



Gender Inequality in Education: A Case Study of West Bengal, India

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Abstract:

Education is a key factor for women's empowerment. Because of the prevalence of masculine ideals, women often encounter obstacles in achieving the goal of equal opportunity. In India, gender disparities in education are still an important issue. The main aims of this study are, first to analyze the spatial variation of gender disparities in education in West Bengal and then to determine the current educational status of women in terms of enrolment and drop rate in West Bengal. This study is based on secondary data. All data has been collected from various sources of Govt. of India and West Bengal. This study used the simple statistical method and cartographic technique for the data analysis. This study found that in primary education, there gender gap in enrolment is low. In the case of upper primary education, the gender gap is low as well as female enrolment rate is higher than boys in almost all districts of West Bengal. On the other hand, in the case of secondary and higher secondary examination in West Bengal, here female education has been improved rapidly. This study will help government officials and policymakers to take various plans for female education development.

Keywords: *Gender Inequality, Enrolment Rate, Drop Out Rate, Primary Education, Universal Elementary Education (UEE), Sarva Shiksha Abhiyan (SSA)*

1. Introduction

Gender inequalities in education are common in almost every developing nation. According to the World Bank (2001), gender inequality in education has risen significantly in developing countries in recent decades. Gender disparity is now recognized as a key concept for evaluating poverty and reduction due to its negative influence on a variety of development goals. Poverty influences educational access in numerous ways.

In the post-World War II, era of post-modernization, gender problems and issues were among the topics that policymakers and social scientists were interested in. Disparities between men and women in various social, economic, and political domains are referred to as gender inequality. This issue is commonly referred to as gender bias. The educational system in which we currently live is marked by persistent gender disparities. Despite massively improved access to all levels of education, higher aspirations for political engagement, and massive growth in knowledge economies, 77 million children, 57% of whom are girls, remain out of school (UNESCO 2006). A total of 781 million persons are illiterate, including women contributing 64% of the total.

Gender disparities in education remain a prominent concern in India. Dr. Amartya Sen emphasized the importance of women's contributions to national development. Women's economic empowerment, literacy, education, and property rights are crucial for development and growth (Jafri 2007). Literacy should be viewed as a basic building element in the development of every civilization (Katiyar, 2016). Access to education can be considered an effective tool in alleviating poverty (Tilak, 1989). Gender disparity in education has a negative impact on society and must be addressed through universal primary

education (Bhat et al; 2011). An educated woman can contribute her entire potential to the country's growth (Sing, 2016). To reduce the gender gap, proper chances for education are required in areas that need improvement (Hira and Das, 2018). The emphasis on effective education is important for achieving sustainable development goals and minimizing biases (Pacalda et al, 2020).

Many earlier studies focused on these problems. Slam and Mustaqim (2015) examined the spatial pattern of the overall literacy rates and gender disparities in literacy rates in India and discovered that North Eastern states, as well as Southern states, perform significantly better in case of male and female literacy disparities, whereas Middle Western India continues to suffer from gender gaps in literacy. Kumar et al. (2016) tried to determine the gender gap in literacy at the district level in different Indian states and determined that Kerala ranks first, while Bihar ranks last. Sarkar and Mondal (2020) attempted to evaluate the educational difference between men and women in Murshidabad district, West Bengal. According to the investigation, female literacy rates are quite high in the center and southern blocks, including Berhampore and Hariharpara.

According to the 2011 Indian census, the literacy rate for women is 65.46%, while for men it is 82.14. Girls register in school at a much lower rate than boys, and most drop out. The primary challenges to female education in India are a lack of schools, a lack of female teachers, and gender discrimination in the curriculum, with a large number of female characters represented as weak and helpless in comparison to powerful, curious, and clever males with high-status employment. Gender inequality has taken on new dimensions in West Bengal. Women face the most severe conditions in West Bengal. In West Bengal, the male literacy rate is 81.69%, while the female literacy rate is 66.57%. Women's education in rural areas is growing extremely slowly. This suggests that a high proportion of the nation's women are uneducated. The study's main goals are first, to analyze the spatial variation of gender disparities from primary to higher secondary education in West Bengal and to determine the current educational status of women in West Bengal.

2. Materials and Method

2.1 Study Area

West Bengal is located between 85 degrees 50 minutes and 89 degrees 50 minutes east longitude, as well as 21 degrees 25 minutes and 27 degrees 13 minutes north latitude. Its borders are as follows: the nation of Bhutan and the state of Sikkim border it to the north; the states of Jharkhand and Bihar border it to the west; the Bay of Bengal borders it to the east; the state of Bangladesh borders it to the east; the state of Odisha borders it to the southwest; and finally, the nation of Nepal borders it to the northwest. In general, West Bengal can be split into two natural geographical parts: the sub-Himalayan and Himalayan regions in the north, and the Gangetic Plain in the south. Rich alluvial soil that has been deposited on the Gangetic Plain by the Ganges (Ganga) River and its tributaries and distributaries. The climate of West Bengal is changeable, with humid subtropical in the north and tropical wet-dry in the south of the state. West Bengal is India's 4th largest populous state, with 91347736 people (7.55% of the nation's overall population). The literacy rate is 77.08%, which exceeds the national rate of 74.04%. Male literacy is 77.02%, whereas female literacy is 59.61%. In 2013, 19.98% of the population lived below the poverty level. The gender ratio is 947 females to 1000 males.

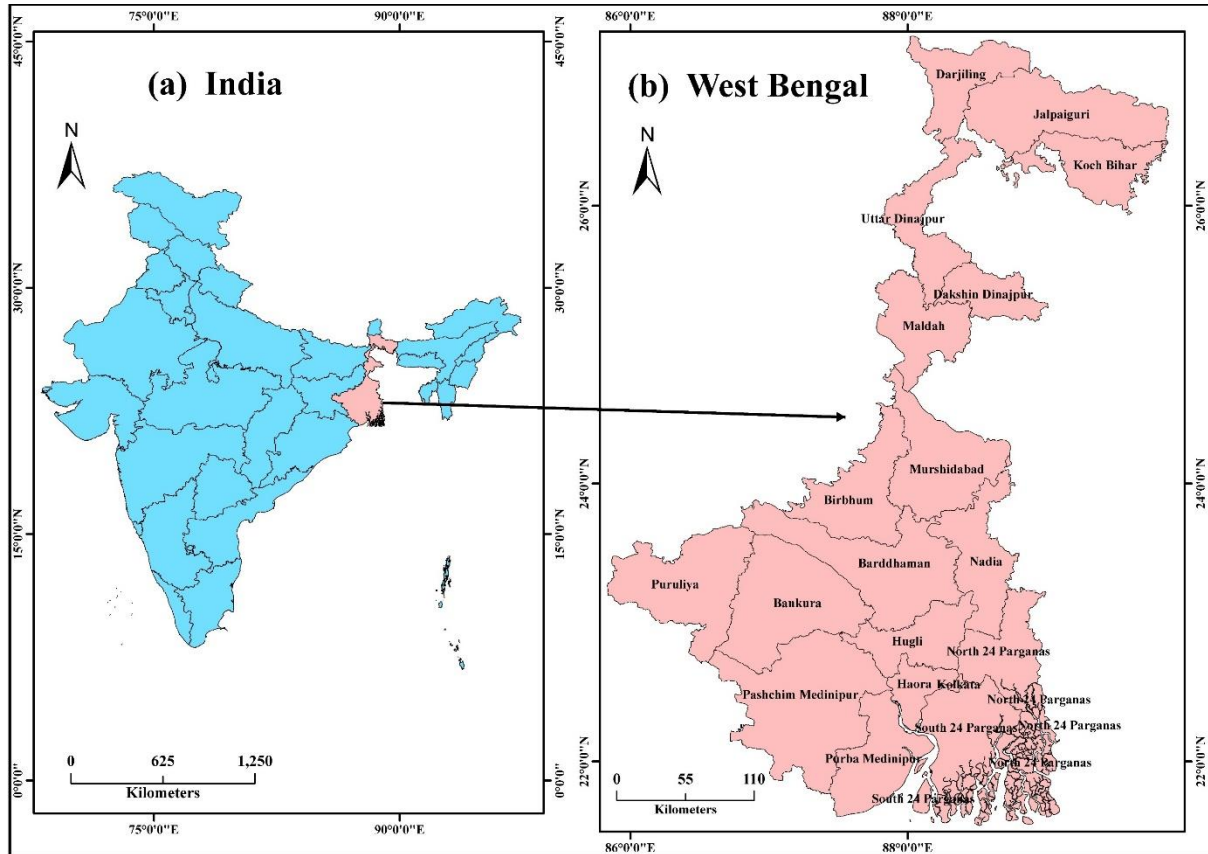


Fig. 1. Location of the study area, (a) India, (b) West Bengal.

2.2 Data

The database for the present study has been collected from the following secondary sources:

Table 1: Information about the database

Data Type	Source
Enrolment in Primary, Upper Primary, Secondary and Higher Secondary education	<ul style="list-style-type: none"> •Annual Report 2008-2009 of Sarva Shiksha Abhiyan, Govt of West Bengal, •Department of School Education, Govt of West Bengal. •District Information System for Education-2010-11, Govt Of India, •Ministry of Human Resource Development, Govt Of India
Drop-out rate in Primary, Upper Primary, and secondary education	<ul style="list-style-type: none"> •Department of School Education, Govt of West Bengal. •Ministry of Human Resource Development, Govt Of India.
Appeared and passed student in secondary and higher secondary examination	<ul style="list-style-type: none"> •Ministry of Human Resource Development, Govt of India.

2.3 Method

This study used simple statistical and cartographic techniques to illustrate the facts and finding the result

3. Result and Discussion

3.1 Gender Gap in Primary and Upper Primary Education in West Bengal (2008-2016)

In India, the Constitution guarantees free and compulsory education to all children up to the age of fourteen. The Indian government has launched a variety of projects aimed at achieving Universal Elementary Education (UEE), the most recent of which is the Sarva Shiksha Abhiyan (SSA). It seeks to

provide universal primary education by 2007 and by 2010. Universalization consists of four components: universal access, universal enrollment, universal retention, and universal educational quality. The Indian government's flagship Sarva Shiksha Abhiyan (SSA) program, began in 2001.

3.1.1 Spatial and Temporal Variation of Gender Gap in Primary Enrolment (2008-2016)

Table 2: Boys-girl enrolment in Primary Education (2008 & 2016)

District	Primary Enrolment (2008)				Primary Enrolment (2016)			
	Boys (%)	Girl (%)	Gap (%)	Gd Index	Boys (%)	Girl (%)	Gap (%)	Gd Index
Darjeeling	49.61	50.39	0.78	0.01	49.87	50.13	0.26	0
Jalpaiguri	50.61	49.39	1.22	0.02	50.89	49.11	1.78	0.03
Koach Bihar	50.87	49.13	1.74	0.03	51.38	48.62	2.76	0.03
Uttar Dinaj Pur	50.73	49.27	1.46	0.02	50.57	49.43	0.84	0.01
Dakshin Dinaj Pur	50.74	49.26	1.48	0.01	53.13	46.87	6.26	0.1
Maldah	49.1	50.9	1.8	0.03	50.84	49.16	1.68	0.02
Murshidabad	50.65	49.35	1.3	0.02	51.61	48.39	3.22	0.05
Birbhum	51.17	48.83	2.34	0.04	51.78	48.22	3.56	0.06
Barddhaman	50.82	49.18	1.64	0.03	51.14	48.86	2.28	0.03
Nadia	51.09	48.91	2.18	0.04	51.74	48.26	3.48	0.06
North 24 Parganas	50.25	49.75	0.5	0	52	48	4	0.07
Hugli	50.48	49.52	0.96	0.01	51.62	48.38	3.24	0.06
Bankura	50.98	49.02	1.96	0.03	51.96	48.04	3.92	0.07
Puruliya	50.06	49.94	0.12	0	50.88	49.12	1.76	0.03
Haora	50.33	49.67	0.66	0.01	51.16	48.84	2.32	0.04
Kolkata	49.72	50.28	0.56	0	49.83	50.17	0.34	0
South 24 Parganas	49.81	50.19	0.38	0	51.02	48.98	2.04	0.03
East Medini Pur	50.34	49.66	0.68	0.01	48.22	51.78	3.56	0.06
West Medini Pur	50.7	49.3	1.4	0.02	51.78	48.22	3.56	0.06

Source: Department of School Education, Govt of West Bengal.

In West Bengal, we have seen that number of boys and girls in primary enrolment continuously increased from 2001 to 2011. Many educational schemes play an important role in increasing the number of enrolments in primary education throughout West Bengal. In 2008, this time gender gap in primary enrolment was very low, varying from 0.38% to 2.38%. In some districts of West Bengal where girl enrolment is higher than boy enrolment, like Kolkata (50.28%), Maldah (50.9%), Darjeeling (50.39%), South 24 Pargana (50.19%). At this time overall gender gap in primary enrolment was very low in almost all districts of West Bengal.

But, when, we saw the data of primary enrolment in 2016, there we found a different type of image of the gender gap in primary enrolment from the data of 2008. Here, the gender gap is higher than in previous data (2008) in almost all districts of West Bengal, varying from 0.26% to 6.26%. There, the gender disparity index was also higher than in 2008. Some districts have shown a high gender gap in primary enrolment, like South Dinajpur (6.26%), Bankura (3.92%), Birbhum (3.56%), East and West Medinipur (3.56%). We have found a low gender gap in Kolkata (0.34%), and Darjeeling (0.26%).

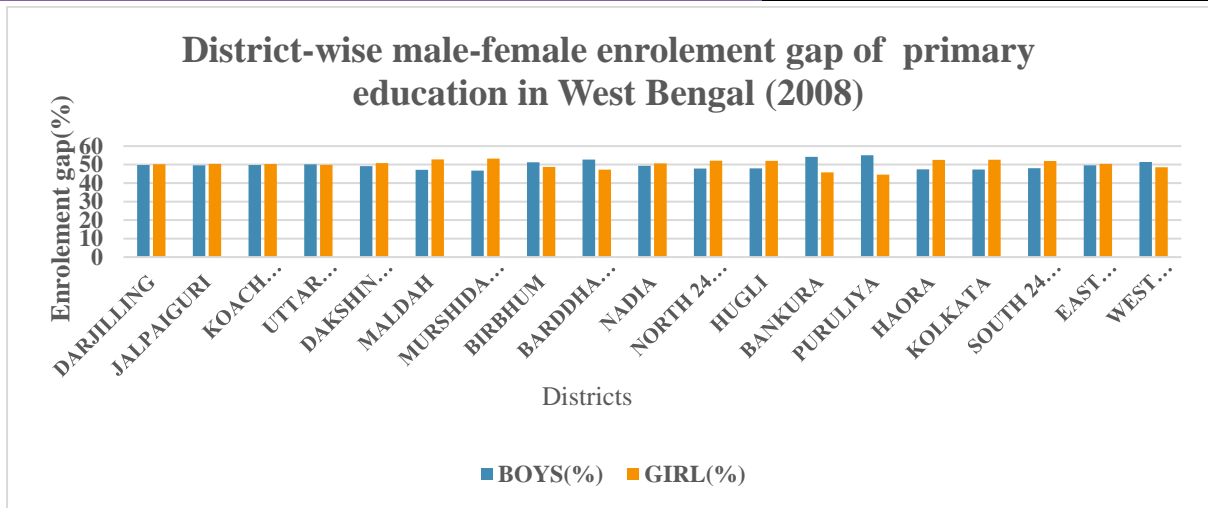


Fig. 2. District wise gender gap of enrolment in Primary education (2008)

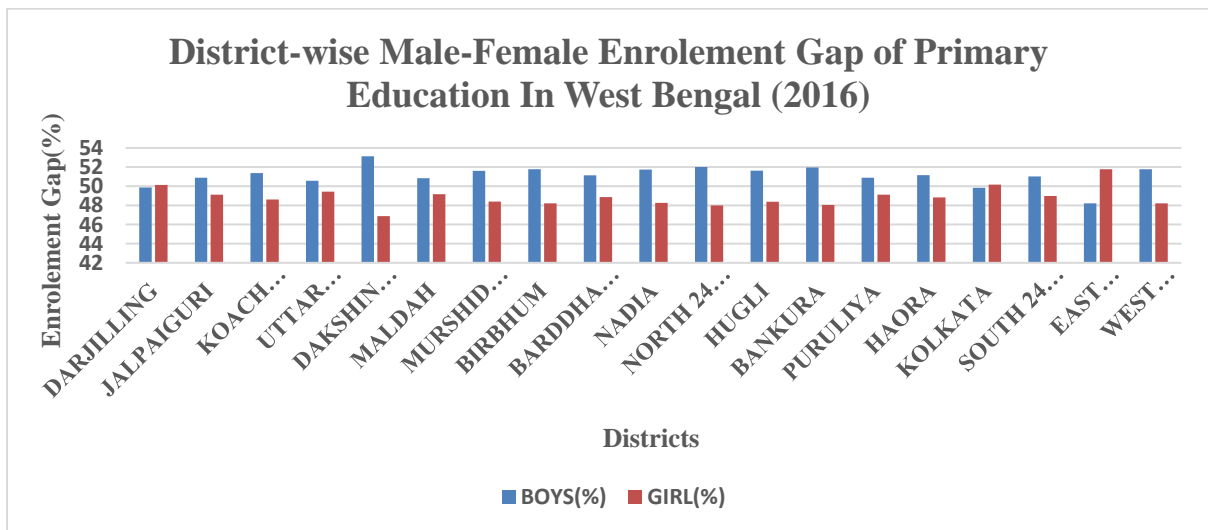


Fig. 3. District wise gender gap of enrolment in Primary education (2016)

There, we have found a cause of the high gender gap in primary enrolment in 2016 from 2008. This is the child sex ratio which is continuously declining from 2001 to 2011 among all districts of West Bengal without Kolkata and Darjeeling. When no of girls per 1000 boys is low, therefore no of girls enrolment is lower than boys enrolment. The child sex ratio in West Bengal has fallen by 950 in 2011 from 960 in 2001. The main causes of the declining child sex ratio are female foeticide, son preferences, and gender inequality which suppose male dominant social structure.

3.1.2 Spatial and Temporal Variation of Gender Gap in Upper Primary Enrolment (2008-2016)

Table. 3: Boys- girls enrolment in Upper Primary education (2008 &2016)

District	Upper Primary Enrolment (2008)			Upper Primary Enrolment (2016)		
	Boys (%)	Girl (%)	Gap (%)	Boys (%)	Girl (%)	Gap (%)
Darjeeling	49.75	50.25	0.5	49.67	50.33	0.66
Jalpaiguri	49.62	50.38	0.76	48.8	51.2	2.4
Koach Bihar	49.74	50.26	0.52	48.83	51.17	2.34
Uttar Dinaj Pur	50.15	49.85	0.3	44.35	55.65	11.3
Dakshin Dinaj Pur	49.2	50.8	1.6	50.71	49.29	1.42
Maldah	47.21	52.79	5.58	45.19	54.81	9.62
Murshidabad	46.75	53.25	6.5	46.02	53.98	7.36
Birbhum	51.25	48.75	2.5	49.06	50.94	1.88

Barddhaman	52.71	47.29	5.42	48.89	51.11	2.22
Nadia	49.36	50.64	1.28	49.85	50.15	0.3
North 24 Parganas	47.85	52.15	4.3	48.97	51.03	1.06
Hugli	47.98	52.02	4.04	48.89	51.11	2.22
Bankura	54.22	45.78	8.44	50.7	49.3	1.4
Puruliya	55.09	44.61	10.48	50.23	49.77	0.46
Haora	47.45	52.55	4.9	47.85	52.15	4.9
Kolkata	47.38	52.62	5.24	47.71	52.29	4.58
South 24 Parganas	48.04	51.96	3.92	47.06	52.94	5.88
East Medini Pur	49.62	50.38	0.76	49.51	50.49	0.98
West Medini Pur	51.42	48.58	2.84	50.38	49.62	0.76

Source: Department of School Education, Govt of West Bengal

Table 3 represents the gender composition of upper primary enrolment in West Bengal from 2008 to 2016. There, we observed a very good image of improvement of girls' enrolment in all districts of West Bengal without Purulia, Bankura, and Burdwan in both year 2008 and 2016. Almost all districts of West Bengal represent the high girls' enrolment from the boy's enrolment in Upper Primary. In 2008, this time gender gap varied from 0.3% to 10.48%, and girl enrolment of more than 50 % was shown in all districts of West Bengal without Purulia (44.61%), Bankura (45.78%), Burdwan (47.29%), Uttar Dinajpur (49.85%), Birbhum, West Medinipur (48.58%).

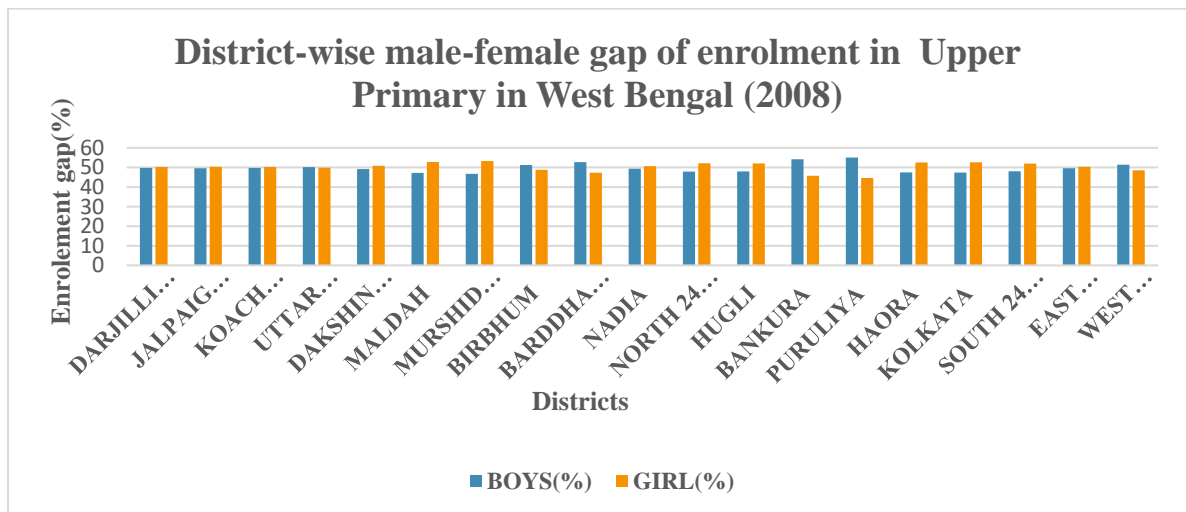


Fig. 4. District wise gender gap of enrolment in Upper Primary education (2008)

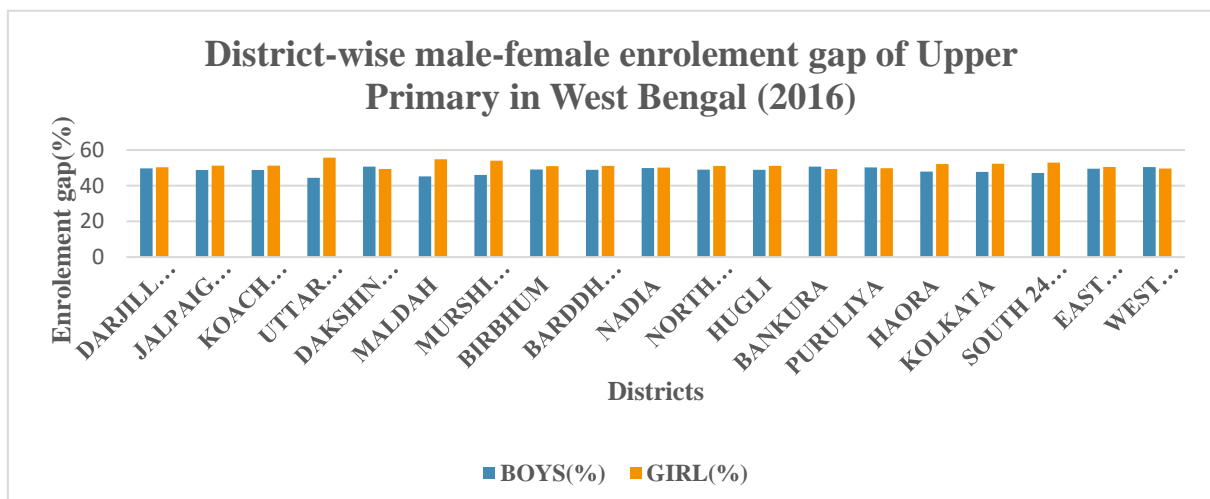


Fig. 5. District wise gender gap of enrolment in Upper Primary education (2016)

In 2016, here girl enrolment rate has been further improved from 2008. The gender gap in upper primary enrolment varied from 0.3% to 11.3% in 2016. It is the reverse position from the Primary Enrolment. Here, boys' enrolment rate is lower than girls' enrolment in Upper Primary Education. We found very high Girls' enrolment rates in Uttar Dinajpur district (55.65%), Maldah (54.81%), Murshidabad (53.98%), South 24 Pargana (52.94%). We can tell that female education has been improved at the Upper Primary level in West Bengal. Central and State government schemes play a very important role in developing girls' education.

3.2 Gender Gap in Appeared and Passed Students of Secondary Education (2005 & 2016)

Table 4: Gender gap in appeared and passed students in Secondary examination (2005)

Board	Appeared			Passed		
	Boy (%)	Girl (%)	Gap (%)	Boy (%)	Girl (%)	Gap (%)
WBBSE	55.69	44.31	11.38	59.01	40.99	18.02
WBBME	44.05	44.05	55.95	47.77	52.23	4.46

Source: Ministry of Human Resource Development, Govt of India

Table 5: Gender gap in appeared and passed students in Secondary examination (2016)

Name of the Board	Appeared			Passed		
	Boy (%)	Girl (%)	Gap (%)	Boy (%)	Girl (%)	Gap (%)
WBBSE	45.41	54.59	9.18	47.65	52.35	4.7
WBBME	28.96	71.04	42.08	31.36	68.64	37.28

Source: Ministry of Human Resource Development, Govt of India

Tables 4 and 5 show the gender gap between and passed students in the Secondary examination of two boards in West Bengal between 2005 and 2016. In West Bengal, one board is the West Bengal Board of Secondary Examination (WBBSE), and another is the West Bengal Board of Madrasa Education (WBBME).

In 2005, the WBBSE represented an 11.38% gender gap in appeared students and an 18.02% gender gap in passed students in secondary examination in West Bengal. But another board, WBBME represents a very unstable type of gender gap in both appeared and passed students in secondary examination in West Bengal in 2005. In this Board, we have observed a 55.95% and 4.46% gender gap in appeared and passed students in secondary examination in West Bengal. Here, we have observed that girl's participation in appeared and passed students is lower than boys' participation. In 2016, we found a different type of picture of the gender gap in appearing and passing students in the Secondary examination from 2005. In WBBSE, where girls appeared rate in secondary examination is 54.59 %, and the pass rate is 52.35%. another board, WBBME, where girls appearing in the secondary examination is 71.04% and the passed rate is 68.48%. At last, we can tell that female education have high degree improved since 2005 at the Secondary level of education. There, some educational schemes of Central and State Govt play important roles in developing girls' education.

3.3 The gender gap in Appeared and Passed Students of higher secondary education (2005-2016)

Table 6: Gender composition of appeared and passed students in Higher Secondary Examination (2005)

Board	Appeared			Passed		
	Boy (%)	Girl (%)	Gap (%)	Boy (%)	Girl (%)	Gap (%)
WBCHSE	57.77	42.23	15.54	59.29	40.71	18.58

Source: Ministry of Human Resource Development, Govt Of India

Table 7: Gender composition of appeared and passed students in Higher Secondary Examination (2005)

Board	Appeared			Passed		
	Boy (%)	Girl (%)	Gap (%)	Boy (%)	Girl (%)	Gap (%)
WBCHSE	45.41	54.59	9.18	47.65	52.35	4.7

Source: Ministry of Human Resource Development, Govt of India

Above the **table 6 and 7**, this study found the improvement of the gender gap in higher secondary education from 2005 to 2006. There are two dimensions, appeared and passed student. Here, we have found an important change, a huge number of student increase in 2016 from 2005. And gender gap reduced from 2005 to 2016. We have found a lot of change in higher secondary examinations in 2016. In 2005, the gender gap was very high in both appeared and passed student categories. In the appearance category boys' appearance rate is higher than the girls' appearance rate, boys, and girls' appearance rates are 57.77% and 42.23%. The gender gap is 15.54%. We have found a high gender gap in passed students where boys and girls passed rate is 59.29% and 40.71% respectively.

In 2016, we found a very good image of gender composition in Higher Education from 2005. There, the difference between boys' and girls' rates in the number and passed students is very low. In the appeared category, the girl rate is higher than the boys' rate and boys' and girls' rates are very close in the passed student category. Even gender gap was also very low in both categories of students in Higher Secondary education in 2016.

This study has analyzed the gender composition of several board of Higher Secondary Examination in West Bengal. Here, we have observed a low gender gap in both appeared and passed students in the West Bengal Council of Higher Secondary Education (WBCHSE) and a high gender gap has been founded in the West Bengal Board of Madrasa Education, where boys rate in appeared and passed student is higher than girls' rate. Therefore, we can tell that the improvement of female education in the Muslim community is lower than in other communities of West Bengal.

3.4 Gender-wise Drop-Out Rate in Primary, Upper Primary and Secondary Education in West Bengal (2016)

Table 8: Gender-wise dropout rate in West Bengal (2016)

Category	Classes I-V			Classes I-VIII			Classes I-X		
	Boy (%)	Girl (%)	Gap (%)	Boy (%)	Girl (%)	Gap (%)	Boy (%)	Girl (%)	Gap (%)
ALL	27.6	20.8	6.8	46.2	37.8	8.4	62.6	58.5	4.1
SC	19.4	17.3	2.1	39.4	35.7	3.7	64.2	65.6	1.4
ST	38.3	36.8	1.5	62.5	59.7	2.8	73.3	74.9	1.6

Source: Ministry of Human Resource Development, Govt of India

Table 8: shows the gender-wise dropout rate in Primary and Upper primary education. In the case of primary education, gender-wise dropout rate is very high in overall condition (6.8%) compared to SC (2.1%) and ST (1.5%). Another side, in the case of upper primary education, the gender gap is very high in overall condition (8.4%) compared to SC (3.7%) and ST (2.8%). Poverty is one of the obstacles to literacy and educational growth. Poverty also forces families to engage their children in employment instead of sending them to school. As a result, without a poverty reduction program, no literacy mission can be successful. In this aspect, the policy execution by the West Bengal government is satisfactory. Recently, the "Kannya Sree" has been tremendously successful in reducing the drop of females from school. It should not be entirely the responsibility of the government, but rather of all segments of society.

4. Conclusion

Education not only produces among the masses but also has a significant impact on the social change of society and the quality of life. As a result, all nations are working to promote gender equality at all educational levels by offering girls extra incentives to pursue their education, such as scholarships and free access to coaching. This study tries to measure the gender disparity in education from primary to higher secondary. This study found that in primary education, there gender gap in enrolment is low. But it is higher than 2001. There, the gender gap in primary education is directly related to the declining trend of the child-sex ratio in recent times. In the case of upper primary education, the gender gap is low as well as female enrolment rate is higher than boys in almost all districts of West Bengal. On the other hand, in the case of secondary and higher secondary examinations in West Bengal, here female education has been improved rapidly. At present, females appear and pass rate of Secondary and Higher Secondary examinations (2016) are higher than boys'. The study will generate knowledge in the field of education and gender studies. The knowledge will be useful in sensitizing and training stakeholders in gender promotion, education provision, and donors to an objective approach to issues of gender parity.

Declaration of conflict of interest

The authors declare that there is no conflict of interest.

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