Gender Disparities In Higher Education For SC Students: A Study On Some Indian Selected States

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Abstract

Gender inequality persists as a barrier to equitable admission, preservation, and academic performance in higher education in India. The enrolment rate of female is lagging at undergraduate levels despite surpassing males in postgraduate studies due to early dropouts, political and socioeconomic factors. This paper tries to analyse the gender disparities and affecting factors of gender inequality in higher education for Scheduled Caste (SC) Students. This study uses the data from AISHE, Ministry of Education and UDISE+ during 2010-11 to 2021-22. Panel regression model is used for study of the paper. To find the suitable and significant model Random effect and Fixed effect regression are run in EVIEWS for our study. To check between the two models which is good fitted, Haussmann test is done. This study found the Fixed effect model to be of better fit. The result shows that most of the determinants can significantly explain the Gender Disparity in higher sectors for SC and ST students. This paper suggests some policies like good infrastructure in education institutions, low course fees, better accommodation, increase in number of school-colleges, good transportation system among others.

Key Words: *Gender Inequality, Higher education, Gender Parity, Indian states, Panel regression, Scheduled Caste*

I. Introduction

Gender disparity has a significant impact in every sector across the countries of the world. India is one of them. Gender disparity is present in education sector, job market, and socio cultural society. Women are lagging behind the men in every aspect. Many studies show the importance of women education in India as well as worldwide. The expected literacy rate of India is approximately 77%. Mizoram and Lakshadweep are doing well but Andhra Pradesh and Bihar have bad performance in education. When it comes to the social sector, the gross enrolment of ST and SC students is comparatively low than the national average. Sustainable Development addresses 17 goals, adopted by UN in 2015. The aims of SDGs are to achieve sustainable development and balance the economy. SDG 4 and SDG 5 say about equality education and gender equality. SDGs 4 target to achieve the universal access to primary d secondary education and to ensure the inclusive and quality education for all. The aims of SDGs 5 are to ensure equal opportunity in decision making and leadership, achieve the gender equality and women empowerment and end all forms of discrimination and violence against women. The participation rate in education sectors of women is increasing day by day but not more than men in different higher studies. The world economy forum is published the global gender gap index, in which India' rank is 131st out of 148 countries. Most of Women are staying at home and work without taking salary. Now a day the participation rate in job markets of women is slightly increased. As per New Education Policy, India aiming 50% enrolment by 2035 on higher education and 100% in primary education. But the dropout rate in different education level is high, mainly male dropout rate. The reason behind the high dropout rate for male is family responsibility, and also they enrol in skill education (IIT, IIM, IIIM, ITI etc) than in general degree. For encouragement in enrolment, Government has taken many initiatives. Due to early marriage of girl child, most of them do not get opportunities to complete their higher education. To reduce the gender gap in every sector we need capable individuals who can take the responsibilities and give some contributions to the Indian society. Government of India offers plentiful government schemes and scholarships to promote girls'

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education across primary, secondary, and higher levels, addressing barriers like dropout rates and gender disparities. These initiatives provide financial incentives, residential schools, and merit-based support, often prioritizing disadvantaged groups such as SC/ST/OBC, minorities, and rural girls. Some schemes are mentioned as follows.

Sarva Shiksha Abhiyan, Sarva Shiksha Abhiyan, CBSE Single Girl Child Merit Scholarship, Kasturba Gandhi Balika Vidyalaya, Kanyashree, Post-Matric Scholarships (SC/ST/OBC), UGC Indira Gandhi PG Scholarship for Single Girl Child, AICTE Pragati Scholarship etc.

II.   Survey Of Literature

Ghosh (2019) tries to determine the enrolment rate of women in different education level in higher education with respect to men by using GPI as a social indicator. This paper tries to find the effectiveness of the factors of GPI in higher education. Tierney & et al (2019) tried to examine the structure of inequalities in streams and caste in higher education in India. This article collected data by secondary interviews, document analysis to understand the realities of male adolescents different from SCs who are in their 3 Years UG degree. Their finding shows that the effect of caste is negligible because they have not sufficient network to create social capital.

Madan (2020) has analysed the character of class inequality with caste in enrolment in higher education. This paper showed that the social inequalities in enrolment in higher education are greater than primary education and this effect is more that caste differences.

Komanapalli & Rao (2021) aimed to identify the impact of social discrimination and mental health between men and women in higher education in India. This paper uses anthropological methodology and reviews different government documents and reports on Dalit socity. This study suggests mental health practice and policy can affect inequality among students in higher education.

Jose & Sivaraman (2023) has tried to examine the gender discrimination and analysed the extent of gender discrimination in India. Bhattacharya & et al (2025) try to understand gender inequality with effectiveness of Kanyashree by addressing the early marriage of child in Murshidabad district in West Bengal. This paper uses NFHS-4 and NFHS-5 to see the correlation between girl's education and with sex ration. This study shows that according to NFHS (2007-08) and NFHS (2019-21) data, the rank of West Bengal was 4th and 1st respectively.

Hegade & Andalgavkarkulkarni (2025) investigated the contradictions in how no SC/ST female students who get benefit from gender-based affirmative action (AA), respond to similar policies for SC/ST students in private higher education sector in Maharashtra. They apply regression by using data by survey and interview from students in private engineering and management institutions.

Maiti & et al (2025) try to analyze the impact of Gender inequality in enrolment in Engineering and IT courses in India. This study use logit regression technique by using 71st round of NSSO. The result shows that several socio economic factors such as level of education, sex, region, caste, location, etc have a significant effect on enrolment decisions of student in Engineering and IT courses. And also the paper finds that the enrolment rate of female is low in these two sectors. Maiti & Bhargavi (2025) investigates the gender disparities among the students in secondary education. This paper uses sample of 414 high school students using a Questionnaire and Principal component Analysis and Independent samples t-test. The result shows that there is a significant gender disparity in educational achievement. Pal, Chakraborty, & Pal (2025) study the domestic Violence against the Indian women across the states and UTs during 200-01 to 2022-23. The major finding of the study that crime controlling factors turned out to be education and conviction rate. This paper suggests that to improve female education, awareness generation and social support to reduce the prevalence of domestic Violence.

III.   Objectives

The major objectives of the present study are as follows:
- To find the Gender disparities in Gross Enrolment for SC category students in some selected states in India
- To identify the factors affecting Gender disparities for SC students in some selected states in India.

IV.   Methodology

As per Periodic Labour Force Survey (2023-24) report, the top 6 states having highest literacy rate and bottom 5 states having lowest literacy rate are considered in this study for 12 years (2010-11 to 2021-22). The top 6 states are Himachal Pradesh (HP), Kerala, Meghalaya, Goa, Mizoram and Tripura. Bottom 5 states are Jharkhand, Rajasthan, Madhya Pradesh (MP), Bihar, and Andhra Pradesh (AP).

The average of GPI is used to classify the states. There are three major implication of GPI value. When GPI is less than 1, we can say that Gross Enrolment of male Students is more than female Student. Further it means that Enrolment of male pupil (between 18-23 years old) out of total male population is more than the

enrolment of female pupil (between 18-23 years old) out of total female population. When the value of GPI is less than 1, it means that Enrolment of male pupil (between 18-23 years old) out of total male population is less than the enrolment of female pupil (between 18-23 years old) out of total female population. If the value of GPI is equal to 1, it represents that there is no indifference.

In this paper GPI is considered for analyzing the gender disparities among the SC category Students in different states in India. Here 18-23 years old students are considered who are enrolled in higher education. GPI is the ratio of GER of Female divided by GER of male.

This study uses panel regression to identify the factors which are affecting the gender inequality between social castes in higher education for SC students in higher education. To check which model is better fitted one for this study, the Random effect model or fixed effect model, Hausman test is one. This study found that Fixed effect model is better fitted one.

The determinants considered are College per lakh population (clg), Education Expenditure (% of GDP) (edu), Per capita net state domestic product(pc), Hostel intake(HI), Pupil-teacher ratio(PT) and Drop-out rate (secondary education) (DOR)

For SC, GPI= f (clg, pc,hi, pt, edu, dor)

$$GPI(SC)=a+\beta_0(clg)+\beta_1(PC)+\beta_2(HI)+\beta_3(EDU)+\beta_4(PT)+\beta_5(DOR)+\epsilon\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Data Source

All the data used are obtained from Ministry of Education, GOI , MHRD report in www.mhrd.gov.in , AISHE Reports -2010-2011 to 2022-23, Central Statistics Office, Ministry of Statistics and Programme Implementation.

V.   Results And Discussions

The following section shows the Classification of the states based on GPI for SC Students. The results are displayed in the following Table 1 and Table 2.

Table 1: Classification of the states based on GPI for SC Students

STATES	AVERAGE GPI (SC)	Classification of States based on GPI definition		
		GPI >1	GPI=1	GPI<1
Himachal Pradesh	1.1575	>1		
Mizoram	0.9925			<1
Kerala	1.808333	>1		
Meghalaya	1.00		=1	
Tripura	0.74			<1
Goa	0.9875			<1
Jharkhand	0.829167			<1
Rajasthan	0.82			<1
Madhya Pradesh	0.861667			<1
Bihar	0.641667			<1
Andhra Pradesh	0.845			<1
Total no of states	11	2	1	8
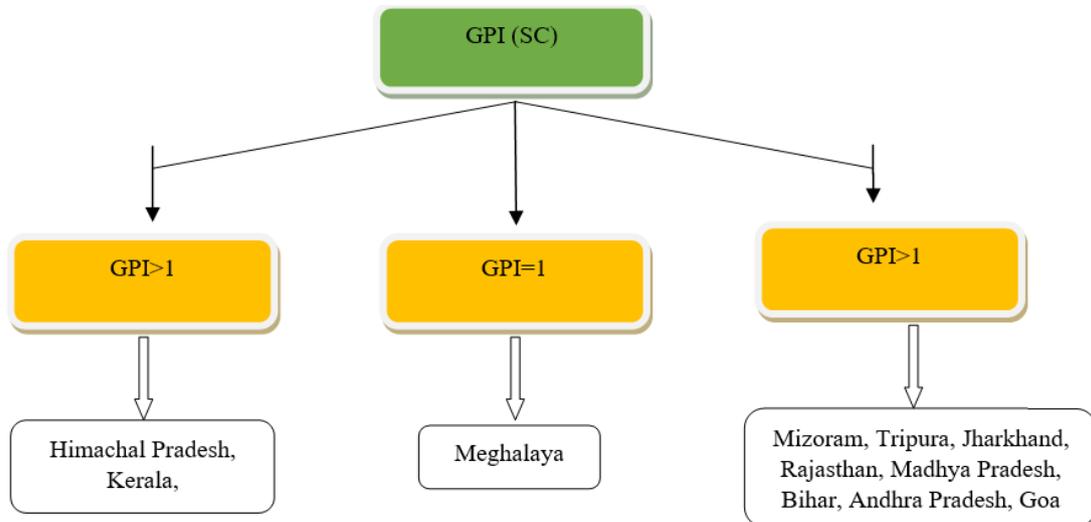
The above figure represents the average of GPI value for SC students in higher education. The value of GPI is greater than 1 for under graduate SC students for Himachal Pradesh and Kerala. i.e., the gross enrolment rate of male student in those states is more compare to female Students. On the other hand, the value of GPI is less than 1 for other 8 states (like Mizoram, Tripura, Jharkhand, Rajasthan, Madhya Pradesh, Bihar, Andhra Pradesh, Goa). These states have low enrolment rate of male student compared to female. The value of GPI is equal to 1 is only for Meghalaya. That means in Meghalaya the enrolment rate of female and male students are equal.

Gender gap in Gross Enrolment among Scheduled caste and scheduled Tribe students in some selected states in India are examined and then attempt has been taken to identify the factors affecting Gender disparities for SC students in higher education. The analysis of the result can be seen in the following Table 2.

Table 2: Regression results for SC Students

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.591938	0.076396	7.748286	0.0000
CLG	0.009586	0.002583	3.71083	0.0003
PC	1.22E-06	2.95E-07	4.140009	0.0001
HI	7.31E-07	2.42E-07	3.014462	0.0032
PT2	-2.98E-05	1.37E-05	-2.17842	0.0314
DORHI	-2.37E-08	1.20E-08	-1.9757	0.0506
EDUX	0.005304	0.011175	0.474651	0.6359
R-squared	0.90651	Observations		132
Adjusted R-squared	0.893503	F-statistic		69.69239
S.E. of regression	0.083344	Prob(F-statistic)		0.0000

The above table represents the factors which are affecting the gender inequality for Scheduled caste for selected 11 states in India over the 12 years. The result of the fixed effect model shows that the values of adjusted R-square and R-square are 0.893503 & 0.90651 respectively. The R-square represents that the determinants explain the 90.65% variation of the dependent variable (GPI).

College per lakh population (CLG) is used as a proxy of college density. The relationship between the GPI and CLG is statistically significant. This means if the number of colleges is increased then the availability of the seats will increase. As a result, there will be greater enrolment of female students (SC) than male in colleges and so GPI may be increase.

The Per Capita Net State domestic Product (PC) is a measure of welfare of an economy as well as in human being. The PC is statistically significant to GPI. That's means when PC increases in an economy in India the average income of households also increase. Parents will send their children to colleges for higher studies. Most of the family send their male child for higher studies initially but after increasing their income they send their female child to colleges. That's why the gross enrolment rate of female is going up mainly of SC category family in higher education. Then Gender parity index may be improved.

Hostel intake (HI) is statistically significant to GPI. When number of hostel as well as number of bed facilities increase in higher education institutions more females mainly from schedule caste category families participate more than male. That's the reason for improvisation of GPI.

Pupil-teacher ratio (PT) is defined as the number of students in higher education for 18-23 years divided by number of teacher. If more students are enrolled in higher education per teacher, the value of GPI may be increase. But here PT is found to have an inverted U shaped relationship. That means as PT ratio increases, GPI may increase initially but decrease after a certain limit. The reason behind the decreasing GPI may be that most of the SC families are illiterate and early marriage of SC girls within their community takes place.

The product of dropout rate and hostel intake (DOR_HI) is statistically significant to GPI but negatively related. Low number of hotel intake causes the dropout rates increase for female students of SC category in higher education. With lower enrolment rate of female, the GPI will decrease.

VI. Summary And Conclusion

By classifying the states, this study finds that there is only one state having GPI value to be 1(i.e. Meghalaya), only two states have greater than 1 value (Himachal Pradesh and Kerala) and other 8 states have less than 1 value. Among the 8 states, Mizoram, Tripura and Goa have highest literacy rate but lower GPI value. That means these three states have high enrolment rate of male students compared to female students in higher education.

Table 2 shows that the sign of the coefficient of independent variables of CLG, PC, HI and EDUX are positive. This indicates a positive relationship between them with GPI. The square of Pupil-Teacher and Product of DORHI have negative coefficient value. This means they are inversely related to GPI.

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