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BAROMETER OF THE INDIAN SOCIETY: LITERACY RATE AND GENDER RATIO

BANTI K. SHAH¹

DR. SEJAL A. DESAI²

1. Assistant Professor, Statistics, Evening Commerce College, Surat, Gujarat, India.

2. Research Guide & Associate Professor, Statistics, J.Z.Shah Arts & H.P.Desai Commerce College, Amroli, Surat, Gujarat, India.

ABSTRACT:

Literacy is the most powerful tool for the development of any society not only in a quantitative way but in qualitative development also. It is the solution to maintaining health and hygiene, control over high population growth, maintaining gender ratio in the society, poverty reduction, qualitative growth of society, reducing dominations against females, and controlling birth and death rate. Thus, female literacy plays a vital role in the development of the whole society and nation. However, Indian society exhibits a skewed gender ratio and suffers due to it. This skewed situation proves that there are many aspects untrue in Indian society. The present research paper throws light on the post-Independence relationship between the literacy rate and gender ratio of the Indian States and the Union Territories. The research is based on secondary data for technical analysis.

KEYWORDS: *Literacy Rate, Gender Ratio, Correlation of Coefficients*

INTRODUCTION:

"Sit idle no more, Go get an education"

- Savitribai Phule

The upper quote indicates the importance of Literacy. Literacy means the ability to read, write and think critically for improving knowledge and qualitative development of human life. Nowadays with technological development, the concept of Literacy becomes escalated in electronic gadgets and media. It is one of the most powerful tools for poverty reduction, qualitative growth of society, reducing domination against females, sustainable development of the nation, control of birth, and death rate. The comparison of male literacy and female literacy plays a vital role in the development of the whole society and nation. So, the literacy rate is the barometer to measure the development of any society and culture. The gender ratio is the ratio of numbers of females, per thousand males. In human society, a 1:1 sex ratio is desirable for the development of society and culture. But, factors such as selective sex at birth i.e. preference for boy birth compared to girl birth, the importance of boy birth in Indian culture, illegal abortions, and female foeticide practices are prevalent in society creating a skewed gender ratio in Indian society. So, the gender ratio is also a barometer to measure the quality of the human culture. The fewer females compared to males is an alarming situation created in human society. Nowadays researchers and socialists focus on reducing this problem and try very hard to remove this evil from Indian society.

REVIEW OF LITERATURE:

M. Suguna (2011) described that female education is the most powerful tool to improve society. With help of it, the social status of females can be improved and to be reached glory in human society. According to Vasudeva Rao, B.S and Gupta P. V. (2006), due to providing education, the attitude

toward females can be changed to favor women's position in the family and society. The research of Swathi T. and Bala Jyothi K. (2014) concluded that compared to the past, women's present positions are much more liberal. By educating women nation can achieve a heightening level of production through the use of unused sources, improve self-confidence in women, overcome poverty, increase income and contribute to national development. Sule and Barkade (2012) observed that in the Solapur district, there were more disparities in the literacy rate and sex ratio. They also observed a positive slope between literacy rate and sex ratio by correlation coefficient and conclude that a high literacy rate with a high sex ratio in the Solapur district. Desai, S and Shah B. (2020) observed that the relation between the overall literacy rate and the gender ratio is 0.037, It is also noted a correlation was found higher between low literacy and gender ratio, and a low correlation was noticed between low literacy rate and gender ratio.

RESEARCH PROBLEM:

The population of India is rapidly growing with a 1% annual growth rate. High population increase is the basic problem, but the main concern is the high difference in the male-female population. As per past census data, it was observed that the gender ratio is continuously declining however the literacy rate of India has grown up. This contradictory situation creates a problem that needs to study. Hence the research problem is 'Barometer of the Indian Society: Literacy Rate and Gender Ratio'.

OBJECTIVE OF THE RESEARCH:

- 1) To observe the trend of literacy rate and gender ratio in India.
- 2) To evaluate the relation between the literacy rate and gender ratio in India.
- 3) To identify the coefficient of correlation between States and UTs in India.

EVIDENCE OF DATA SOURCE:

The study is based on the secondary data collected from census websites, reports published by the census department, related journals and websites.

APPLIED TOOLS AND METHODOLOGIES FOR DATA ANALYSIS:

The research paper includes tables and graphs for the presentation of the numerical data for better understanding. The calculation of the coefficient of correlation between literacy rate and gender ratio of the Indian States and union territories of the last six decades (1951-2011). Microsoft Excel and SPSS were used for the data analysis.

LIMITATIONS OF THE STUDY:

Every research has certain criteria and limitations. This research paper is undertaken to make the finest practice of objective and try to reduce errors. However, the following limitations should be considered. This research depends on secondary data collected from published reports, related information, and journals by the Indian government and other concerned authorities hence all limitations of the secondary data are inherent in the study.

- 1) This research is limited to the Indian region only.
- 2) For this research, data from only six decades are used for the study.

DATA ANALYSIS AND INTERPRETATION:

According to the following Table 1, the total literacy rate of India was only 5.4 percent and the male-female literacy rate are 9.8 and 0.6 percent respectively in 1901. The gender ratio was 972 in 1901. As per the following data, the scenario of total literacy rate and gender ratio, pre and post-independence was indicated vice versa. In the first five pre-independence decades of the 20th century, female literacy didn't reach double-digit also. The post-independence decades' noticeable growth was seen in female literacy rate but it was not as good as male literacy growth. As per the last census, the male and the female literacy were 82.14 and 65.46 with a 16.68 percent gap.

The literacy rate was reported low but the gender ratio was reported high during 1901-1951 but the literacy rate increased after 1951. The literacy rate of India, as well as gender-wise literacy rates gradually increased in every census, but the gender ratio decreased. As per the last census (2011), the total literacy rate is 74.14 percent. On the other side, there was a vast gap in genderwise literacy rates. Compared with the male literacy rate, the female literacy rate is found very poor. From the table, it is clear that the male literacy rate is found higher compared to the total literacy rate of India every decade meaning thereby the female literacy rate is very low against the total and the male literacy rate. A very low female literacy rate indicates negligence of female education in society.

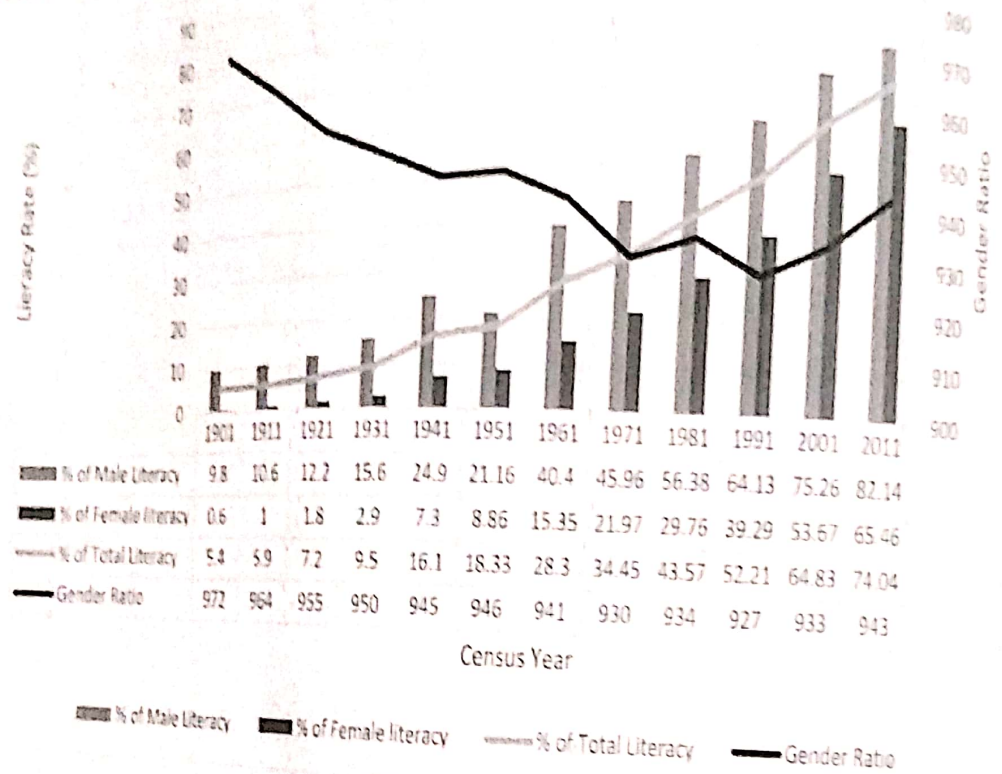
Table 1 Literacy Rate and Gender ratio of India

Census year	% Of Persons Literacy	% Of Male Literacy	% Of female literacy	The gap in MaleFemale Literacy Rate (in %)	Gender Ratio
1901	5.4	9.8	0.6	9.2	972
1911	5.9	10.6	1	9.6	964
1921	7.2	12.2	1.8	10.4	955
1931	9.5	15.6	2.9	12.7	950
1941	16.1	24.9	7.3	17.6	945
1951	18.33	21.16	8.86	12.3	946
1961	28.3	40.4	15.35	25.05	941
1971	34.45	45.96	21.97	23.98	930
1981	43.57	56.38	29.76	26.62	934
1991	52.21	64.13	39.29	24.84	927
2001	64.83	75.26	53.67	21.59	933

2011	74.04	82.14	65.46	16.68	943
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Source: census 2011, India 2016

Chart 1 Literacy Rate and Gender ratio of India



From the above chart 1, the slope of the total literacy rate positively increased during eleven decades to 68.64 percent. The male and female literacy rates increased by 72.34 and 64.86 percent respectively. Male and female literacy rates are also observed as a positive slope, but the trend of growth female literacy is lower compared to male growth. There exists an inverse relationship between the Literacy rate and the Gender ratio.

RELATIONSHIP BETWEEN LITERACY RATE AND GENDER RATIO:

Table 2 Coefficient of Correlation between Literacy Rate and Gender ratio of the Indian States and UTs (1951- 2011)

No.	Column No.	1	2	3	4	5	6	7
	Literacy Rat							
	State	1951	1961	1971	1981	1991	2001	2011

1	Lakshadweep	15.23	27.15	51.76	68.42	81.78	86.66	91.85
2	D.& N.Haveli	na	na	18.13	32.9	40.71	57.63	76.24
3	Daman & Diu	na	na	na	na	71.2	78.18	87.1
4	Gujarat	21.82	31.47	36.95	44.92	61.29	69.14	78.03
5	Goa	23.48	35.41	51.96	65.71	75.51	82.01	88.7
6	Bihar	13.49	21.95	23.17	32.32	37.49	47	61.8
7	Chhatisgarh	9.41	18.14	24.08	32.63	42.91	64.66	70.28
8	Odisha	15.8	21.66	26.18	33.62	49.09	63.08	72.89
9	Manipur	12.57	36.04	38.47	49.66	59.89	70.53	76.92
10	Maharashtra	27.91	35.08	45.77	57.24	64.87	76.88	82.34
11	Himachal Pradesh	na	na	na	na	63.86	76.48	82.2
12	Mizoram	31.14	44.01	53.8	59.88	82.26	88.8	91.33
13	Nagaland	10.52	21.95	33.78	50.28	61.65	66.59	79.6
14	Madhya Pradesh	13.16	21.41	27.27	38.63	44.67	63.74	69.32
15	Jharkhand	12.93	21.14	23.87	35.03	41.39	53.56	66.41
16	INDIA	18.33	28.3	34.45	43.57	52.21	64.84	72.99
17	Haryana	na	na	25.71	37.13	55.85	67.91	75.55
18	Puducherry	na	43.65	53.38	65.14	74.74	81.24	85.85
19	Tamil Nadu	na	36.39	45.4	54.39	62.66	73.45	80.09
20	Andhra Pradesh	na	21.19	24.57	35.66	44.08	60.47	67.02
21	Rajasthan	8.5	18.12	22.57	30.11	38.55	60.41	66.11
22	Arunachal Pradesh	na	7.13	11.29	25.55	41.59	54.34	65.39
23	Kerala	47.18	55.08	69.75	78.85	89.81	90.86	94
24	Jammu & Kashmir	na	12.95	21.71	30.64	na	55.52	67.16
25	Sikkim	na	na	17.74	34.05	56.94	68.81	81.42

26	Uttar Pradesh	12.02	20.87	23.99	32.65	40.71	56.27	67.68
27	Punjab	na	na	34.12	43.37	58.51	69.65	75.84
28	Karnataka	na	29.8	36.83	46.21	56.04	66.64	75.37
29	Chandigarh	na	na	70.43	74.8	77.81	81.94	86.05
30	Delhi	na	61.95	65.08	71.94	75.29	81.67	86.21
31	Tripura	na	20.24	30.98	50.1	60.44	73.19	87.22
32	Assam	18.53	32.95	33.94	na	52.89	63.25	72.19
33	A. & N. Islands	30.3	40.07	51.15	63.19	73.02	81.3	86.63
34	Meghalaya	na	26.92	29.49	42.05	49.1	62.56	74.43
35	West Bengal	24.61	34.46	38.86	48.65	57.7	68.64	76.26
36	Uttarakhand	18.93	18.05	33.26	46.06	57.75	71.62	78.82

No.	8	9	10	11	12	13	14	15	16	17
	Gender Ratio									
	State	1951	1961	1971	1981	1991	2001	2011	Correlation of Coefficient	Sig. (2tailed)
1	Lakshadweep	1043	1020	978	975	943	948	947	-0.979	0.000*

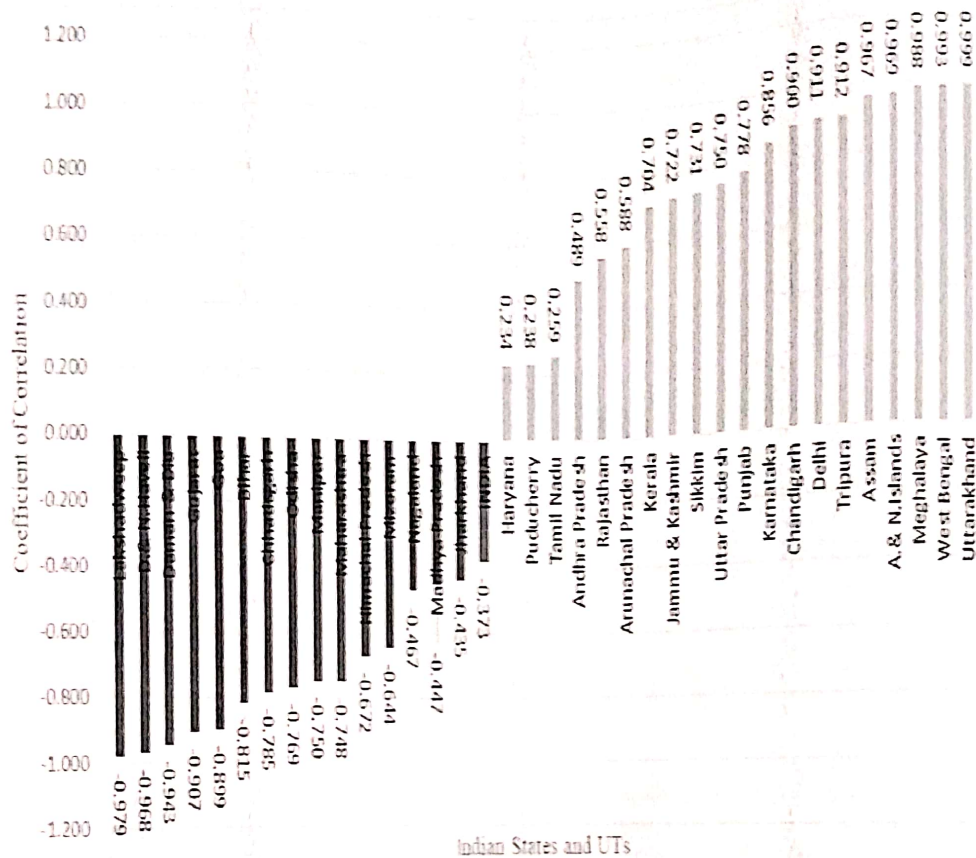
2	D. & N. Haveli	946	963	1007	974	952	812	774	-0.968	0.007**
3	Daman & Diu	1125	1169	1099	1062	969	710	618	-0.943	0.215
4	Gujarat	952	940	934	942	934	920	919	-0.907	0.005**
5	Goa	1128	1066	981	975	967	961	973	-0.899	0.006**
6	Bihar	1000	1005	957	948	907	919	918	-0.815	0.025*
7	Chhattisgarh	1024	1008	998	996	985	989	991	-0.785	0.037*

8	Odisha	1022	1001	988	981	971	972	979	-0.769	0.043*
9	Manipur	1036	1015	980	971	958	974	985	-0.750	0.052
10	Maharashtra	941	936	930	937	934	922	929	-0.748	0.053
11	Himachal Pradesh	912	938	958	973	976	968	972	-0.672	0.530
12	Mizoram	1041	1009	946	919	921	935	976	-0.644	0.119
13	Nagaland	999	933	871	863	886	900	931	-0.467	0.291
14	Madhya Pradesh	945	932	920	921	912	919	931	-0.447	0.314
15	Jharkhand	961	960	945	940	922	941	949	-0.435	0.329
16	INDIA	946	941	930	934	927	933	940	-0.373	0.410
17	Haryana	871	868	867	870	865	861	879	0.234	0.705
18	Puducherry	1030	1013	989	985	979	1001	1037	0.238	0.650
19	Tamil Nadu	1007	992	978	977	974	987	996	0.259	0.621
20	Andhra Pradesh	986	981	977	975	972	978	993	0.489	0.325
21	Rajasthan	921	908	911	919	910	921	928	0.558	0.193
22	Arunachal Pradesh	-	894	861	862	859	893	938	0.588	0.220
23	Kerala	1028	1022	1016	1032	1036	1058	1084	0.704	0.078
24	Jammu & Kashmir	873	878	878	892	896	892	889	0.722	0.168
25	Sikkim	907	904	863	835	878	875	890	0.731	1.61
26	Uttar Pradesh	940	947	940	936	936	962	963	0.750	0.052
27	Punjab	844	854	865	879	882	876	895	0.778	0.121
28	Karnataka	966	959	957	963	960	965	973	0.856	0.029*
29	Chandigarh	781	652	749	769	790	777	818	0.900	0.037*
30	Delhi	768	785	801	808	827	821	868	0.911	0.012*
31	Tripura	904	932	943	946	945	948	960	0.912	0.011*
32	Assam	868	869	896	910	923	935	958	0.967	0.002**

33	A. & N. Islands	625	617	644	760	818	846	876	0.969	0.000**
34	Meghalaya	649	937	942	954	955	972	989	0.988	0.000**
35	West Bengal	865	878	891	911	917	934	950	0.993	0.000**
36	Uttarakhand	-	-	-	-	876	898	912	0.999	0.034*
* Correlation is significant at the 0.05 level (2-tailed).										
** Correlation is significant at the 0.01 level (2-tailed).										

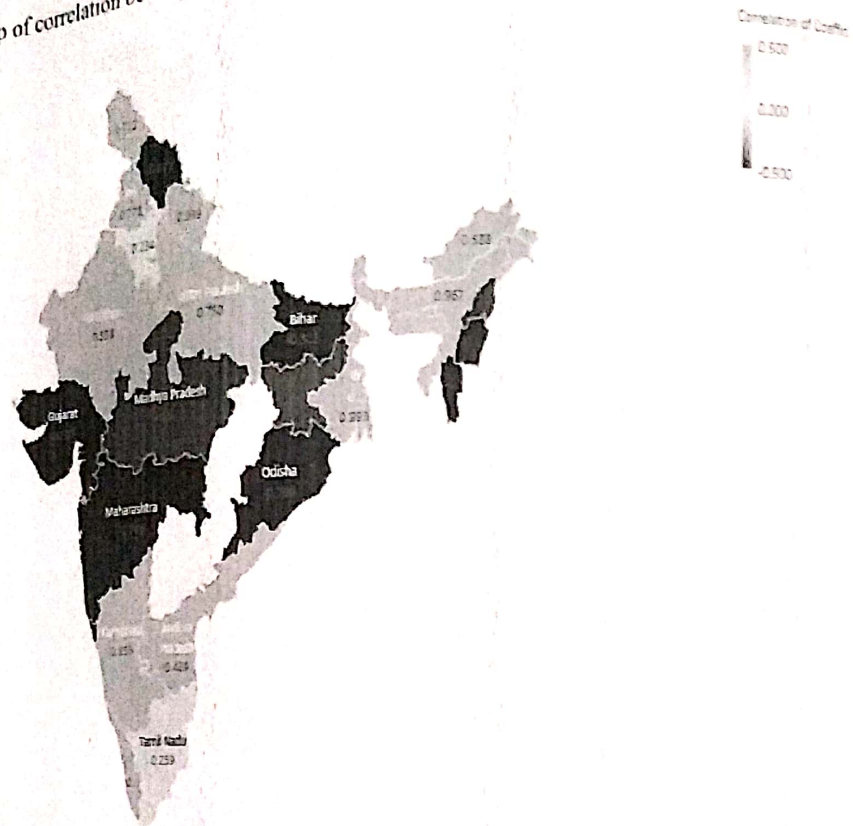
The above table 2.1, indicates the coefficients of correlation between literacy rate and gender ratio of different states and union territories of India since 1951. From the data, it is very clear that India has a negative correlation (-0.373) between literacy rate and gender ratio. Among all the states and union territories, Lakshadweep showed the most adverse result with a negative correlation (-0.979) between literacy rate and gender ratio. It is followed by Dadra & Nagar Haveli (-0.968) and Daman & Diu (-0.943). Gujarat (-0.907), Goa (-0.899), Bihar (-0.815), Chhattisgarh (-0.785), and Odisha (-0.769) are highly significantly correlated except Daman & Diu. In the addition, these all states and union territories became masculine, and there developed a male-dominating culture with the increase in literacy rate. It is also an eye-catching fact that all the states and union territories had a very high gender ratio as compared to the average Indian gender ratio in 1951. After 1951 with the rise in literacy rate (more than 50 percent) gender ratio drastically decreased. This means that literacy created a negative impact on Indian society. On another end, those states and union territories that had the lower gender ratio compared to India, Karnataka (0.856), Chandigarh (0.900), Delhi (0.911), Tripura (0.912), Assam (0.967), Andaman & Nicobar Island (0.969), Meghalaya (0.988) West Bengal (0.993) and Uttarakhand (0.999) have a highly significant correlation between literacy rate and gender ratio. It is also evident that the literacy ratio had a constructive effect on the culture which leads to the rise in gender ratio in these states.

Chart 2 Coefficient of Correlation between Literacy Rate and Gender ratio of the Indian States and UTs (19512011)



From the above chart 3, the Coefficients of correlation of the Literacy rate of States and Union Territories are arranged in ascending order. It is observed that 15 out of 35 (42.85%) Indian states and union territories have a negative correlation between Literacy rate and Gender ratio. The correlation between the Literacy rate and Gender ratio in India is negative (-0.373) which means the intensity of the negative relationship between literacy rate and the gender ratio is higher as compared to the positive correlation.

Chart 3 Map of correlation between Literacy Rate and Gender ratio of India



Above chart 3, indicates the correlation between the literacy rate and gender ratio of Indian States and Union territories. If the correlation is found more than -0.5 it indicates a more masculine State/UTs colored by blue shades, and 0.5 and more correlation indicates the feminized States/UTs colored by pink shades. Between -0.50 to 0.50 color shades are yellow. With this graph, laymen can observe that almost the middle part of the Indian States are male dominating societies while North Eastern and Southern States/UTs are more feminized.

CONCLUSION:

In this research paper, the coefficient of correlation between literacy rate and gender ratio in India was found negative, the overall literacy rate of India increased after 1951 but during that time the gender ratio did not increase. In the last three censuses, 1991 (927), 2001 (933), and 2011 (940) growth were noticed but it was not significant. The first objective was to study the relationship between the literacy rate and gender ratio in India and it is concluded that there is a negative correlation between literacy rate and gender ratio. The second objective is to evaluate the correlation and it is concluded that it is -0.373. The third objective is to identify the relationship between literacy rate and gender ratio of Indian states and union territories, the result indicates that 15 out of 32 states and union territories had a negative relationship, this result concludes that the Indian society ignores the female birth. 8 out of 15 negative correlated states and UTs (Which is $\frac{1}{4}$ of the Indian States and UTs) exhibit a highly significant correlation. Among them, all 8 states/UTs had a higher gender ratio compared to the all-over gender ratio of India. 6 Out of that 8 States/UTs namely Lakshadweep (1043), Daman & Diu (1125), Goa (1128), Bihar (1000), Chhattisgarh (1024), and Orisha (1022) had a surplus number of females against male and the literacy rate of these states found below the literacy rate of India.

Concerning significant values of positively correlated states, most of the states/UTs observed less literacy compared to the overall rate of India, and the Gender ratio was also very low against the Indian overall Gender ratio. Finally, it is concluded that an increase in the level of literacy does not lead to an increase in the level of gender ratio. The negatively correlated literacy and gender ratio show that cases of illegal gender examination, infanticides, female foeticide, and malpractices still continue in Indian society. After all, the high literacy rate is not the factor in the revolution of feminism but society needs to address the issues like the prohibition of prenatal diagnosis and strict compliance with the law against abortion and abortion-related issues. Lastly, to achieve higher numbers of females the mindset of the Indian society needs reforms like eliminating wrong rituals from Indian culture with the help of qualitative literacy and spreading awareness in the Indian Culture and Indian society.

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