

GENDER BIAS IN EDUCATION IN INDIA

Manas Ghose*

Social norms in India, income inequality and low income, together, are responsible for gender bias against female. Gender bias in education against female is well established in India. Present study, from the NSS 62 round data, reveals that gender bias against female is higher in rural areas compare to the urban areas. Parents spend lesser amount for education on their female child. Both dropout and non enrollment are higher for female due to parental non interest in study.

Key words: Gender bias, Educational attainment, Dropout

INTRODUCTION

Male and female are two wings of the society. Development of the society is not possible without balance (equal growth, equal development, equal opportunity etc.) between them. Continuous neglect of one is the silent killer of another. Most of the parents do not give equal opportunity to their female child. Though, equal opportunity to all is one of the fundamental rights in India. However, till now females are not getting equal opportunity within the family. Therefore there is a reason behind intrahousehold gender discrimination. The reason is, purely, “selfishness” of the parents. Most of the researchers assume that parents (sometimes family head) are altruistic about their child at the time of modelling any social sector issues. In mainstream economics also we assume that family head maximises household’s utility on behalf of all the family members. However there are many evidences of intra household gender discrimination (Ana C. Dammert 2010, Emerson and Souza 2007, Behrman and Knowles 1999, Basu et al. 2010, Eric V. Edmonds 2005, Kristin F. Butcher and Anne Case 1994, Behrman 1988, 1992, Thomas 1993, Deaton 1989, Behrman et al 1986, Kingdon 2005; Pal, 2004; Kambhampati and Pal, 2001; Drez and Kingdon, 2001; Kingdon, 1998; Glick and Sahn, 2000; Tansel, 1997; Deolalikar, 1993). In all of the previous works it is found that female child is neglected in comparison to her male counterpart in intra household distribution of nutrient, health care and education.

Parental Attitude towards Their Child

There are two extreme types of parental behavior- perfect altruistic and perfect capitalistic (or selfishness). If parents are perfectly altruistic about their child then both the types of child are equally welcome in the family. The share of the family cake will be identically equal for both male and female child. Investment for human capital accumulation will be same for both the types of child. If parents are altruistic then *social norm* has no influence on behavior of the parents towards their child.

On the other hand, if parents are perfectly capitalistic then they try to get what can give maximum returns. Then they always try to invest on that very project from where they can get maximum returns. In India *social norm* sets male child remain with the parents when female child goes to second home (husband home) after marriage. Therefore parents (when child matures) can get the returns from male child but not from the female child¹, due to social norm (Glick and Sahn, 2000). Therefore as a rational capitalist, parents welcome only male child. As human capital is the potential of earning, parents invest only on the male child for human capital accumulation. They do not spend anything on their girl child rather they assign some duties so she herself covers spending on her food. Therefore if parents are perfectly capitalistic then ex-anti outcome is- parents welcome only male child in the family. However sex of the new born child is determined by the invisible hand. Therefore ex-post outcome is girl child labour and education to male.

* *Research Scholar, Burdwan University, Burdwan, West Bengal, email manasghose@yahoo.co.in*

However in reality we do not find perfectly capitalistic (selfish) parents. Why? There are many reasons. First is that there is a biological reason. Not only human beings but also all animals love their young ones irrespective of their sex. Second is social liability- as they give birth of them, so take care about them is their duty. Third is economic reason- parents expect that if they pay to their child for their welfare then their child will pay back when they will become old (Rogers and Swinnerton 2004 modelling child labour using this assumption about parental behaviour). Therefore due to different reasons parents are generally altruistic. However, family budget (parental income) constraint has an influence on parental behavior.

Influence of Family Budget Constraint

In reality parents, always, have both the types of attitudes. Their actual behavior depends on the level of income they earn or family budget constraint. In case of a very low level of income capitalistic attitude dominates and as income increases strength of this attitude becomes weaker and altruistic attitude becomes stronger. Now question is that why parental behavior depends on income of the family. For, in the poor families, family budget is small and does not permit to educate both male and female. In this situation, as a rational capitalist they think that which project (investment on education of male and female) gives them maximum return. Obviously, investment on education of male gives them maximum return. Therefore they do that. However, for the richer families family budget is large enough and permits to educate both. Therefore, gender bias against female tends to diminish as family budget increases (Agarwal 1986).

Role of Inequality in Income Distribution on Parental Behavior

Even if parents are perfectly capitalistic then also investment for human capital formation in their girl child is possible. How? If there is- no inequality in the income distribution, same family composition and no family size effect² on consumption and investment then parental capitalistic attitude is completely converted to perfect altruistic. As said above, Indian social structure is to some extent liable for capitalistic attitude of the parents. If the entire members of the society, across family, can enjoy same income then parents invest for human capital formation on female child also. Because they think that though their female child goes to her husband's home with all income potentiality, at the same time another female child from another home comes to their home with the same income potentiality through marriage. Therefore, all the parents are in the neutral position in respect of future potential earnings and they become altruistic. However, these assumptions are very strict. Completely equal income distribution is neither possible nor favorable. Same family composition is only imaginary concept. Similarly same family size is also not possible. Therefore, we never find all the parents who are simultaneously altruistic in the society rather we find bilateral altruism (mixture of both altruistic and capitalistic attitude).

In the present state of development and income inequality in India, there are many parents who have some extent capitalistic attitude. That actually generates two things- son preference and gender bias against female for human capital accumulation. Outcome of the son preference is falling gender ratio. However, aim of this paper is not to address son preference. My aim is to address gender bias towards human capital accumulation- especially with respect to educational attainment because of its importance in human development and as a determinant of the quality of life. The importance of education in economic growth (Schultz 1961) and human development (Sen 1985) has been widely recognized.

The paper explores how far parental attitude is reflected in educational attainment. The paper is divided as follows. In the next section, we give a brief description of our data and methodology. Section 3 describes the results and conclusion is given in section 4.

² *Per capita consumption and investment for human capital formation differs when family size differs in the two families with equal family income.*

DATA AND METHODOLOGY

To examine intra household gender bias in education a unit level data is best suited. However if gender bias is really exist in the family level that must be found in the aggregate data also. Therefore for empirical analysis, I have used the National Sample Survey Organization (NSSO) 64th (2007-2008) round data on Education in India: Participation and expenditure, Report Number 532. In this round NSSO surveyed 445960 persons from 63318 rural households and 37263 urban household spread over the country.

Data Analysis and result

Analysis of the paper highlights gender bias on educational outcome as well as parental willingness for human capital accumulation, especially education, in their girl child in comparison with boy child.

In table 1, state wise literacy rates (15 years and above) of female and gender gap in literacy, measured by subtracting female literacy rate from male literacy rate, are shown for rural and urban areas. From this table we have seen two things. First is literacy rate is higher in urban areas compare to rural areas both for male and female. Second is that in each of the states literacy rate for female is lower than male, result is positive gender gap. In the rural area there are some states where literacy rate for female is half of the literacy rate of male. In the urban areas, also, literacy rate for female is lower than literacy rate for male. However difference between male literacy rate and female literacy rate i.e. gender gap in literacy is lower in the urban areas. It might be due to the fact that easy access to educational infrastructure in the urban areas compared to rural and income of the urban people are generally higher than rural people. As income increases parents are more altruistic about their child. Side by side a strong demonstration effect is working in the urban areas. Therefore easy access to educational infrastructure, strong demonstration effect and altruistic attitude together reduce gap between educational attainment of male and female in the urban areas.

There are wide interstate variations of gender gap in literacy. Gender gap in literacy is smallest in Meghalaya followed by Mizoram, if we consider rural areas only. However it is highest in Dadra Nagar & Haveli followed by Rajasthan. In the urban areas, gender gap is lowest in Mizoram followed by Nagaland. However it is worst in Rajasthan followed by Dadra Nagar & Haveli. Among the major states Kerala is the best in this respect, considering both rural and urban areas. All the BIMARU states show high gender gaps in literacy.

Table 2 and table 3 show state wise percentage distribution of persons, 5-29 years, by current enrolment and attendance status. Table 2 for rural areas and table 3 for urban areas. From table 2 it is seen that percentage of persons currently not enrolled is higher for female than for male in all the states and union territories. However if I consider percentage of persons who are currently attending, just reverse situation is found where percentage of persons currently attending is higher for male compare to female in all the states and U.Ts. Currently enrolled but not attending is low for both male and female in all the states and U.Ts.

If we consider the same for urban areas then same picture is found. In the urban areas also percentage of persons currently not enrolled is higher for female compare to male and percentage of persons currently attending is higher for male compare to female. Currently enrolled but not attending is low for both male and female in both the regions of all the states and U.Ts.

Now if we compare rural and urban areas then it is found that percentage of persons currently not enrolled is higher in rural areas both for male and female. However, percentage of persons currently attending is lower in rural areas both for male and female. This might be due to the fact that easy access to educational infrastructure in the urban areas compared to rural and higher income of the urban people compare to rural people. As income increases parents are more altruistic about their child. Side by side a strong demonstration effect is working in the urban areas. Therefore easy access to educational infrastructure, strong demonstration effect and altruistic attitude together reduce gap between educational attainment of male and female in the urban areas.

Table 1: Female Literacy Rates and Gender gap in Literacy (15 years & above) in state/UT

State/u.t. (1)	Rural		Urban	
	F	GG	F	GG
Andhra Pradesh	38.7	21.5	67.7	16.6
Arunachal Pradesh	48.7	16.8	82.4	10.7
Assam	72.1	13.6	88.4	7.3
Bihar	31.7	29.5	61.0	21.2
Chhattisgarh	48.0	24.3	76.7	13.6
Delhi	66.3	24.9	73.9	16.2
Goa	68.8	16.6	78.8	8
Gujarat	46.5	28.5	76.0	15.3
Haryana	49.8	25.2	71.5	18.2
Himachal Pradesh	66.6	17.8	85.2	6.4
Jammu & Kashmir	45.3	25.1	67.3	18.5
Jharkhand	32.8	34.4	71.4	16.2
Karnataka	46.9	22	74.6	14.3
Kerala	89.6	5.1	93.3	4.6
Madhya Pradesh	42.2	28.3	71.8	16.6
Maharashtra	58.9	22.3	81.9	10.9
Manipur	68.5	17.6	79.0	12.5
Meghalaya	88.8	2.9	92.9	3
Mizoram	90.4	3	97.7	1.7
Nagaland	84.4	8.2	95.2	2.6
Orissa	48.9	20	75.2	16.3
Punjab	59.6	13.5	78.1	8.3
Rajasthan	26.8	36.6	63.1	23.5
Sikkim	71.4	14	84.6	4.4
Tamil Nadu	58.8	21.7	78.5	14
Tripura	64.2	13.1	86.9	6.5
Uttarakhand	54.4	26.5	70.4	16.4
Uttar Pradesh	37.4	31	64.1	15.6
West Bengal	57.0	17.6	79.5	11
A & N Islands	72.6	14.3	85.0	7.1
Chandigarh	69.8	14.9	75.5	10
Dadra & Nagar Haveli	40.3	42.2	72.9	21.6
Daman & Diu	81.3	13.6	93.0	3.8
Lakshadweep	83.3	15.8	82.9	10.5
Puducherry	63.5	20.3	85.5	9.4
India	47.5	24.3	74.6	14.1

Author's own calculation from NSS Report No. 532: Education in India, 2007-08: Participation and Expenditure

Table 2: Percentage Distribution of Persons of age 5-29 years by Current Enrolment and Attendance Status for Each State/UT in Rural Areas

State/u.t. (1)	Female			Male		
	Currently not enrolled	Currently enrolled but not attending	Currently attending	Currently not enrolled	Currently enrolled but not attending	Currently attending
Andhra Pradesh	54.6	1.0	44.4	47.2	1.7	51.0
Arunachal Pradesh	39.0	6.2	53.6	29.7	8.7	60.8
Assam	47.5	5.4	47.1	37.4	4.0	58.5
Bihar	54.8	2.8	42.0	40.7	3.1	55.9
Chhattisgarh	49.8	0.6	49.6	42.6	0.5	56.7
Delhi	58.4	1.2	40.5	46.0	1.0	53.0
Goa	49.2	2.3	48.5	55.9	0.0	44.0
Gujarat	56.3	2.3	41.3	47.7	2.7	49.4
Haryana	51.6	2.5	45.9	41.5	2.9	55.5
Himachal Pradesh	43.1	0.6	56.1	36.8	0.4	62.9
Jammu & Kashmir	40.5	1.7	57.6	35.0	1.9	63.0
Jharkhand	47.7	2.8	48.9	39.5	4.6	55.1
Karnataka	54.0	0.3	45.7	46.3	0.1	53.5
Kerala	42.3	2.0	55.6	35.0	2.3	62.7
Madhya Pradesh	51.7	0.7	47.3	44.5	0.7	54.5
Maharashtra	49.7	1.8	48.5	44.7	1.8	53.5
Manipur	40.1	3.0	55.7	32.0	2.4	64.4
Meghalaya	34.6	3.5	61.4	29.4	4.1	65.8
Mizoram	40.8	0.9	57.1	38.7	1.0	60.2
Nagaland	50.7	4.1	44.3	46.4	3.0	50.3
Orissa	56.7	2.2	40.8	49.1	2.0	48.7
Punjab	53.2	1.8	45.0	45.7	1.7	52.6
Rajasthan	55.4	1.6	43.0	39.6	1.8	58.6
Sikkim	41.2	0.2	58.7	36.2	0.0	63.7
Tamil Nadu	50.3	0.5	49.4	44.1	0.5	55.3
Tripura	44.3	9.5	45.5	40.5	9.2	49.8
Uttarakhand	42.5	0.8	56.0	34.4	0.3	64.9
Uttar Pradesh	47.9	0.4	51.5	40.2	0.7	58.9
West Bengal	53.2	1.5	45.4	48.1	1.6	50.3
A & N Islands	48.4	1.1	50.6	46.4	0.8	52.7
Chandigarh	64.5	0.0	35.5	67.2	0.0	32.8
Dadra & Nagar Haveli	57.9	0.0	42.2	52.0	0.0	47.9
Daman & Diu	55.0	0.0	45.0	52.9	0.0	47.2
Lakshadweep	37.4	0.0	62.6	36.1	0.0	64.0
Puducherry	52.6	6.4	40.9	39.3	0.7	60.0
India	51.2	1.5	47.1	42.8	1.6	55.4

Table 3: Percentage Distribution of Persons of age 5-29 years by Current Enrolment and Attendance Status for each State/UT in Urban Areas

State/u.t. (1)	Female			Male		
	Currently not enrolled	Currently enrolled but not attending	Currently attending	Currently not enrolled	Currently enrolled but not attending	Currently attending
Andhra Pradesh	50.3	0.8	48.8	43.4	1.0	55.6
Arunachal Pradesh	20.6	8.7	68.2	14.0	5.7	78.0
Assam	38.7	11.1	50.3	32.6	11.8	55.6
Bihar	38.8	1.0	59.0	34.4	0.8	64.0
Chhattisgarh	47.6	0.2	51.8	43.2	0.6	54.6
Delhi	46.3	1.7	52.1	50.1	1.4	48.3
Goa	55.1	0.2	44.8	47.2	0.0	52.8
Gujarat	51.5	1.9	46.6	49.0	1.9	49.0
Haryana	40.2	7.6	52.2	36.8	8.4	54.9
Himachal Pradesh	38.1	0.8	61.1	37.0	1.8	61.1
Jammu & Kashmir	30.4	5.8	63.7	28.2	8.6	63.3
Jharkhand	38.3	3.1	58.6	32.5	1.7	65.6
Karnataka	50.5	0.0	49.3	49.3	0.2	50.6
Kerala	41.1	1.6	57.3	40.8	0.4	58.7
Madhya Pradesh	44.5	0.5	54.6	41.4	0.5	58.0
Maharashtra	46.8	1.1	52.1	47.5	1.0	51.6
Manipur	28.2	1.9	68.8	26.4	1.8	71.6
Meghalaya	19.3	8.1	71.9	22.7	6.7	69.9
Mizoram	36.0	2.4	61.2	27.5	2.5	69.9
Nagaland	39.9	2.5	56.2	34.3	0.7	64.1
Orissa	53.2	2.8	44.2	41.6	1.4	57.0
Punjab	46.3	2.0	51.6	53.5	1.8	44.6
Rajasthan	42.2	3.3	54.4	34.1	3.7	62.2
Sikkim	57.8	0.0	42.2	48.6	0.0	51.4
Tamil Nadu	47.4	0.4	52.3	45.2	0.5	54.3
Tripura	39.9	8.5	51.4	31.4	9.1	59.5
Uttarakhand	39.2	0.0	60.0	43.1	0.6	56.1
Uttar Pradesh	47.4	0.6	51.8	45.8	1.6	52.5
West Bengal	52.8	0.6	46.5	46.0	1.2	52.8
A & N Islands	42.3	0.7	56.9	41.6	0.0	58.4
Chandigarh	46.4	1.5	52.1	37.5	1.4	61.1
Dadra & Nagar Haveli	59.3	0.0	40.7	48.9	0.0	51.1
Daman & Diu	40.4	0.0	59.6	31.3	0.0	68.6
Lakshadweep	45.3	0.0	54.7	34.6	1.0	64.4
Puducherry	37.6	1.9	60.5	35.3	0.1	64.5
India	46.9	1.3	51.6	44.4	1.5	54.0

Table 4: Percentage Distribution of Currently Attending Students aged 5-29 years Pursuing Various Level of School Education by Type of Institution Attended

Type of institution	Rural		Urban	
	Female	Male	Female	Male
Primary				
Govt.	77.6	74.0	37.5	33.2
Local body	6.3	5.4	4.7	4.4
Private aided	3.4	4.3	16.7	15.6
Private unaided	12.4	15.8	40.2	45.3
Total	100	100	100	100
Middle				
Govt.	74.3	71.8	40.6	39.2
Local body	5.9	5.0	4.9	3.9
Private aided	9.2	9.1	23.3	20.5
Private unaided	10.2	13.7	30.3	35.3
Total	100	100	100	100
Secondary and HS				
Govt.	62.3	62.4	46.2	39.6
Local body	3.8	3.5	2.9	2.4
Private aided	18.9	18.8	25.8	27.9
Private unaided	14.2	14.7	24.4	28.8
Total	100	100	100	100

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Table 4 shows percentage distribution of currently attending students by type of institution attended. From the common belief it can be told, with respect to quality, that private unaided institution is the best educational institution. However, not all people can send their child to such types of institutions. Because educational expenditure is higher there compare to govt. or local body institutions.

From the table 4, it is seen that percentage of currently attending students is higher in the govt. institutions both for male and female in both the regions. In the govt. institutions percentage of female students is higher than the male for all levels of school education. However in the private unaided institutions just reverse situation is found where percentage of male students is higher than percentage of female students. Therefore parents try to send their male child to a better institution, if it is affordable to them. However, they send their female child to relatively low cost institutions; govt. or local body institutions.

Local body and private aided institutions are in between these two extremes of institutions where a mixed type of result is found.

Table 5: Female to Male Private Educational Expenditure Proportion in Different Types and Levels of Education.

Type and level of education	Female to male private educational expenditure proportion	
	Rural	Urban
Primary	0.826	0.919
Middle	0.899	0.849
Sec/Higher secondary	0.885	0.883
Above HS (general)	0.900	1.015
General education-all	0.821	0.909
Technical education	0.835	0.946

Author's own calculation from the NSS Report No. 532: Education in India, 2007-08: Participation and Expenditure

Table 5 shows female to male private educational expenditure proportion in different levels of education. Components of private educational expenditures are shown in table 6.

From table 5 it is seen that female to male private educational expenditure proportion is less than one for all types and levels of education except above HS levels of urban areas. However it is also found that this proportion is higher in the urban areas compared to rural areas. That implies parents spend less on female's education than her male counterpart. Therefore they are not altruistic about their child rather they are bilateral altruistic. Magnitude of bilateral altruism is lower in the urban areas. Explanation is given earlier.

Table 6: Average Annual Expenditure (Rs.) per Student of age 5-29 years Pursuing any Education by Items of Expenditure

Items of expenditure	Rural		Urban	
	Female	Male	Female	Male
Tuition fee	342	556	2411	2839
Exam. Fee, other fees and payments	217	312	951	1021
Books and stationary	401	481	944	1010
Uniform	215	232	385	393
Transport	125	156	513	513
Private coaching	160	203	770	886
Other expenses	71	91	190	238
Total	1531	2032	6164	6900

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Table 6 shows item wise average annual expenditure per students. From this table it is seen that, for all items, parents spend less on education of their female child compare to the male child in both the areas. However, item wise relative difference, not given here, is smaller in the urban areas than the rural areas. This clearly indicates that parents have a negative attitude towards their girl child and this attitude is weaker in the urban areas.

Table 7: Percentage of Persons age 5-29 who were never Enrolled or had been Enrolled in the Past but were Currently not Attending

Enrolment/ attendance status	Rural		Urban	
	Female	Male	Female	Male
Never enrolled	21.0	11.0	10.0	6.3
Enrolled in the past but currently not attending	31.7	33.4	38.2	39.6

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Table 7 shows percentage of persons who were never enrolled or currently not attending. Percentage of persons “never enrolled” implies who did not access educational infrastructure and “enrolled in the past but currently not attending” measures extent of wastage of educational infrastructures. From table 8, it is seen that percentage of persons did not access educational infrastructure is higher for female than that of male in both rural and urban areas. However, wastage of educational infrastructure is higher for male than female in both the regions. Considering these two items together females places worse position compare to male. Therefore gender bias in education against female is again established.

Table 8: Percentage Distribution of never Enrolled Persons of age 5-29 years by Major Reasons for Non- Enrollment

Major reasons for non enrolment	Rural		Urban	
	Female	Male	Female	Male
Parents not interested in studies	36.7	29.5	32.5	22.8
Education not considered necessary	23.2	20.3	21.0	17.2
Financial constraints	16.2	24.7	25.3	37.7
No tradition in the community	6.1	3.1	4.5	2.8
To attend other domestic chores	3.0	0.8	2.0	0.4
School is far off	2.2	1.6	1.1	0.9
For participating in other economic activities	0.7	2.8	0.7	3.5
To work for wage/ salary	0.4	1.9	0.5	2.2
To look after younger siblings	1.3	0.4	1.0	0.1
Other reasons	10.2	14.9	11.1	12.7
Total	100	100	100	100

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Table 8 shows percentage distribution of never enrolled persons by major reasons for non enrollment. From table 8 it is seen that parental interest in studies is higher for male compare to female in both the regions. Students himself/herself did not consider education as necessary is higher for female. This might be due to the intergenerational mobility of gender bias in education against female. Financial constraint affects more on male than the female. This might be due to the higher physical productivity and work opportunity for male. Females are affected more by local tradition. Explanation is given earlier. School is far off- this reason affects more on female. Participating economic activities and work for wage affect more on male persons. Explanation is given earlier. To look after younger sibling, as expected, affect more on female. From the above analysis parental attitude with respect to education is against female is again established.

Table 9: Percentage Distribution of Dropout Persons of age 5-29 years by Major Reasons for Discontinuance

Major reason for discontinuance	Rural		Urban	
	Female	Male	Female	Male
Financial constraints	18.0	24.0	18.1	24.8
Child not interested in studies	17.0	24.0	15.0	20.3
Unable to cope up or failure in studies	10.1	12.3	7.7	8.5
Completed desired level or class	9.5	6.5	18.8	12.4
Parents not interested in studies	15.5	4.8	12.1	2.2
For participating in other economic activities	1.6	10.0	1.7	10.3
To work for wage/ salary	1.4	7.1	2.7	13.5
To attend other domestic chores	10.1	1.7	10.2	0.6
For helping in household enterprises	1.1	5.3	0.8	4.1
Other reasons (including marriage, etc.)	15.7	4.3	12.9	3.3
Total	100	100	100	100

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From table 9 it is seen that percentage of dropout due to financial constraints is higher for male than the female in both rural and urban areas³. Financial constraint affects more on male as their productivity and work opportunity is higher so they earn more than their female counterpart. Interest in study is lower for male. Failure in studies is higher for the male persons in rural areas however it is lower for male in the urban areas. Dropout due to completed desired level is higher for female. That implies aim of the female for study is set at a lower level compare to the male persons. That might be due to different types of social taboos and demonstration effect. Dropouts due to parental non interest are higher for female. Dropouts due to participation in economic activity and wage work are higher for male. The explanation is given earlier. Domestic duties fall more on female. Dropout due to marriage is also higher for female.

CONCLUSION

From the above discussion it is concluded that gender bias against female in education in India is well established. Gender bias is higher in rural areas compare to the urban areas. Parents spend lesser amount on their female child. Parents send their male child to private unaided institutions. However, they send their female child to free govt. institutions. Both dropout and non enrollment are higher for female due to parental non interest in study.

3 It does not contradict the argument that incidence of gender bias against female is higher in the poor families.

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