

Research Article

Gender Inequality in School Education

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ABSTRACT

The access to education is an important factor that determines economic security and decision making especially for women. In India, the literacy rate has increased over the period of time, however, the gender inequality still exists in all levels of education. The results of the study revealed that the higher gender inequality was registered at secondary and higher secondary levels of education. The results of the data indicate that the highest number of females in the age group 15–19 years at secondary and higher secondary levels reported that they dropped out school due to 'education not considered necessary, has to supplement household income and has to attend domestic chores'. It indicates that household income is the major factor that impacts major on school drop-out rate particularly in the case of females. The correlation results also showed the per capita income has a significant relation with gender parity.

Keywords: Gender parity, Literacy, Secondary and higher secondary education, Male–female gap, Per capita income, Correlation

INTRODUCTION

The access to education is recognized as one of the important factors that enhance human capability and decision making. Education is the gateway towards economic security, and it determines the status of women in a society. India is a land of billion plus population and has less than one-third of the world's illiterate people aged 15 years and above. The goal of universal education as set out in the Indian Constitution seems elusive even after five decades. Despite the government's apparent failure in meeting this goal, the 2011 Census data reveals that there has been a phenomenal rise in literacy and enrollment rates. However, there is still a

persistent gap between male and female access to education. As per the Census data, enrollment rate has improved tremendously at primary level, but the high drop-out rates have been registered at secondary and higher secondary levels, particularly in the case of girls. It is believed that access to secondary and higher secondary education is the stepping stone to reduce economic and social inequalities. The completion of secondary and higher secondary education is recognised as the major achievement of individual earnings because the student's performance in this stage will determine further the fruitful gains they obtain in higher education and in employment. Against this background, the aim of this study is to seek answers to questions such as—What is the status of gender equality in school education. What are the causes of gender inequality in education? What are the implications of such gender inequalities with wellbeing? This study analyses the status of female education and gender differences in educational attainment for both rural and urban areas. This study sketches out the explanations for gender differences at different level of education in the decile group of monthly per capita expenditure in order to understand the association between household income and gender disparity. This study also estimates the linear correlation between per capita income and gender parity. The rest of the paper as follows. Section 1 details the introduction, data used, and discusses the methods. The results are presented in Section 2 along with a discussion on some of the issues. Section 3 looks out the causality between per capita income and gender parity. The paper concludes with Section 4.

OBJECTIVES OF THE STUDY

The main objectives of the study are:

- To analyse the literacy gap between male and females;
- To estimate the gender parity in literacy across both in rural and urban areas;
- To explain how economic background variables effect children's schooling;
- To explore the issues of gender disparity in education and trace the major causes for drop-out.

Sources of Data and Methodology

The required data on various indicators of education was collected from the Census of India, National Sample Survey Organisation (NSSO), and National University of Educational Planning and Administration (NUEPA). In this study, gender disparity is measured by calculating the Gender Parity Index (GPI) in literacy rate. GPI measures the ratio of the female to male literacy.

GPI= Value of indicator for female/Value of indicator for male

If GPI value ranges between 0.97 and 1.03 - parity achieved

GPI>1.03 - female's advantage

GPI<0.97 - male's advantage

The linear regression with scatter plot also employed for this study to examine the relation between income and gender disparity in education. The linear correlation coefficient (R) and coefficient of determination (R^2) are calculated to replicate the linear regression between variables. The linear correlation coefficient measures the strength of a relation between two variables. The R value ranges between -1 and +1. If R value is close to +1, that indicates that two variables have strong correlation. The coefficient of determination explains how much of the variability in the dependent variable can be explained by the fact that they are related to the independent variable. The R^2 ranges between 0 and 1. The R^2 value close to 1 indicates the excellent linear reliability. Using the per capita income as independent variable and GPI as dependent variable, a simple linear regression analysis has estimated to examine the association between income and gender disparity.

GENDER DISPARITY IN EDUCATION

In India, literacy rate is found to be higher in the urban areas than in the rural areas, and higher among males than the females. The 2011 Census figures (Census of India, 2011) show the overall literacy was 74.04 per cent, and it was 68.91 per cent in the rural areas and 84.98 per cent in the urban areas. About 78.57 per cent of rural males and 58.75 per cent of rural females were literates. The literacy rates among their urban counterparts were much higher at 89.67 per cent and 79.92 per cent, respectively. But, the estimates show that there is a huge gap between male and female literacy. Table 1 shows the male–female gap in literacy is higher in rural areas in comparison to urban areas. However, there is a declining trend in both rural and urban areas. The declining rate is faster in urban areas compared to rural areas. The male–female gap in literacy is reported to be declined about 6.67 percentage points in rural and 17.27 percentage points in urban areas. If we can look at the literacy levels of male and female in rural areas, it gives intellectual results. In rural areas, female literacy rate has increased by 47.75 percentage points as against 41.08 percentage points of male literacy. At the same time, male literacy in urban areas increased by 18.90 percentage points as against 36.17 percentage points of female literacy. In spite of the favourable signs in female literacy growth, the analysis clearly reveals that female literacy rate is lower than the –male literacy rate in both rural and urban areas. A cursory glance of these results seems to show that the literacy rates have improved higher for female, but this is not enough to study how the gender disparity still exists in school education.

Gender Inequality in School Education

Table 1: Variations in Male and Female Literacy

Census Years	Rural			Urban		
	Male literacy	Female literacy	Male–Female gap	Male literacy	Female literacy	Male–Female gap
1961	37.49	11.00	26.49	70.77	43.75	27.02
1971	42.98	16.86	26.12	74.64	52.54	22.10
1981	48.26	21.35	26.91	78.56	58.07	20.49
1991	56.96	30.17	26.79	81.09	64.05	17.04
2001	70.69	46.12	24.57	86.27	72.86	13.41
2011	78.57	58.75	19.82	89.67	79.92	9.75

Source: Economic Survey 2011-12, Census of India 2011.

Note: Literacy rate denotes literates age 7 years and above

Figure 1 illustrates the change in gender parity in literacy for six decades (1961 to 2011) (Economic Survey (2011-12)) in both rural and urban areas. The GPI is less than 1 for all the census years indicates male access to education is higher compared to female. The gender parity is high in the urban areas compared to rural areas for all the time periods. Even in urban areas, the gender parity is not achieved ($GPI < 1$) during the time period. Therefore, this data reveals that there is a gender inequality in education right from the primary level. This may be due to the fact that high drop-out rates were registered particularly in the case of girls. In the

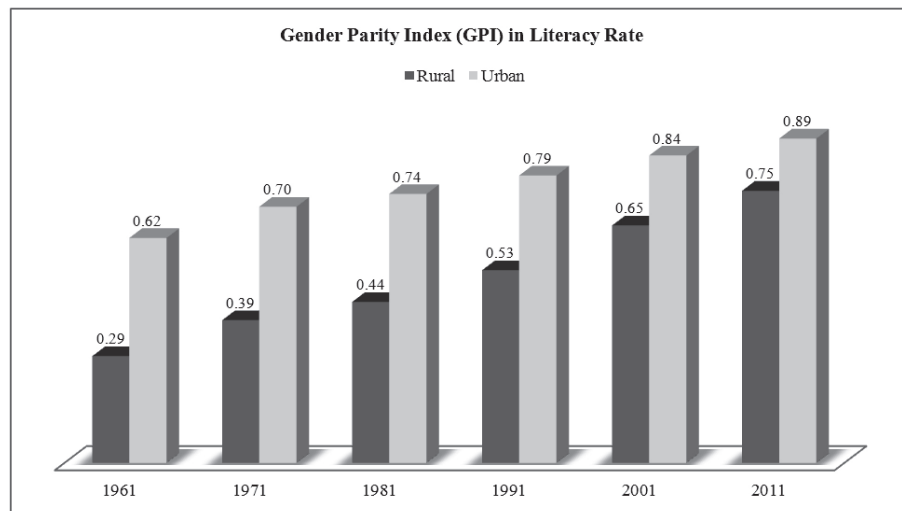


Figure 1: Gender Parity Index (GPI) in Literacy Rate

Source: Calculated from the Census data.

Table 2: Gender Parity at primary, secondary and higher secondary levels by type of institutions (2009–10)

Level of current attendance	Rural Areas				Urban Areas			
	Govern-ment	Local body	Private aided	Private unaided	Govern-ment	Local body	Private aided	Private unaided
Primary	1.05	1.02	0.78	0.85	1.07	1.10	0.91	0.94
Secondary	1.06	0.83	0.88	0.86	1.11	1.13	0.86	0.97
Higher secondary	1.05	1.48	0.93	0.85	1.09	1.33	0.96	0.88

Source: Estimated from the data of NSS 66th Round, 2009-10,

delineation of above results, it can be argued that though there is a considerable progress in female literacy rate during the period, the gender disparity still exists.

As far as the gender parity in various types of institutions is concerned, it gives the interesting picture. Table 2 shows that GPI was greater than 1 at primary level in both rural and urban areas in government school and local body. In the secondary level, gender equality is achieved only in government schools for rural areas whereas in urban areas, gender equality is achieved in government schools and local body run schools. These results indicate that most of the rural girls were dropping out at secondary level in private aided and unaided schools.

Reasons for Drop-Out

The specified reasons for not attending any educational institutions were ‘to supplement household income’ and ‘to attend domestic chores’ in both rural and urban areas (National Sample Survey Organisation, 2013) (see Table 3). In the rural areas, about 481 per 1000 males who were currently not attending any educational institution reported the reason ‘to supplement household income’ and in the urban areas it was 573 per 1000 males. The reason ‘to attend domestic chores’ was reported by about 304 per 1000 females in the rural areas and 392 per 1000 females in the urban areas. About 82 males and 99 females in the rural areas and 55 males and 97 females in the urban areas considered ‘education is not necessary’ and therefore, they were not currently attending any educational institution. It may be noted that about 8 males and 14 females in rural and 6 males and 7 females in urban areas, reported ‘school too far’ as the cause for not attending any educational institution-the proportion being equal in both rural and urban areas. It has also been observed that the highest number of females in the age group 15–19 years reported that they dropped out school due to the reasons of ‘education not considered necessary, has to supplement household income and has to attend domestic chores’.

Table 3: Per 1000 distribution of persons of age 5–29 years whoever attended but currently not attending any educational institution by status and broad reasons

Age group (years)	School too far				Has to supplement household income				Education not considered necessary				Has to attend domestic chores			
	Rural		Urban		Rural		Urban		Rural		Urban		Rural		Urban	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
5–9	6	6	0	3	15	5	3	2	9	16	22	18	0	3	7	3
10–14	16	29	8	29	183	49	209	62	95	134	107	136	24	126	11	92
5–14	10	16	4	15	78	24	104	29	41	69	64	71	9	58	9	43
6–11	18	22	6	11	40	9	24	4	14	43	62	35	4	14	12	17
15–19	9	22	12	10	480	109	496	122	114	140	78	139	52	313	33	323
15–24	8	16	8	7	523	87	575	117	101	118	65	111	47	341	31	388
5–24	8	16	7	8	436	75	515	107	89	109	65	107	40	287	28	348
15–29	8	14	6	7	540	79	610	103	88	104	54	98	42	339	32	417

Source: National Sample Survey, 2009–10.

The results of the study indicate that literacy rate show an increasing trend in favour of females. However, they have not yet reached full parity with male. On the overall assessment, the highest number of rural females is not attending school currently due to the reason being they have 'to attend domestic chores' followed by 'education not considered necessary' and 'has to supplement household income'. But in the age group of 15–19 years, the highest number of rural females is not attending school due to the reason 'has– to supplement household income'. Whereas in the urban areas, most of the females are currently not attending school due to the reason they have 'to attend domestic chores', 'has to supplement household income'. Therefore, the results of the data reveal that most of the girl students at secondary and higher secondary levels in rural India have dropped out due to the reasons of 'has to supplement household income and education not considered necessary'. It indicates that there is a link between household economic conditions and investments in children education. The possible implications of the results are: income is a key determinant of educational attainment, in particular for girls, and households appear to use girls for consumption smoothening in the periods of income deficiency.

Level of Education and Decile Class on Consumption Expenditure

According to the results, girls have significantly worse education outcomes than boys. One possible explanation of this discrepancy is gender discrimination in the intra-household allocation of resources. Among all the categories of persons, the proportion of the educated was the highest among urban males, followed by the urban females and rural males and it was the lowest among rural females. In the developing country like India, women are particularly inadequately served in terms of education. It is possible that lower household income affects gender inequality in education. Table 4 presents the gender parity in the different levels of education for each decile class on monthly per capita consumer expenditure (MPCE) at the all-India level. In the rural areas, the gender equality at primary level is found to be the highest in the bottom two decile classes on MPCE and it gradually decreased as the MPCE decile class increased, and attained the lowest in the top three decile classes. On the other hand, the gender equality at secondary and higher secondary levels are found to be the lowest in all decile classes. In the urban areas, the gender equality is found to be the highest at primary level in the bottom six decile classes on MPCE. In the case of secondary and higher secondary levels, the gender equality is highest in the bottom two decile classes. The lowest gender equality was recorded in the first four decile classes on MPCE. The differences in the index value between rural and urban areas at the primary, secondary and higher secondary levels are quite significant in all decile classes. These results indicate that except bottom two decile classes in rural areas, the

Table 4: Per 1000 distribution of persons of age 15 years and above by general educational level for each decile class on monthly per capita consumer expenditure

Decile class on MPCE	Gender Parity Index					
	Rural Areas			Urban Areas		
	Primary	Secondary	Higher secondary	Primary	Secondary	Higher secondary
0–10	0.71	0.47	0.42	0.73	0.80	0.64
10–20	0.72	0.37	0.38	0.83	0.69	0.74
20–30	0.74	0.48	0.49	0.90	0.75	0.74
30–40	0.70	0.42	0.45	0.98	0.75	0.79
40–50	0.84	0.57	0.46	1.06	0.80	0.72
50–60	0.89	0.58	0.47	1.22	0.72	0.84
60–70	0.93	0.57	0.51	1.23	0.78	0.90
70–80	0.91	0.57	0.54	1.42	0.90	0.83
80–90	1.01	0.64	0.60	1.74	0.89	1.09
90–100	1.27	0.70	0.64	2.68	1.09	1.07

Source: Computed from the data from National Sample Survey, 2009–10.

gender disparity is highest at secondary and higher secondary levels. It means low level of income and lower allocation of consumption expenditure on education may have a strong impact on the drop-out rate. As discussed above the proportion of girls age between 15–19 years, dropped out from school in rural areas due to supplement household income and to attend domestic chores. It is invisible work, because a substantial number of girls are expected to contribute to the family income by their own labour or to look after their younger siblings. The gender disparity is the least at higher levels of the class, as parents have more resources to invest in their daughters. The opposite should hold for girls from the lower classes. Therefore, the household income and expenditure on education has a greater impact on gender equality.

ASSOCIATION BETWEEN INCOME AND GENDER PARITY

The results of the study indicate that there will be a relationship between gender parity and income of households. Figure 2 depicts the scatter plot of GPI against the income in rural areas. It can be observed from the graph that there is a demonstrated connection between these two variables. A linear regression analysis confirmed that there is a positive correlation between per capita income and gender parity. The obtained correlation coefficient (R value) for this model is 0.540 which indicates in particular higher income is correlated with gender equality in education.

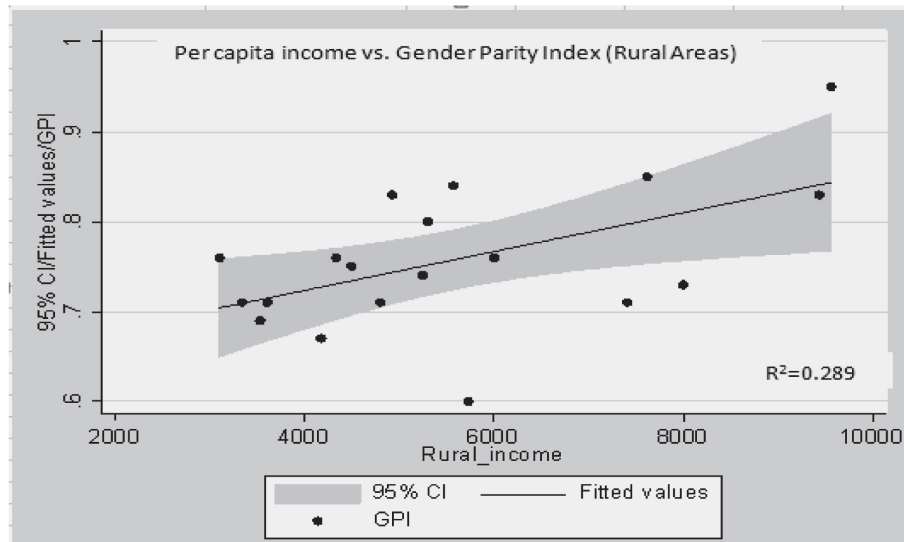


Figure 2: Per capita income vs. Gender Parity Index (Rural Areas)

Source: Census of India, 2011 and National Sample Survey 2009-10.

In this analysis the coefficient of determination (R^2 value) is 0.289, which means 28 per cent of the total variation in gender parity can be explained for by the variation in income. The other 72 per cent of the variation remains unexplained. In light of the above the greater the income of the household, the higher the demand for children's schooling and less the need for work to supplement incomes.

Figure 3 illustrates there is a positive correlation between urban per capita income and GPI. The obtained R value for this analysis is 0.235. It conforms as the income of a household increases the gender parity also increases. The illustrative R^2 value is 0.062 suggests the weak linear reliability between per capita income and GPI. It is quite obvious from the analysis, states those are laid above the 45 degree line in the graph indicates that per capita income is a good predictor that impact on gender parity. Therefore, the improvement in income was the key factor that mattered for decrease gender differences in education.

CONCLUSION

In India, in spite of the high distribution of elementary and middle schools, access to education remains limited. The results of the study revealed that there are major gender differences and high rate of drop-out at secondary and higher secondary levels. It is a greater need to tackle the drop-out crises at secondary and higher secondary levels. Despite over three decades of commitment on gender equality

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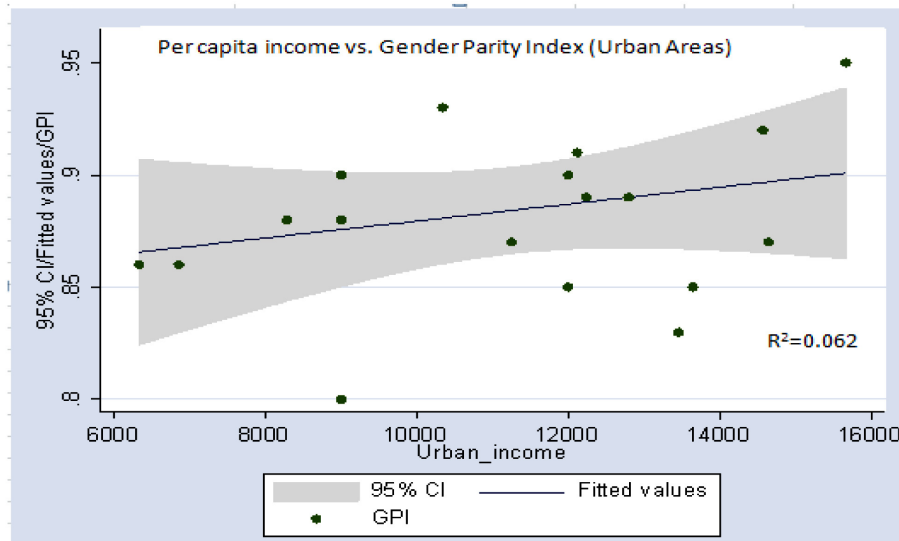


Figure 3: Per capita income vs. Gender Parity Index (Urban Areas)

Source: Census of India, 2011 and National Sample Survey, 2009-10.

and the universalization of education in India, the ground realities are still grim, especially in the context of girls from rural areas. While the overall enrolment of girls has increased, the dropout rate of girls from rural areas, especially at upper primary level is extremely high. In India, school discontinuation rate of rural girls is twice as high as that of boys. Since the barriers to female education are many, taking a simple preventive measure cannot eliminate gender gap in education. Therefore, a good number of different measures have to be taken to narrow the gender gap. To reach gender equality in education, female enrolment needs to be improved by making cost of education more affordable. In spite of the major priority for girl's education system, we cannot see the change in the educational progress in one night or one day, it will take years, decades and more, because Indian education system is not strong in comparison to other developing countries. It is observed that girl's participation in school can be adversely affected by the government budget constraints, poor quality of educational programs and inconsistent educational policies. In India, the budget allocation for education is very low and there is no special allocation for girl's education. Providing incentives particularly for girls are instrumental for better progress in enrollment and educational excellence. The government, local bodies, non-government organisations (NGOs), teachers and parents should be a part of the improvement in girl's access to education.

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