b>	<b>9.74</b>	<b>43.44</b>	<b>36.43</b>	43.46	53.83
BPL Card or not	Above Poverty Line (APL) card	11.6	7.9	39.32	31.7	49.08	60.4
Occupation of Head of the Household	Scientist, Engineer, Teacher, Doctor, Administer, Officer etc.	3.03	2.13	16.67	11.07	80.3	86.8
	Service worker (Hotel, Restaurant, Housekeeper, etc.)	41.1	37.1	51.12	43	7.78	19.9
	Farmer, Fishermen, Hunters	31.3	20.8	54.22	41.7	14.48	37.5
	Production & Related Worker, Labor, Transport Equipment Operators, etc.	19.8	14.4	42.86	31	37.34	54.6
	Others (Seeking Employment, House wife Student, Retired, Unemployed etc)	19.1	13.02	48.15	41.98	32.75	45
Wealth Quintile Index	Poorest	<b>16.5</b>	<b>14.58</b>	<b>44.8</b>	<b>39.02</b>	38.7	46.4
	Poor	13.2	13.11	41.1	36.99	45.7	49.9
	Middle	12.6	11.46	40.7	31.44	46.7	57.1
	Rich	9.76	6.02	34.44	22.68	55.8	71.3
	Richest	4.27	3.43	30.53	14.87	65.2	81.7

Source: Ministry of Health and Family Welfare, Government of India (2013) for DLHS - 4 (2012-13) data. All figures are in percentage.

**Table 5. Rural (Urban) Classification of Mean Year of Schooling in Different Religions and Age Groups Among Girls/Women (Married & Unmarried) Candidates in West Bengal**

West Bengal																
Women/Girls																
Age	Rural								Urban							
	Married				Unmarried				Married				Unmarried			
	H	M	C	O	H	M	C	O	H	M	C	O	H	M	C	O
12-17	9 (2.3)	7.2 (2.5)	9.4 (2.5)	9.3 (2.4)	9.6 (2.1)	8.5 (2.5)	9.7 (2.3)	9.6 (1.2)	9.2 (2.1)	8.4 (2.7)	9.5 (2.4)	9.4 (2.3)	9.8 (1.2)	9.6 (2.2)	10.4 (2.3)	10.1 (2.4)
18-23	9.4 (3.2)	7.5 (2.9)	9.5 (3.1)	9.3 (2.9)	11.1 (3.5)	9.4 (3.5)	11.4 (3.7)	11.2 (1.8)	9.3 (3.2)	8.6 (3.3)	9.7 (3.5)	9.6 (2.8)	11.8 (3.3)	11.5 (3.4)	12.7 (2.9)	12.5 (1.9)

Source: Ministry of Health and Family Welfare, Government of India (2013) for DLHS -4 (2012-13) data.

Note : Within bracket- *SD* & without bracket-Mean, H- Hindu, M- Muslim, C- Christian, O- others.

It can be observed from the Table 4 that among the under-18 marriages, marriages in rural areas were more common in below-15 and 15-17 year age group than in the urban areas, and also, early marriages were slightly higher among Muslims than among Hindus. A systematic drop in the percentage of child marriages among women was witnessed as level of schooling rises. About 19.59% (15.08%) illiterate women in rural (urban) areas were married below 15 years of age, while 43.88% (40.38%) women in rural (urban) areas were married between 15-17 years of age, as opposed to only 1.49% (0.34%) (below 15 years of age) and 12.87% (11%) women with higher secondary education (between 15-17 years of age) in rural (urban) areas, respectively.

Husband's education also plays another important role in reducing child marriages among women. As the level of schooling of husbands rises, child marriages among women is supposed to fall. In West Bengal, a higher proportion of women married before 15 years and the 15-17 year age group had illiterate and (only upto) primary educated husbands. About 18.94% (17.33%) and 41.1% (35.15%) of women in the rural (urban) areas who were married before 15 years and were between 15-17 years, respectively had illiterate husbands. However, only 3.81% (1.25%) and 21.43% (14.73%) women in rural (urban) areas, respectively, who got married before 15 years and between 15-17 years, respectively had husbands with higher secondary education and above.

A wealth index was calculated from household assets. We observed that the percentage of child marriages was higher among the poorest households as compared to the richest households in below 15 years and 15-17 years age group. For example, the proportion of below 15 marriages dropped from 16.5% to 4.27% between poorest to richest wealth quintile in rural areas. In urban areas, while 39.02% of the women in the poorest wealth quintile got married between the 15 - 17 years age group, only 14.87% did so among the richest group.

As education is a very important variable in determining the age of marriage among women, the Table 5 represents the rural (urban) classification of mean year of schooling in different religion categories and age groups among women (married and unmarried) candidates in West Bengal. In the 12-17 years age group, the mean year of schooling for Christians was higher and for Muslims, it was lower among women (married & unmarried) candidates in rural as well as in urban areas, which implies that early marriage was more common among Muslims than among Christians because mean year of schooling was lower among Muslims. In the 12-17 years age group, the mean year of schooling of the urban women (married & unmarried) candidates was higher than that of rural women (married & unmarried) candidates. Similarly, mean year of schooling among urban unmarried women candidates was higher than the rural unmarried women candidates in all categories and age groups. Moreover, in the 12-17 years age group, among the married women (rural & urban) candidates, mean year of schooling was lower than that of unmarried (rural & urban) women candidates in West Bengal. So, we can conclude that education was lower among married women candidates. Moreover, early marriage was more

**Table 6. Percentage of Currently Married Women Aged 20-24 Years by Age of Marriage Below 18 Years and Village Infrastructure Quintile in West Bengal**

Village Infrastructure Development and Child Marriage Prevalence		Married Below 15 Years	Married at 15-17 Years	Married at 18 Years & Above
Village Infrastructure	1 (Least)	20.81	39.31	39.88
Quintile	2	19.67	37.22	43.11
	3	17.81	36.26	45.93
	4	16.96	33.14	49.9
	5 (Highest)	14.23	29.12	56.65

Source: Ministry of Health and Family Welfare, Government of India (2013) for DLHS-4 (2012-13) data. All figures are in percentage.

common in rural areas than in urban areas because mean year of schooling was lower in rural areas. It has been observed in earlier research that child marriages are much more prevalent in backward areas. To examine this aspect, in Table 6, we constructed a village infrastructure quintile through principal component analysis and divided the villages into five groups according to their infrastructure; Group -1 having the least infrastructure and Group - 5 having the maximum infrastructure. In West Bengal, 20.81% of the women in villages with least infrastructure married before 15 years, and another 39.31% married between 15-17 years. In the highest infrastructure villages, the proportions were 14.23% and 29.12%, respectively.

## (2) Econometric Analysis of the Findings

🔗 **Determinants of Child Marriage of Girls in West Bengal :** We conducted logistic regression for West Bengal and tried to estimate the factors which determine the probability of a girl getting married below the age of 18 years. Model 1 (Table 7) is a basic model which considers girl's own education, husband's education, religion, caste, age gap, locality, respondent's occupation, and the wealth quintile. It shows that Muslims had a higher probability for girls getting married before the age of 18 than Hindus, while Christians had a lower probability than Hindus. Similarly, Scheduled Castes (SCs) had a higher probability of early marriage than the General Category. It is just the opposite for Scheduled Tribes. The OBCs and husband's education are insignificant factors to be associated with child marriages in West Bengal. The dummies for husband's education are not significant. The probability of a girl with primary education getting married is not significantly different than that of an illiterate girl. However, the probability of child marriage decreases when the girl has education up to middle or higher school. The wealth index is an indirect indicator of socioeconomic status of women, their parents, as well as their in-laws. Our findings reveal that in case of West Bengal, wealth quintile does not play any significant role in reducing child marriage. This raises an important question of whether any policies which give cash transfers to households or improve the economic condition of households would at all have any effect on reducing the extremely high rate of child marriage in West Bengal.

To check the validity of this result, in Model 2 (Table 7), we have substituted the wealth quintile with six important features determining the standard of living of a household. We have taken six variables to measure the standard of living for a household. For example, a family has a below poverty line (BPL) card or not, type of house (pucca or not), household uses firewood as a cooking fuel or not, household has electricity or not, types of toilet, and source of drinking water in the household. The interesting result is that the families with a BPL card and using firewood as a cooking fuel do not play any significant role in determining the probability of child marriage in West Bengal. However, the type of house and source of lighting is significant. This strengthens our conclusion that poverty is not a significant factor for child marriages in West Bengal.

In Model 3 (Table 7), we have retained the wealth quintile and brought in controls for village infrastructure. This



**Table 7. Determinants of Child Marriage of Girls in West Bengal**

Girls' Age of Marriage (Less than 18 years)	Model 1		Model 2		Model 3	
	West Bengal	Marginal Effect	West Bengal	Marginal Effect	West Bengal	Marginal Effect
<b>Religion (Reference Hindu)</b>						
Muslim	0.36***	-0.89	0.21***	0.03	0.36***	0.08
Christian	-1.07***	-0.24	-0.77***	-0.11	-1.09***	-0.24
Others	-0.82***	-0.19	-0.51***	-0.07	-0.86***	-0.19
<b>Caste (Reference General)</b>						
Scheduled Caste (SC)	0.20***	0.05	0.05**	-0.01	0.18***	0.04
Scheduled Tribes (ST)	-0.21**	-0.05	-0.12***	0.02	-0.24**	-0.05
Other Backward Class (OBC)	-0.03	-0.01	0.02	0.01	-0.03	-0.01
<b>Locality (Reference Urban)</b>						
Rural	0.30***	0.07	0.20***	0.08	0.29***	0.08
<b>Education of Husband (Reference Illiterate)</b>						
Primary Education of Husband	0.36	0.08	0.09	0.01	0.37	0.09
Middle Education of Husband	0.32	0.07	-0.04	-0.01	0.33	0.08
Higher Education of Husband	-0.13	-0.03	-0.06	-0.01	-0.10	-0.01
<b>Education of Girls (Reference Illiterate)</b>						
Primary Education of Girls	-0.08	-0.01	-0.05	-0.01	-0.08	-0.02
Middle Education of Girls	-0.53***	-0.13	-0.43***	-0.07	-0.53***	-0.12
Higher Education of Girls	-2.08***	-0.41	-1.52***	-0.19	-2.06***	-0.40
Age Gap	0.08*	0.09	0.10*	0.07	0.09*	0.08
<b>Respondents' Occupation (No Work Reference)</b>						
Working	-0.13***	0.10	-0.11***	0.11	-0.12***	0.13
Wealth Quintile	-0.02	-0.01			-0.02	0.11
Types of Fuel (Reference Firewood)		0.05	-0.04			
Structure of House (Reference Pucca)			-0.15***	-0.03		
Household BPL Card (Reference APL)			0.04	0.01		
Source of Lighting (Reference Electricity)			0.07*	0.02		
Types of Toilet (Reference Pit Latrine)			0.05	0.03		
Source of Drinking Water (Reference Public Tap)			0.04	0.02		
Village Infrastructures Quintile					-0.01	-0.01
Natural Disaster					-0.02	-0.01
Village with Mahila Mandal					-0.03	-0.01
Village with Self Help Group					0.17*	0.02
Women & Child Development Scheme Score					-0.03	-0.01
Other Welfare Scheme Score					-0.08	-0.02
Cons	0.13***		0.08***		0.05***	
No. of Observations	8344		8509		8280	
Pseudo R <sup>2</sup>	0.06		0.05		0.06	

\*\*\* significant at 1% level, \*\* significant at 5% level, \* significant at 10% level.

Sources : Ministry of Health and Family Welfare, Government of India (2013) for DLHS -4 (2012-13) data.

<sup>2</sup> In logit model, one value (typically the first, the last, or the value with the highest frequency) of the dependent variable is designated as the reference category. The probability of membership in other categories is compared to the probability of membership in the reference category.

**Table 8. Determinants of Child Marriage of Girls Among Two Different Age Cohorts in West Bengal**

Girls' Age of Marriage (Less than 18 Years)	Model 1		Model 2		Model 3	
	20-24	30-34	20-24	30-34	20-24	30-34
<b>Religion (Reference Hindu)</b>						
Muslim	0.10	0.36***	0.11	0.37***	0.12	0.33***
Christian	-0.94*	-1.23***	-0.96*	-1.26***	-0.90*	-1.24***
Other	-0.32	-1.04***	-0.36	-1.09***	-0.24	-1.09***
<b>Caste (Reference General)</b>						
Scheduled Caste (SC)	0.00	0.31***	-0.02	0.26**	-0.02	0.33***
Scheduled Tribes (ST)	-0.51***	0.11	-0.55***	0.07	-0.50***	0.11
Other Backward Class (OBC)	0.00	-0.03	-0.01	-0.04	-0.01	-0.05
<b>Locality (Reference Urban)</b>						
Rural	0.17*	0.12**	0.15*	0.13**	0.17*	0.14**
<b>Education of Husband (Reference Illiterate)</b>						
Primary Education of Husband	0.62	0.37	0.64	0.38	0.69	0.39
Middle Education of Husband	0.54	0.28	0.57	0.310.60	0.30	
Higher Education of Husband	0.23	-0.24	0.27	-0.19	0.29	-0.21
<b>Education of Girls (Reference Illiterate)</b>						
Primary Education of Girls	0.46	-0.39	0.46	-0.38	0.57	-0.43
Middle Education of Girls	0.07	-0.87***	0.08	-0.84***	0.18	-0.90***
Higher Education of Girls	-1.49***	-2.78***	-1.46***	-2.71***	-1.40***	-2.79***
Age Gap	0.08*	0.10**	0.09*	0.9**	0.10*	0.9**
<b>Respondents' Occupation (No Work Reference)</b>						
Working	-0.07***	-0.12**	-0.08***	-0.11**	-0.07***	-0.9**
Wealth Quintile	-0.02	-0.02			-0.02	-0.02
Types of Fuel (Reference Firewood)			0.13	-0.01		
Structure of House (Reference Pucca)			-0.15	-0.24**		
Household BPL Card (Reference APL)			0.04	0.07		
Source of Lighting (Reference Electricity)			0.07*	0.06**		
Types of Toilet (Reference Pit Latrine)			0.05	0.07		
Source of Drinking Water (Reference Public Tap)			0.04	0.03		
Village Infrastructures Quintile					0.03	-0.09***
Natural Disaster					-0.08	0.08
Village with Mahila Mandal					-0.12	0.17*
Village with Self Help Group					0.22	0.17
Women & Child Development Scheme Score					0.34	-0.06
Other Welfare Scheme Score					0.00	-0.64*
Cons	-0.26***	0.26***	-0.40***	0.25***	-0.82***	0.50***
No. of Observations	2424	2681	2425	2581	2403	2558
Pseudo R <sup>2</sup>	0.06	0.07	0.06	0.07	0.06	0.08

\*\*\* significant at 1 % level, \*\* significant at 5 % level, \* significant at 10% level

Source: Ministry of Health and Family Welfare, Government of India (2013) for DLHS -4 (2012-13) data

is to test whether the prevalence of child marriage is higher in backward villages or not. The effect of girl's education, husband's education, religion, caste, age gap, locality, occupation, and wealth quintile remains unchanged from Model 1. The village characteristics throw up very surprising results for West Bengal. In West Bengal, none of the village characteristics other than the presence of self help groups have any significant impact on the probability of child marriage. So, our main finding is that village infrastructure development and natural disaster do not play any significant role in reducing child marriages in West Bengal.

In order to examine whether the determinants of child marriage have changed over time or not, we conduct separate logistic regression in two age cohorts (20-24 & 30-34). Here again, we use the three separate models. Table 8 gives the regression results in the two age cohorts for West Bengal. Breaking up the regression results gives some very striking results.

From Model 1 (Table 8) in West Bengal, though probability of early marriage is higher among Muslims than Hindus in the older age cohort (30-34), it is insignificant among the younger age cohort (20-24). The same is true for SCs. Among the STs, the probability of child marriage is lower than the general category in the 20-24 age cohort, but it is insignificant among the 30-34 age cohort. In case of West Bengal, husband's education never plays a role in reducing the probability of child marriage among women, both in the younger and older age cohorts. However, women with higher secondary education significantly reduce the probability of child marriage among women who are in younger as well as in older age cohorts.

Model 2 (Table 8), however, shows that households having a BPL card do not play any role in determining the probability of child marriage among women who are in the younger as well as in the older age cohorts. In case of structure of house, the probability of child marriage is lower among women who are now in the older age cohort, but it is insignificant among the younger age cohort.

From Model 3 (Table 8), it is seen that village infrastructure quintile played an important role in reducing child marriage among women who are now in the 30-34 age cohort. It does not play any role among the 20 - 24 age cohort. Importantly, in West Bengal, none of the village characteristics significantly determine the probability of child marriage in the 20-24 age cohort.

Thus, it is seen that wealth of households and village infrastructure quintile are not important determinants of child marriage in West Bengal. In fact, a separate analysis of two age cohorts reveals that village infrastructure is not significant for the younger age group in West Bengal. Higher level of education acts as a significant factor in lowering child marriage among girls between 20-24 and 30-34 age cohorts. This is partly because the prevalence of child marriage has been in decline over the years. Thus, the high rates of child marriage in West Bengal cannot be attributed to lack of economic or infrastructure development in the state. These factors turn out to be insignificant. There are other factors, may be cultural, which are responsible for the high rate of child marriage, and very careful thought needs to be given to this issue.

## **Conclusion, Policy Implications, and Directions for Future Research**

This study shows that the prevalence of child marriage is declining in West Bengal. However, the decline is not uniform across districts because of unequal level of socioeconomic development, modernization, and income distribution at the district level in West Bengal. The prevalence of child marriage is the highest in West Bengal compared to all other states in India. From the analysis, we find that the largest drop in the prevalence of child marriage has been in under-15 marriages, while marriages in the age group of 15-17 years continue to occur quite commonly in West Bengal. The mean age at marriage of West Bengal women has risen steadily over the years in every district including those where the prevalence of child marriage is quite high, such as Murshidabad, Paschim Medinipur, Bardhaman, etc. So, the government has to take some policies to increase the level of demographic and socioeconomic development at the district and state level in West Bengal.

The individual and household socioeconomic characteristics such as place of residence, education, religion, and caste are important determining factors for girls' child marriage in West Bengal. However, wealth quintile became an insignificant factor to be associated with child marriage in West Bengal. As the present study establishes, there is greater tendency towards child marriage among rural women, irrespective of education and wealth difference between rural and urban women, which suggests that marriage practices in rural areas are influenced strongly by traditional values. The present study also shows that girls with middle and higher education play a significant role in reducing child marriages in West Bengal. Thus, the findings of the study suggest that if girls can stay for a longer period in school, this will not only raise their age at first marriage, but also promote individual development and their potential contribution to the society for overall development. Moreover, gender inequality has been observed at every stage of education and is one of the major problems in the Indian education system. It impedes enrollment and literacy of girls at the secondary and higher educational levels. This situation has demanded the accessibility, equity, and quality education not only at school level, but also at the higher education level (Bordoloi, 2015). Here, the government has to perform a very crucial role to promote accessibility, equity, and quality education not only at the primary level, but also in secondary and higher secondary levels to increase literacy and to reduce the early age of marriage, especially among girls. Moreover, it has been observed that there is a close relationship between mother's empowerment and education of children. The reason is that educated mothers can give better education to their children which can lead to better decision making within the family and can lead to better decisions regarding their children's educational attainments among different social groups (Das & Dutta, 2016). So, here, the government plays a very crucial role in increasing women empowerment among different social groups that can improve education of their children, reduce early age of marriage, and improve various socioeconomic and cultural developments not only at the individual level, but also at the state level in India. Additionally, targeted policy is also needed to create awareness about the negative consequences of child marriage in West Bengal. It is, therefore, to be seen how far the present conditional cash transfer scheme of the Government of West Bengal, that is, the Kanyashree Prakalpa (girls with secondary education) succeeds in removing this problem of child marriage in future days.

According to the DLHS-4 unit level data, we investigated the household and demographic characteristics in determining the probability of girls' child marriage in West Bengal. However, these characteristics reflect the situation of those households who bring in child brides and not those households who marry off their daughters at a young age. The information about married girls and women's parental household was not available in our data source. However, since the practice of child marriage depends on both, the decision of the girl's parents as well as that of the groom's family, the bride's family characteristics are more important in performing the child marriage. This is the interesting research gap of our study. Another limitation of this study is that the education, occupation, and income of the respondent's parents was not included in the analysis because the DLHS-4 data does not contain information on this variable. In fact, parents are the main decision-makers when arranging marriage for their daughters in West Bengal. Therefore, parents' education should be considered as an important determinant of girls' child marriage in West Bengal. Hence, future research analysis should focus on these areas.

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