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Determinants of Girls Child Marriage among High Prevalence Districts in West Bengal, India

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ABSTRACT

The present study aims to investigate the determinants of girl child marriage among high prevalence districts in West Bengal. The purpose of the study is to analyze various demographic, socio-economic, cultural, and village level characteristics that are important in determining factors for girls child marriage among high prevalence districts in West Bengal. Binary logistic regression has been applied to analyze secondary data (DLHS-4) of 8509 child married women in West Bengal. The results of this study indicate that the individual and household socioeconomic and demographic characteristics, such as place of residence, education, religion, and caste are important in determining factors for girls child marriage among high prevalence districts in West Bengal. Furthermore, it is also found that the largest drop in the prevalence of child marriage has been in under-15 marriages, while marriages in the age group 15-17 years continue to occur quite commonly in a number of high prevalence districts in West Bengal. Moreover, there is a greater tendency towards child marriage among rural women, irrespective of educational, and wealth differences between rural and urban women among all high prevalence districts and rest of West Bengal. The result shows that the wealth quintile and households with BPL card are insignificant factor to be associated with child marriage among high prevalence districts in West Bengal. In this study, we can find that girls with secondary and higher education have much lower chances of early marriage compared to illiterate ones. Thus, education and early marriage are closely linked. In this context, the Kanyashree Prakalpa scheme (girls with secondary education) by the Government of West Bengal could be a good instrument to reduce child marriage in West Bengal.

1. Introduction

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. But, "Child Marriage is one of the most prevalent forms of sexual abuse and exploitation especially among the adolescent girls. It serves as a means of perpetuating power imbalances between men and women, both in the 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: (i) fertility and population growth; (ii) health, nutrition, and violence; (iii) educational attainment; (iv) labor force participation, earnings, and productivity; and (v) 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 the girls and boys who were married below the age of 18 and 21.The UNICEF'S "state of the world's children 2009" report has shown that, India has the 12th highest rate of child marriage in the world. About 40 percent of the world's child marriage occurs in India. Similarly, 47 percent of Indian women and 56 percent of rural women aged 20-24 year married below the age of 18. Child Marriage is a serious problem in India. It is far more serious in West Bengal. In NFHS-4 (2015-16) data, the percentage of women aged 20-24 years married before the age of 18 years was highest (40.7 percent) in West Bengal. The districts of Bankura, Murshidabad, Paschim Medinipur, Bardhaman, Birbhum, Dakshin Dinajpur, Nadia and Purulia are areas with the highest incidence of child marriage in West Bengal. In this districts, percentage of child marriage is very close to each other. For this reason, I am choosing top five districts in my analysis. Below highlighting this districts----

Table 1: Percentage of Child Marriage among High Prevalence Districts in West Bengal

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

Murshidabad	41.60(Highest)	39.8 (Highest)	53.5 (Highest)
Bankura	39.55	39.6	51.6
Paschim Medinipur	35.41	39.2	52.6
Birbhum	36.23	35.2	51.3
Barddhaman	33.86	34.3	51.2

Source: (1) Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India for Census -2011 data,
(2) Ministry of Health and Family Welfare, Government of India (2013) for DLHS-4(2012-13) data.
(3) International Institute for Population Science (IIPS). (n.d) for NFHS-4 Report

2. Review of literature

Child marriage is one of the key factors which hinder economic development in many states in India. Within India, West Bengal is the most affected state in this regard. It makes a large section of women vulnerable. Below I am 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 expense and to minimize the cost of marriages (Nayan, 2015). Moreover, Child marriage is still prevalent in India due to lack of education, enlightenment and awareness among the people (Nayan, 2015). The girls with secondary and higher secondary educational attainment will tend to postpone their marriage in order to improve their chances of better economic livelihood and independence. (ICRW, 2012).

In highly patriarchal societies, the husband's educational attainment is likely to matter as much as that of wife. Men from lower educational attainment have greater chances of having younger wives, who are performing more on traditional female roles. We, therefore, postulate that women with husbands with fewer years of schooling will have marry earlier than are those with husbands with more years of schooling (Srinivasan et al, 2015).

In some religious communities tend to emphasize more on child marriage among females because of traditional customs that prevail in the communities. He 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 off cultural reasons (Srinivasan et al, 2015).

3. Objective of the study

This paper is planned to attain the following objectives:

1) Using DLHS-4 unit level data, I have attempted to find the determinants of girl's child marriage among high prevalence district in West Bengal.
2) To analyze the various demographic, socio-economic and cultural factors leading to girls child marriage among high prevalence district in West Bengal.
3) In this study, I have tried to investigate if any relationship exist between the village infrastructural development and prevalence of girls child marriage among high prevalence districts in West Bengal.

4. Data and methodology

4.1 Data: In this study, DLHS-4 (2012-13) unit level data is used as our main data source. I have used unit level household data, ever-married women data, and village level data to identify the determinants of girl child marriage among high prevalence district in West Bengal. I 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 can measure prevalence of child marriage in the village of West Bengal. In Census-2011 and National Family Health Survey (NFHS)-4 data does not contain information on this variable.

4.2 Methodology: I 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 among high prevalence districts in West Bengal. Clearly Logit model is used because my 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 girl's child marriage among high prevalence districts in West Bengal. In the first logit model to explain whether a girl marries before eighteen or not is :

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

Where, *P* is the probability of a girl marrying before 18 and X is the vector of dummies for woman's educational qualification (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). β, μ, Ƴ are the vectors of parameters associated with X, H, and Z respectively and α 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,

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

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 θ is the vectors 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.

5. Results and Discussion

5.1 Demographic and Socio-economic Characteristics of Girls Child Marriage among High Prevalence Districts in West Bengal: Needless to say, child marriage is a serious problem among high prevalence districts in West Bengal. Here, I have examined the socio-economic and demographic characteristics of females such as place of residence, religion, caste, and household wealth status as important variables to influence the age of marriage among women who are married below the age of 18.

In 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. In DLHS-4, the mean age at marriage for men is among the highest in Kolkata (28.3 years) and lowest in Birbhum (23.9 years). Similarly, the mean age at marriage for women is among the highest in Kolkata (23.4 years), and lowest in Murshidabad (18.3 years).The overall mean age at marriage is 25.4 years for men, and 19.2 years for women. For both men and women, mean age at marriage in urban areas is higher by 2 year than in rural areas. On the whole, 15.8 and 31.65% of marriage among men and women are below the respective permissible legal age for marriage of 21 and 18 years respectively. The highest proportion of marriage is below the legal age for women in Bankura (40%), it is 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. In DLHS-4. 49.1% of women in the age group 20-24 years get married before 18 years, out of which 57.9% are in rural areas and 39.2% are in urban areas. However, this has been found still high in the district of Murshidabad (62.4%), Birbhum (59.8%), Dakshin Dinajpur (59.7%), and Maldah (56.1%) etc. Whenever, we are comparing between DLHS-3 among DLHS-4 among 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 marriage has not uniformly declined in all districts in West Bengal. For example, Nadia (17%), Kooch Bihar (14.3%), Puruliya (11.5%), and Uttar Dinajpur (10%) are performing very well in terms of reducing child marriage in West Bengal.

Table-2; Mean Age at Marriage and Percentage of Marriage Below Legally Prescribed Minimum Age at Marriage by Sex, Residence and Districts in West Bengal

Districts in West Bengal	DLHS-4 data		DLHS-4 data		DLHS-3 data		DLHS-3 data		DLHS-4	DLHS-3	
	Mean age at marriage		Percentage of marriages below legal age at marriage		Mean age at marriage		Percentage of marriages below legal age at marriage		currently married women aged 20-24 married before 18	currently married women aged 20-24 married before 18	Change
	Men	Women	Men less than 21 year	women less than 18 year	Men	women	Men Less than 21 year	women less than 18 year			
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
Koch 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
Dakshin	25.9	19.4	18.8	31.7	24	18.1	24.7	48.7	59.7	59.1	-0.6

Dinajpur											
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	**39.8 (1)**	23	16.9	30.6	61.6	62.4	68.2	5.8
Birbhum	23.9	18.5	25.7	**35.2 (4)**	23	17.4	30.8	57.2	59.8	63.6	3.8
Barddhaman	25.4	18.7	15.1	**34.3 (5)**	24	18.8	16.9	38.9	52.8	54.6	1.8
Nadia	26.2	19.3	10.5	30.2	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	27	19.4	14	26.7	41.4	40	-1.4
Bankura	24.9	18.5	13.3	**39.6 (2)**	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 (3)**	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
Purba Medinipur	25.9	19	13.6	26.5	25	18.4	14.2	38.9	54.2	48.4	-5.8
Rural Area	24.6	18.5	18.1	35.9	24	18	23.9	45.7	57.9	57.9	
Urban Area	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: Ministry of Health and Family Welfare, Government of India (2013) for DLHS-4(2012-13) data, All figures are in percentage

In order to map the improvement in the percentage of child marriage and also the progress made in reducing the proportion of those getting married below the legal age, a comparison that has been done between Rest of West Bengal and high prevalence district in Murshidabad, Bankura, Paschim Medinipur, Birbhum and Barddhaman. In Table-3 shows, the largest drop in the prevalence of child marriage has been in the under-15 marriages, while marriages in the age group 15-17 year continue to occur quite common in a number of high prevalence district in West Bengal. Here, I have shown, the individual and household socioeconomic characteristics, such as place of residence, education, religion and caste are important in determining factor for girls child marriage among high prevalence districts and rest of West Bengal. In Murshidabad, the percentage of child marriage among below 15 & 15-17 years age group has been found greater than the all other high prevalence districts (Bankura, Paschim Midnapur, Birbhum and Barddhaman) in West Bengal. A higher proportion of girls from BPL families marry before 15 and 15-17 year age group in rest of West Bengal as well as in all other high prevalence districts in West Bengal. In the above tables, we can find that, the Murshidabad performing more worse off situation than the all other high prevalence districts in West Bengal in term of marriage below eighteen in rural areas than the urban areas and also slightly higher among the Muslims than Hindus. A systematic drop in the percentage of child marriage among women can be observed as level of schooling rises. Among high prevalence districts in West Bengal, the percentage of child marriage is higher among the illiterate and primary educated women in below 15 & 15-17 year age group. The education level of the husband plays another important role in reducing the child marriage among women as level of schooling rises by husband. In case of Murshidabad, 15.12 and 43.19 percent of the women married before 15 and between 15-17 year respectively had illiterate husbands. Similarly, for Bankura, 17.59 and 49.56 percent of the women married before 15 and between 15-17 respectively had primary-educated husband. A Wealth Index has been calculated from the household assets. Here, we can see that, among high prevalence districts in West Bengal, the percentage of child marriages is higher among the poorest household as compared to in richest household in below 15 & 15-17 year age group. In case of Murshidabad that have more serious than the all other high prevalence districts in West Bengal.

***Table-3*: Demographic and Socio-Economic Characteristics of Women and Age of Marriage in Age Cohort 20- 24 Year in Murshidabad, Bankura, Paschim Medinipur, Birbhum, Barddhaman *and* Rest of West Bengal**

Demographic and socioeconomic characteristics of women		Rest of West Bengal			Murshidabad			Bankura			Paschim Medinipur			Birbhum			Barddhaman		
		Women Married			Women Married			Women Married			Women Married			Women Married			Women Married		
		< 15 year	15-17 year	> 18 year	< 15 year	15-17 year	> 18 year	< 15 year	15-17 year	> 18 year	< 15 year	15-17 year	> 18 year	< 15 year	15-17 year	> 18 year	< 15 year	15-17 year	> 18 year
Religion	Hindu	11.18	31.3	57.52	16.29	36.69	47.02	15.18	35.03	49.79	14.21	34.93	50.86	13.12	33.39	53.49	12.02	32.93	55.05
	Muslim	14.9	37.17	47.93	19.95	42.59	37.46	18.23	41.26	40.51	17.18	40.18	42.64	16.17	39.17	44.66	15.11	38.71	46.18
Caste	SC	11.32	41.13	47.55	16.58	46.59	36.83	15.12	45.51	39.37	14.01	44.15	41.84	13.08	43.11	43.81	12.12	42.13	45.75
	ST	10.22	37.98	51.8	15.23	42.58	42.19	14.89	41.12	43.99	13.09	40.59	46.32	12.11	39.19	48.7	11.19	38.15	50.66
	OBC	7.42	33.59	58.99	12.98	38.64	48.38	11.12	37.54	51.34	10.08	36.51	53.41	9.07	35.58	55.35	8.70	34.85	56.45
	OC	9.39	32.63	57.98	14.59	37.48	47.93	13.25	36.14	50.61	12.15	35.41	52.44	11.12	34.14	54.74	10.11	33.41	56.48
Type of locality	Rural	15.1	32.9	52	20.26	37.95	41.79	19.12	36.05	44.83	18.11	35.15	46.74	17.10	34.19	48.71	16.01	33.91	50.08
	urban	6.3	23.2	70.5	11.59	28.74	59.67	10.25	27.04	62.71	9.22	26.15	64.63	8.21	25.51	66.28	7.12	24.15	68.73
Highest education level of woman	Illiterate	17.33	42.13	40.54	22.45	47.95	29.6	21.52	46.59	31.89	20.51	45.95	33.54	19.87	44.59	35.54	18.81	43.95	37.24
	Primary	16.65	44.37	38.98	21.59	49.56	28.85	20.14	48.16	31.70	19.08	47.19	33.73	18.08	46.91	35.01	17.14	45.90	36.96
	Middle	7.74	42.56	49.7	12.49	47.84	39.67	11.24	46.42	42.34	10.19	45.24	44.57	9.97	44.42	45.61	8.79	43.41	47.8
	Secondary	3.25	32.92	63.83	8.43	37.95	53.62	7.25	36.05	56.7	6.21	35.15	58.64	5.29	34.11	60.6	4.92	33.10	61.98
	HS +	0.91	11.93	87.16	4.98	16.95	78.07	3.96	15.06	80.90	2.91	14.60	82.49	1.97	13.69	84.34	0.97	12.96	86.07
Highest education level of husband	Illiterate	10.13	38.12	51.75	15.12	43.19	41.69	14.13	43.19	42.68	13.05	42.91	44.04	12.51	41.19	46.3	12.51	40.91	46.58
	Primary	13.56	44.7	41.74	18.76	49.56	31.68	17.59	49.56	32.85	16.51	48.65	34.84	15.15	47.56	37.29	15.15	46.15	38.7
	Middle	8.92	39.43	51.65	13.76	44.73	41.51	12.52	44.73	42.75	11.51	43.71	44.78	10.49	42.17	47.34	10.49	41.14	48.37
	Secondary	4.03	38.08	57.89	9.86	43.82	46.32	8.89	43.82	47.29	7.82	42.28	49.9	6.12	41.82	52.06	6.12	40.28	53.6
	HS +	2.53	18.08	79.39	7.52	23.51	68.97	6.84	23.51	69.65	5.81	22.15	72.04	4.18	21.51	74.31	4.18	20.14	75.68
Having BPL card or Not	BPL	11.42	39.93	48.65	16.85	44.82	38.33	15.59	44.82	39.59	14.09	43.18	42.73	13.11	42.81	44.08	13.11	41.18	45.71
	APL	9.74	35.51	54.75	14.81	41.75	43.4	13.12	41.75	45.13	12.01	40.15	47.84	11.90	39.12	48.98	11.90	38.21	49.89
Wealth quintile index	Poorest	15.54	41.92	42.54	20.57	46.82	32.61	19.16	46.82	34.02	18.09	45.41	36.5	17.11	44.14	38.75	17.11	43.89	39
	Poor	13.3	39.05	47.65	18.76	44.73	36.51	17.18	44.73	38.09	16.01	43.57	40.42	15.91	42.75	41.34	15.91	41.88	42.21
	Middle	12.03	36.07	51.9	17.69	41.09	41.22	16.89	41.09	42.02	15.19	40.07	44.74	14.12	39.18	46.7	14.12	38.19	47.69
	Rich	7.89	28.52	63.59	12.86	33.12	54.02	11.85	33.12	55.03	10.45	32.19	57.36	9.18	31.91	58.91	9.18	30.90	59.92
	Richest	3.85	22.67	73.48	8.61	26.81	64.58	7.71	26.81	65.48	6.11	25.18	68.71	5.95	24.81	69.24	5.95	23.14	70.91

Source: Ministry of Health and Family Welfare, Government of India (2013) for DLHS-4(2012-13) data, All figures are in percentage, *SC-Scheduled Caste, ST-Scheduled Tribe, OBC-Other Backward Class, OC-Other Caste HS +--Higher Secondary & Above, APL-Above Poverty Line, BPL-Below Poverty Line*

In Table-4, it has been observed in earlier research that child marriages are much more prevalent in backward areas. To examine this aspect, I have 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 highest. Among high prevalence district in West Bengal, we observe that proportion of below 15 and between 15 -17 marriages fall as the village infrastructure increases. In Rest of West Bengal, 20.81 percent of the women in the villages with least infrastructure marry before 15 and another 39.31 percent marry between15-17 years. These figures are as low as 14.23 percent and 29.12 percent in the highest infrastructure villages. The same picture is observed in all other high prevalence district in West Bengal, though this figures are much higher. In Murshidabad,25.59 percent of the women in the villages with least infrastructure marry before 15 and another 44.59 percent marry between15-17 year. In the highest infrastructure villages, the proportions are 19.78 percent and 34.86 percent respectively. In this table, Murshidabad have a high incidence of child Marriage in term of below 15 and 15-17 year age group than the all other high prevalence districts in West Bengal.

Table 4: Percentage of Currently Married Women Aged 20-24 Years by Age of Marriage Below 18 Years and Village Infrastructure Quintile among High Prevalence Districts and Rest of West Bengal

Rest of West Bengal				
Village Infrastructure and child Marriage	**Development Prevalence**	**Married before 15 years**	**Married 15-17 years**	**Married at 18 year and above**
Village Infrastructure Quintile	1 (Least)	20.81	39.31	39.88
	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
Murshidabad				
Village Infrastructure Quintile	1 (Least)	25.59	44.59	29.82
	2	24.95	42.43	32.62
	3	22.19	41.73	36.08
	4	21.89	38.64	39.47
	5 (Highest)	19.78	34.86	45.36
Bankura				
Village Infrastructure Quintile	1 (Least)	24.95	43.95	31.1
	2	23.15	41.41	35.44
	3	21.89	40.12	37.99
	4	20.09	37.45	42.46
	5 (Highest)	18.16	33.09	48.75
Paschim Medinipur				
Village Infrastructure Quintile	1 (Least)	23.01	42.16	34.83
	2	22.13	40.14	37.73
	3	20.16	39.11	40.73
	4	19.28	36.19	44.53
	5 (Highest)	17.61	32.43	49.96
Birbhum				
Village Infrastructure Quintile	1 (Least)	22.19	41.82	35.99
	2	21.11	39.42	39.47
	3	19.73	38.10	42.17
	4	18.43	35.12	46.45
	5 (Highest)	16.91	31.16	51.93
Barddhaman				
Village Infrastructure Quintile	1 (Least)	21.96	40.12	37.92
	2	20.45	38.15	41.4
	3	18.43	37.19	44.38
	4	17.91	34.46	47.63
	5 (Highest)	15.71	30.04	54.25

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

In Table—5 represents the rural(urban) classification of mean year of schooling in different social category and age group among high prevalence district in west Bengal. The mean year of schooling among all high prevalence districts is lower than the rest of west Bengal in age group 12-17, 18-23 years. In 12-17 age group, we have seen in case of high

prevalence districts in West Bengal, the mean year of schooling for OBC is higher and for ST is lower among female (married & unmarried) candidates in rural as well as in urban areas. Which implies that early marriage is more common among ST than OBC because mean year of schooling is lower among ST. In 12-17 age group, we can find in Rest of West Bengal and all other high prevalence district, the urban female (married & unmarried) candidates mean year of schooling is higher than the rural female (married & unmarried) candidates. Similarly, urban unmarried female candidates mean year of schooling is higher than the rural unmarried female candidates in all category and age group. Among high prevalence district in West Bengal, the mean year of schooling is lower in Murshidabad, which implies that lower mean year of schooling is highly responsible factor for early marriage in Murshidabad. Moreover, in 12-17 age group, among the married female (rural & urban) candidates mean year of schooling is lower than the unmarried (rural & urban) female candidates in high prevalence district as well as in Rest of West Bengal. So, we can conclude that, education is lower among the married female candidates. Moreover, early marriage is more common in rural area than in urban area because mean year of schooling is lower in rural area.

Table 5: Rural (Urban) Classification of Mean Year of Schooling in Different Social Category and Age Group among Female (Married & Unmarried) Candidates across High Prevalence Districts and Rest of West Bengal

AGE	Rest of West Bengal															
	FEMALE															
	RURAL								URBAN							
	Married				Unmarried				Married				Unmarried			
	SC	ST	OBC	other	SC	ST	OBC	other	SC	ST	OBC	other	SC	ST	OBC	other
12-17	8.3 (2.5)	7.3 (2.3)	8.9 (2.3)	8.7 (2.5)	9.4 (2.1)	8.3 (2.2)	9.7 (1.8)	9.7 (1.8)	9.1 (2.2)	8.4 (2.9)	9.8 (2.3)	8.7 (2.5)	9.6 (2.2)	9.4 (1.9)	10.2 (1.7)	10.1 (1.85)
18-23	8.5 (3.3)	7.8 (3.4)	9.2 (3.5)	9.7 (3.4)	10.9 (3.1)	10.2 (3.2)	11.8 (3.1)	12.1 (2.6)	9.4 (3.5)	9.3 (3.4)	10.4 (3.4)	10.6 (3.5)	11.9 (3.1)	11.6 (2.8)	12.7 (2.9)	13.1 (2.6)
Murshidabad																
12-17	5.5 (2.1)	4.7 (2.2)	6..1 (2.4)	5.9 (2.2)	6.6 (2.2)	5.5 (2.1)	6.9 (1.8)	8 (2.2)	7.3 (1.8)	5.6 (4.5)	7 (2.2)	5.9 (2.3)	6.8 (2.2)	6.6 (1.7)	7.4 (1.7)	7.3 (2.2)
18-23	5.7 (2.5)	5.1 (3.1)	6.4 (3.2)	6.9 (3.2)	8.1 (3.4)	7.4 (3.5)	9 (3.6)	9.3 (3.1)	6.4 (3.2)	6.5 (3.5)	7.6 (3.2)	7.8 (3.2)	9.1 (3.3)	8.8 (3.3)	9.9 (3.1)	10..3 (3.2)
Bankura																
12-17	5.8 (2.2)	5 (2.2)	6.4 (2.3)	6.2 (2.3)	6.9 (2.1)	5.8 (2.2)	7.2 (1.9)	8.3 (2.1)	7.6 (1.8)	5.9 (4.4)	7.3 (2.1)	6.2 (2.3)	7.1 (2.1)	6.9 (1.7)	7.7 (1.6)	7.6 (2.3)
18-23	6 (2.6)	5.4 (3.1)	6.7 (3.2)	7.2 (3.3)	8.4 (3.5)	7.7 (3.4)	9.3 (3.7)	9.6 (3.1)	6.7 (3.3)	6.8 (3.5)	7.9 (3.1)	8.1 (3.2)	9.4 (3.2)	9.1 (3.3)	10.2 (3.1)	10.6 (3.1)
Paschim Medinipur																
12-17	6.2 (2.1)	5..2 (2.2)	6.8 (2.3)	6.6 (2.2)	7.3 (2.1)	6.2 (2)	7.6 (1.8)	7.5 (2.2)	8 (1.9)	6..3 (4.5)	7.7 (2.1)	6.6 (2.2)	7.5 (2.1)	7.3 (1.8)	8.1 (1.6)	8 (2.4)
18-23	6.4 (2.7)	5.8 (3.2)	7.1 (3.1)	7.6 (3.3)	8.8 (3.4)	8.1 (3.5)	9.7 (3.8)	10 (3.2)	7..1 (3.4)	7.2 (3.6)	8.3 (3.2)	8.5 (3.2)	9.8 (3.3)	9.5 (3.1)	10.6 (3.2)	11 (3.1)
Birbhum																
12-17	6.7 (2.1)	5.7 (2.3)	7.3 (2.2)	7..1 (2.1)	7.8 (1.9)	6.7 (2.1)	8.1 (1.7)	8.1 (2.3)	8.5 (1.8)	6.8 (4.6)	8.2 (2.2)	7.1 (2.1)	8 (2.2)	7.8 (1.7)	8.6 (1.5)	8.5 (2.3)
18-23	6.9 (2.8)	6.2 (3.3)	7.6 (3.1)	8.1 (3.2)	9.3 (3.5)	8.6 (3.4)	10.2 (3.7)	10.5 (3.3)	7.6 (3.4)	7.7 (3.7)	8.8 (3.3)	9 (3.1)	10.3 (3.4)	10 (3.2)	11.1 (3.1)	11.5 (3.2)
Barddhaman																
	7.4	6.4	8	7.8	8.5	7.4	8.8	8.8	8.2	7.5	8.9	7.8	8.7	8.5	9.3	9.2

12-17	(2.2)	(2.9)	(2.4)	(2.2)	(1.8)	(2.3)	(1.9)	(2.1)	(1.9)	(4.1)	(2.4)	(2.3)	(2.1)	(1.6)	(1.7)	(2.1)
18-23	7.6 (2.9)	6.9 (3.1)	8.3 (3.2)	8.8 (3.1)	10 (3.4)	9.3 (3.5)	10.9 (3.8)	11.2 (3.2)	8.5 (3.3)	8.4 (3.8)	9.5 (3.4)	9.7 (3.2)	11 (3.4)	10.7 (3.5)	11.8 (3.2)	12.2 (3.1)

Source: Ministry of Health and Family Welfare, Government of India (2013) for DLHS-4(2012-13) data, within bracket-SD & without bracket-Mean

In Table—6 represents the rural (urban) classification of mean year of schooling in different religion category and age group among high prevalence districts in west Bengal. The mean year of schooling among all high prevalence districts is lower than the rest of west Bengal in age group 12-17, 18-23 years. In 12-17 age group, we have seen in case of high prevalence district in West Bengal, the mean year of schooling for Christian is higher and for Muslim is lower among female (married & unmarried) candidates in rural as well as in urban areas, which implies that early marriage is more common among Muslim than Christian because mean year of schooling is lower among Muslim. In 12-17 age group, we can find in Rest of West Bengal and all other high prevalence district, the urban female (married & unmarried) candidates mean year of schooling is higher than the rural female (married & unmarried) candidates. Similarly, urban unmarried female candidates, mean year of schooling is higher than the rural unmarried female candidates in all category and age group. Among high prevalence districts in West Bengal, the mean year of schooling is lower in Murshidabad, which implies that lower mean year of schooling is highly responsible factor for early marriage in Murshidabad. Moreover, in 12-17 age group, among the married female (rural & urban) candidates mean year of schooling is lower than the unmarried (rural & urban) female candidates in high prevalence district as well as in Rest of West Bengal. So, we can conclude that, education is lower among the married female candidates. Moreover, early marriage is more common in rural area than in urban area because mean year of schooling is lower in rural area.

Table 6: Rural (Urban) Classification of Mean Year of Schooling in Different Religion Category and Age Group among Female (Married & Unmarried) Candidates across High Prevalence Districts and Rest of West Bengal

AGE	Rest of West Bengal															
	FEMALE															
	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)	9.6 (2.4)	9.6 (2.1)	8.5 (2.5)	9.7 (2.3)	10.1 (1.2)	9.2 (2.1)	8.4 (2.7)	9.5 (2.4)	10.2 (2.3)	9.8 (1.2)	9.6 (2.2)	10.4 (2.3)	11.9 (2.4)
18-23	9.4 (3.2)	7.5 (2.9)	9.5 (3.1)	9.9 (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)	10.7 (2.8)	11.8 (3.3)	11.5 (3.4)	12.7 (2.9)	13.5 (1.9)
Murshidabad																
12-17	5.7 (2.1)	4.9 (2.2)	6..3 (2.3)	6.1 (2.1)	6.8 (2.2)	5.7 (2.1)	7.1 (1.8)	8.2 (2.2)	7.5 (1.8)	5.8 (4.5)	7.2 (2.2)	6.1 (2.3)	7 (2.2)	6.8 (1.7)	7.6 (1.7)	7.5 (2.2)
18-23	5.9 (2.5)	5.3 (3.1)	6.6 (3.2)	7.1 (3.2)	8.3 (3.4)	7.6 (3.5)	9.2 (3.6)	9.5 (3.1)	7.6 (3.2)	6.7 (3.5)	7.8 (3.2)	8 (3.2)	9.3 (3.3)	9 (3.3)	10.1 (3.1)	10..5 (3.2)
Bankura																
12-17	6 (2.2)	5.2 (2.2)	6.6 (2.3)	6.4 (2.3)	7.1 (2.1)	6 (2.2)	7.4 (1.9)	8.5 (2.1)	7.8 (1.8)	6.1 (4.4)	7.5 (2.1)	6.4 (2.3)	7.3 (2.1)	7.1 (1.7)	7.9 (1.6)	7.8 (2.3)
18-23	6.2 (2.6)	5.6 (3.1)	6.9 (3.2)	7.4 (3.3)	8.6 (3.5)	7.9 (3.4)	9.5 (3.7)	9.8 (3.1)	6.9 (3.3)	7 (3.5)	8.1 (3.1)	8.3 (3.2)	9.6 (3.2)	9.3 (3.3)	10.4 (3.1)	10.8 (3.1)
Paschim Medinipur																
12-17	6.4 (2.1)	5.4 (2.2)	7 (2.3)	6.8 (2.2)	7.5 (2.1)	6.4 (2)	7.8 (1.8)	8.9 (2.2)	8.2 (1.9)	6..5 (4.5)	7.9 (2.1)	6.8 (2.2)	7.7 (2.1)	7.5 (1.8)	8.3 (1.6)	8.2 (2.4)
18-23	6.6 (2.7)	6 (3.2)	7.3 (3.1)	7.8 (3.3)	9 (3.4)	8.3 (3.5)	9.9 (3.8)	10.2 (3.2)	7..3 (3.4)	7.4 (3.6)	8.5 (3.2)	8.7 (3.2)	10 (3.3)	9.7 (3.1)	10.8 (3.2)	11.2 (3.1)
Birbhum																
12-17	6.9 (2.1)	5.9 (2.3)	7.5 (2.2)	7..3 (2.1)	8 (1.9)	6.9 (2.1)	8.3 (1.7)	8.3 (2.3)	8.7 (1.8)	7 (4.6)	8.4 (2.2)	7.3 (2.1)	8.2 (2.2)	8 (1.7)	8.8 (1.5)	8.7 (2.3)

18-23	7.1 (2.8)	6.4 (3.3)	7.8 (3.1)	8.3 (3.2)	9.5 (3.5)	8.8 (3.4)	10.4 (3.7)	10.7 (3.3)	7.8 (3.4)	7.9 (3.7)	9 (3.3)	9.2 (3.1)	10.5 (3.4)	10.2 (3.2)	11.3 (3.1)	11.7 (3.2)
Barddhaman																
12-17	7.6 (2.2)	6.6 (2.9)	8.2 (2.4)	8 (2.2)	8.7 (1.8)	7.6 (2.3)	9 (1.9)	9.1 (2.1)	8.4 (1.9)	7.7 (4.1)	9.1 (2.4)	8 (2.3)	8.9 (2.1)	8.7 (1.6)	9.5 (1.7)	9.4 (2.1)
18-23	7.8 (2.9)	7.1 (3.1)	8.5 (3.2)	9 (3.1)	10.2 (3.4)	9.5 (3.5)	11 (3.8)	11.4 (3.2)	8.7 (3.3)	8.6 (3.8)	9.7 (3.4)	9.9 (3.2)	11.2 (3.4)	10.9 (3.5)	12 (3.2)	12.4 (3.1)

Source: Ministry of Health and Family Welfare, Government of India (2013) for DLHS-4(2012-13) data, within bracket-SD & without bracket-Mean, H-Hindu, M-Muslim, C-Christian O-Others

5.2 Econometric Analysis of the Determinants of Girls Child Marriage among High Prevalence Districts in West Bengal: In this section, I try to find the determinants of girls child marriage among high prevalence district in West Bengal and see whether the reasons behind child marriage has changed over the districts in West Bengal. To do so, I have done logistic regressions for high prevalence districts in Murshidabad, Bankura, Paschim Medinipur , Birbhum and Barddhaman. and tried to estimate the factors which determine the probability of a girl getting married into a family before the age of eighteen. Model-1(Table-7) is a basic model which considers the woman's own education, husband's education, religion, caste and wealth quintile of the household. It has been observed among high prevalence districts in West Bengal, Muslims have a higher probability for the girls getting married before the age of eighteen than Hindu. While the Christians and other religions have a lower probability of child marriage than Hindu. Similarly, the Scheduled Castes have a higher probability of child marriage in Murshidabad, Bankura, Paschim Medinipur, Birbhum and Barddhaman than the general category. It is just the opposite for scheduled Tribes. The OBC are not statistically significant. The effect of husband schooling on primary and Middle is insignificant factor to be associated with child marriage .among all high prevalence district in Murshidabad, Bankura, Paschim Medinipur, Birbhum and Barddhaman. Only husband with higher education is significant. The probability of a girl with primary education getting married is not significantly different than that of an illiterate girl in all high prevalence districts in West Bengal. However, probability of child marriage decreases when the girl has education up to middle or higher school in all cases. Because, higher education level of women have attained higher occupational aspiration rather than getting married earlier. The wealth index is an indirect indicator of socio-economic status of the women and their parents as well as their in-laws families. Our findings revealed that, among all high prevalence districts in West Bengal, wealth quintile does not play any significant role to determine the child marriage in West Bengal. This raises an important question of whether any policies which give cash transfers to households or improve the economic condition of the households would at all have any effect on reducing the extremely high rate of child marriage in all high prevalence districts in West Bengal.

In model-2, I have included in model-1 among all determinants factor except wealth quintile. To check the validity of this result, in model-2 (Table-8), I have substituted the wealth quintile with six important features determining the standard of living of a household. They are whether the family have a BPL card (or not), the type of house is Pucca (or not), the household uses firewood as a cooking fuel (or not),household have a electricity (or not), types of toilet and source of drinking water in the household. Here, among all high prevalence districts in West Bengal, the type of Fuel, structure of house and source of lighting have a highly significant factor (at 1 percent level) to be associated with child marriage than women from using Firewood, Pucca house and electricity in the household. Moreover, among all high prevalence districts in West Bengal, the family with BPL card does not play any significant role in determining the probability of a girls child marriage in West Bengal. This strengthens our conclusion that poverty is not a significant factor for child marriage in Murshidabad, Bankura, Paschim Medinipur, Birbhum and Barddhaman, there may be some other factor responsible for child marriage in high prevalence districts in West Bengal.

In Model-3 (Table-9), I have retained the wealth quintile and brought in controls for village infrastructure. This is to test whether the prevalence of child marriage is higher in backward villages or not. The effect of the girl's education, husband's education, religion, caste and wealth quintile remains unchanged from Model-1. In high prevalence districts of Murshidabad, Bankura, Paschim Medinipur, Birbhum and Barddhaman shows that probability of child marriage falls as the village Infrastructure improved. It is likely that the districts with poor basic Infrastructure, amenities, remoteness and inaccessible village , or very small-size of villages will have a high prevalence of child marriage, because these villages are less likely to received consistent government aid and attention. The same result has been found in Natural Disaster. The Natural Disaster in the village have a significant factor (at 1 percent level) to be associated with child marriage among all high prevalence districts in West Bengal. The village with Mahila Mandal have a significant impact on the probability of child marriage in all districts. The women child development scheme and other welfare scheme, have a insignificant factor to be associated with child marriage among all high prevalence districts in West Bengal, except Birbhum.

Table 7: Determinants of Girls Child Marriage among High Prevalence District in West Bengal

Women age of Marriage less than 18	Model-1											
	Rest of West Bengal	M.E	Murshidabad	M.E	Bankura	M.E	Paschim Medinipur	M.E	Birbhum	M.E	Barddhaman	M.E
Religion (Hindu Reference[2])												
Muslim	0.36***	-0.89	0.35***	0.07	0.48***	-0.11	1.08***	0.24	0.37***	-0.09	0.31***	0.07
Christian	-1.07***	-0.24	-0.49	0.09	-0.41	-0.07	-1.02	-0.05	-0.33	-0.04	-0.29	0.06
other	-0.82***	-0.19	-0.39	0.02	-0.42	-0.03	-1.05	-0.02	-0.31	-0.01	-0.21	0.02
Caste (General Reference)												
Scheduled Caste (SC)	0.20***	0.05	0.69***	0.12	0.46**	0.11	0.09***	0.02	0.42***	-0.10	0.13***	0.03
Scheduled Tribe (ST)	-0.21**	-0.05	-1.48**	0.35	-0.32***	0.07	-0.77*	-0.18	-0.45***	-0.11	-0.29***	0.07
Other Backward Class (OBC)	-0.03	-0.01	0.18	0.03	0.25	0.06	-0.50	-0.12	-0.42	-0.10	0.05	0.01
Locality (Urban Reference)												
Rural	0.30***	0.07	0.21***	0.09	0.22***	0.08	0.51**	0.04	0.22**	-0.05	0.23***	0.13
Husband education(Reference illiterate)												
Husband primary education	0.36	0.08	0.68	0.13	0.03	0.01	0.97	0.23	-13.80	-0.98	0.55	0.12
Husband Middle education	0 .32	0.07	0.71	0.14	0.33	0.08	0.96	0.22	-13.87	-0.99	0.56	0.03
Husband Higher education	-0.13***	-0.03	-0.11***	-0.02	-0.34***	-0.09	-0.66***	0.16	-14.32***	-0.93	-0.14***	0.16
Women education (Reference illiterate)												
Women primary education	-0.08	-0.01	-1.19	-0.25	-0.48	-0.12	-0.08	-0.01	-0.47	-0.11	0.69	0.11
Women Middle education	-0.53***	-0.13	-1.83***	-0.37	-0.81***	-0.20	0.29***	-0.07	-0.89***	-0.21	0.47***	-0.24
Women Higher education	-2.08***	-0.41	-2.46**	-0.54	-2.59***	-0.45	-2.59***	-0.48	-2.40***	-0.49	-0.98***	0.39
Age gap	0.08	0.18	0.08***	0.01	0.01	0.01	0.01	-0.03	0.01	0.01	0.01	0.02
Respondent occupation (No Work Reference)												
Working	-0.13***	-0.16	-0.07**	-0.26	-0.03***	-0.23	-0.04***	-0.19	-0.06***	-0.23	-0.05**	0.13
Wealth Quintile	-0.02	-0.01	-0.23	-0.05	0.09	0.02	-0.14	-0.03	-0.24	-0.05	-0.02	-0.04
Types of Fuel(Reference Firewood)												
Structure of House(Reference Pucca)												

[2]*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*

Household BPL card(Reference APL)												
Source of Lighting(Electricity Reference)												
Types of Toilet(Pit latrine Reference)												
Source of Drinking Water(Reference Public tap)												
Village Infrastructures Quintile												
Natural Disaster												
Principle Occupation in village (Reference Agriculture)												
Village with Mahila Mandal												
Village with self help group												
Women & child development scheme score												
Other welfare scheme score												
Cons	0.13***		0.11***		0.16***		0.19***		0.17***		0.18***	
No of observation	6728		323		358		374		359		367	
Pseudo R^2	0.06		0.05		0.06		0.06		0.05		0.06	

**** 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,

Note: M.E-Marginal Effect, BPL-Below Poverty Line, APL-Above Poverty Line

Table 8: Determinants of Girls Child Marriage among High Prevalence District in West Bengal

Women age of Marriage less than 18	Model-2											
	Rest of West Bengal	M.E	Murshidabad	M.E	Bankura	M.E	Paschim Medinipur	M.E	Birbhum	M.E	Barddhaman	M.E
Religion (Hindu Reference)												
Muslim	0.36***	-0.89	0.35***	0.07	0.48***	0.11	1.08***	0.24	-0.37***	-0.09	0.31***	0.07
Christian	-1.07***	-0.24	-0.49	-0.09	-0.41	-0.07	-1.02	-0.05	-0.33	-0.04	-0.29	-0.06
other	-0.82***	-0.19	0.39	-0.02	-0.42	-0.03	-1.05	-0.02	-0.31	-0.01	-0.21	-0.02
Caste(General Reference)												
Scheduled Caste (SC)	0.20***	0.05	0.69***	0.12	0.46**	0.11	0.09***	0.02	0.42***	-0.10	0.13***	0.03
Scheduled Tribe (ST)	-0.21**	-0.05	-1.48**	0.35	0.32***	0.07	-0.77*	-0.18	-0.45***	-0.11	0.29***	0.07
Other Backward Class (OBC)	-0.03	-0.01	0.18	0.03	0.25	0.06	-0.50	-0.12	-0.42	-0.10	0.05	0.01
Locality (Urban Reference)												
Rural	0.30***	0.07	0.21***	0.09	0.22***	0.08	0.51**	0.04	0.22**	-0.05	0.23***	0.13
Husband education (Reference illiterate)												
Husband primary education	0.36	0.08	0.68	0.13	0.03	0.01	0.97	0.23	-13.80	-0.98	0.55	0.12
Husband Middle education	0 .32	0.07	0.71	0.14	0.33	0.08	0.96	0.22	-13.87	-0.99	0.56	0.03
Husband Higher education	-0.13***	-0.03	-0.11***	-0.02	-0.34***	-0.09	-0.66***	0.16	-14.32***	-0.93	-0.14***	0.16
Women education (Reference illiterate)												
Women primary education	-0.08	-0.01	-1.19	0.25	-0.48	-0.12	-0.08	-0.01	-0.47	-0.11	0.69	0.11
Women Middle education	-0.53***	-0.13	-1.83***	-0.37	-0.81***	-0.20	0.29***	-0.07	-0.89***	-0.21	0.47***	-0.24
Women Higher education	-2.08***	-0.41	-2.46***	-0.54	-2.59***	-0.45	-2.59***	-0.48	-2.40***	-0.49	-0.98***	0.39
Age gap	0.08	0.18	0.08***	0.01	0.01	0.01	0.01	-0.03	0.01	0.01	0.01	0.02
Respondent occupation (No Work Reference)												
Working	-0.13***	-0.16	-0.07**	-0.26	-0.03***	-0.23	-0.04***	-0.19	-0.06**	-0.23	-0.05**	0.13
Wealth Quintile												
Types of Fuel(Reference Firewood)	-0.05***	-0.04	-0.01***	-0.03	-0.01***	-0.01	-0.02***	-0.01	-0.01***	-0.01	-0.06***	-0.01
Structure of House (Reference Pucca)	0.15***	-0.03	0.23***	0.04	0.02***	0.02	0.11***	-0.02	0.32***	-0.07	0.03***	0.02
Household BPL card(Reference APL)	0.04	0.01	0.16	0.03	0.31	-0.07	-0.45	-0.11	-0.28	-0.06	-0.20	-0.05

Source of Lighting (Electricity Reference)	0.07***	0.02	0.06***	-0.16	0.31***	-0.15	0.32***	-0.09	0.39***	0.08	0.32***	0.07
Types of Toilet (Pit latrine Reference)	-0.05	-0.03	-0.01	-0.02	--0.01	-0.01	-0.01	-0.02	-0.01	-0.02	-0.02	-0.01
Source of Drinking Water (Reference Public tap)	0.04	0.02	0.04	-0.01	0.02	-0.01	0.03	-0.01	0.06	-0.01	0.01	0.02
Village Infrastructures Quintile												
Natural Disaster												
Principle Occupation in village(Reference Agriculture)												
Village with Mahila Mandal												
Village with self help group												
Women & child development scheme score												
Other welfare scheme score												
Cons	0.16***		0.19***		0.17***		0.21***		0.23***		0.18***	
No of observation	6528		363		398		395		389		381	
Pseudo R^2	0.04		0.06		0.05		0.05		0.06		0.05	

**** 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,

Note: M.E-Marginal Effect, , BPL-Below Poverty Line, APL-Above Poverty Line

Table 9: Determinants of Girls Child Marriage among High Prevalence District in West Bengal

Women age of Marriage less than 18	Model-3											
	Rest of West Bengal	M.E	Murshidabad	M.E	Bankura	M.E	Paschim Medinipur	M.E	Birbhum	M.E	Barddhaman	M.E
Religion (Hindu Reference)												
Muslim	0.36***	-0.89	0.35***	0.07	0.48***	0.11	1.08***	0.24	-0.37***	-0.09	0.31***	0.07
Christian	-1.07***	-0.24	-0.49	-0.09	-0.41	-0.07	-1.02	-0.05	-0.33	-0.04	-0.29	-0.06
other	-0.82***	-0.19	0.39	-0.02	-0.42	-0.03	-1.05	-0.02	-0.31	-0.01	-0.21	-0.02
Caste (General Reference)												
Scheduled Caste (SC)	0.20***	0.05	0.69***	0.12	0.46**	0.11	0.09***	0.02	0.42***	-0.10	0.13***	0.03
Scheduled Tribe (ST)	-0.21**	-0.05	-1.48**	0.35	0.32***	0.07	-0.77*	-0.18	-0.45***	-0.11	0.29***	0.07
Other Backward Class (OBC)	-0.03	-0.01	0.18	0.03	0.25	0.06	-0.50	-0.12	-0.42	-0.10	0.05	0.01
Locality (Urban Reference)												
Rural	0.30***	0.07	0.21***	0.09	0.22***	0.08	0.51**	0.04	0.22**	-0.05	0.23***	0.13
Husband education (Reference illiterate)												
Husband primary education	0.36	0.08	0.68	0.13	0.03	0.01	0.97	0.23	-13.80	-0.98	0.55	0.12
Husband Middle education	0 .32	0.07	0.71	0.14	0.33	0.08	0.96	0.22	-13.87	-0.99	0.56	0.03
Husband Higher education	-0.13***	-0.03	-0.11***	-0.02	-0.34**	-0.09	-0.66***	0.16	-14.32***	-0.93	-0.14***	0.16
Women education (Reference illiterate)												
Women primary education	-0.08	-0.01	-1.19	0.25	-0.48	-0.12	-0.08	-0.01	-0.47	-0.11	0.69	0.11
Women Middle education	-0.53***	-0.13	-1.83***	-0.37	-0.81***	-0.20	0.29***	-0.07	-0.89***	-0.21	0.47***	-0.24
Women Higher education	-2.08***	-0.41	-2.46***	-0.54	-2.59***	-0.45	-2.59***	-0.48	-2.40***	-0.49	-0.98***	0.39
Age gap	0.08	0.18	0.08***	0.01	0.01	0.01	0.01	-0.03	0.01	0.01	0.01	0.02
Respondent occupation (No Work Reference)												
Working	-0.13***	-0.16	-0.07***	-0.26	-0.03***	-0.23	-0.04**	-0.19	-0.06**	-0.23	-0.05***	0.13
Wealth Quintile	-0.02	-0.01	-0.23	-0.05	0.09	0.02	-0.14	-0.03	-0.24	-0.05	-0.02	-0.04
Types of Fuel(Reference Firewood)												
Structure of House (Reference Pucca)												
Household BPL card (Reference APL)												

Source of Lighting (Electricity Reference)												
Types of Toilet (Pit latrine Reference)												
Source of Drinking Water (Reference Public tap)												
Village Infrastructures Quintile	-0.01	-0.01	-0.17***	-0.03	-0.21***	0.05	-0.09***	0.20	-0.21***	-0.05	-0.02***	0.03
Natural Disaster	0.02***	-0.01	0.18***	-0.02	0.63***	0.15	0.34***	-0.08	0.43***	0.10	0.36***	-0.08
Principle Occupation in village (Reference Agriculture)	0.19	0.03	0.12	-0.01	0.44	-0.02	0.06	-0.01	-0.64	-0.07	0.43	-0.02
Village with Mahila Mandal	-0.03***	-0.01	-1.26***	0.20	-0.20***	-0.05	-0.59***	-0.14	-1.74***	0.06	-0.18***	0.02
Village with self help group	0.17*	0.02	1.23	0.16	-0.24	-0.06	0.07	0.01	0.40	0.07	0.28	-0.05
Women & child development scheme score	-0.03	-0.01	-0.90	-0.18	-0.31	0.08	-0.56	-0.14	2.48**	-0.04	0.09	0.04
Other welfare scheme score	-0.08	0.02	-3.64	-0.76	-1.32	-0.32	0.01	0.01	3.60**	0.10	-0.23	0.06
Cons	0.21***		0.18***		0.21***		0.23***		0.26***		0.17***	
No of observation	6428		373		408		405		398		391	
Pseudo R^2	0.05		0.05		0.06		0.05		0.05		0.06	

**** 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,

Note: M.E-Marginal Effect, BPL-Below Poverty Line, APL-Above Poverty Line

6. Conclusion, policy implications, and future research study

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 socio-economic development, modernization, and income distribution at the districts level in West Bengal. 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 15-17 years continue to occur quite common in a number of high prevalence districts in Murshidabad, Bankura, Paschim Medinipur, Birbhum and Barddhaman. Here, Murshidabad have a highest prevalence of child marriage in term of below 15 and 15-17 age group than the all other districts in West Bengal. Moreover, the Mean age at marriage among West Bengal women is lower than the other state and the percentage of child marriage among women is higher in West Bengal than the all other state in India. So, Govt. has to take some policy to increase the level of demographic and socio–economic development at the districts as well as the state level in West Bengal. In the above tables, I have shown that, the Individual and household socio-economic characteristics, such as place of residence, education, religion and caste are important in determining factor for girls child marriage among high prevalence districts in West Bengal. However, wealth quintile and household with BPL card have a insignificant factor to be associated with child marriage among high prevalence districts in West Bengal. As the present study establishes, there is a greater tendency towards child marriage among rural women, irrespective of education and wealth differences between rural and urban women in Murshidabad, Bankura, Paschim Medinipur, Birbhum and Barddhaman, which suggests that marriage practices in rural areas are influenced strongly by traditional values. In the above study finds that the girls with secondary and higher education had much lower chances of early marriage compared to illiterate ones. Thus, education and early marriage are closely linked. I observe that household wealth quintile (taken as proxy for household income) did not affect the chances of early marriage among high prevalence districts in West Bengal. This negates the perception that poverty is the driving force behind child marriage in West Bengal and therefore special targeted scheme would be needed to tackle this problem. In this context, the present conditional cash transfer scheme of the Govt. of West Bengal, specially, the Kanyashree Prakalpa (girl in secondary education) could be a good instrument to reduce the child marriage among high prevalence districts in West Bengal.

According to DLHS-4 unit level data, I investigate the household and demographic characteristics in determining the probability of girl's child marriage among high prevalence districts in West Bengal. However, these characteristics reflects 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 a married woman's parental household is 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 in our mind. Another limitation of this study, the education, occupation, and income of the respondent's parents was not included in the analysis because DLHS-4 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 girl child marriage in West Bengal. Our future research analysis would surely focus on this.

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