

A Study on Correlation between Literacy Rate and Sex Ratio of Scheduled Castes Population in Haryana (2001 to 2011)

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ABSTRACT

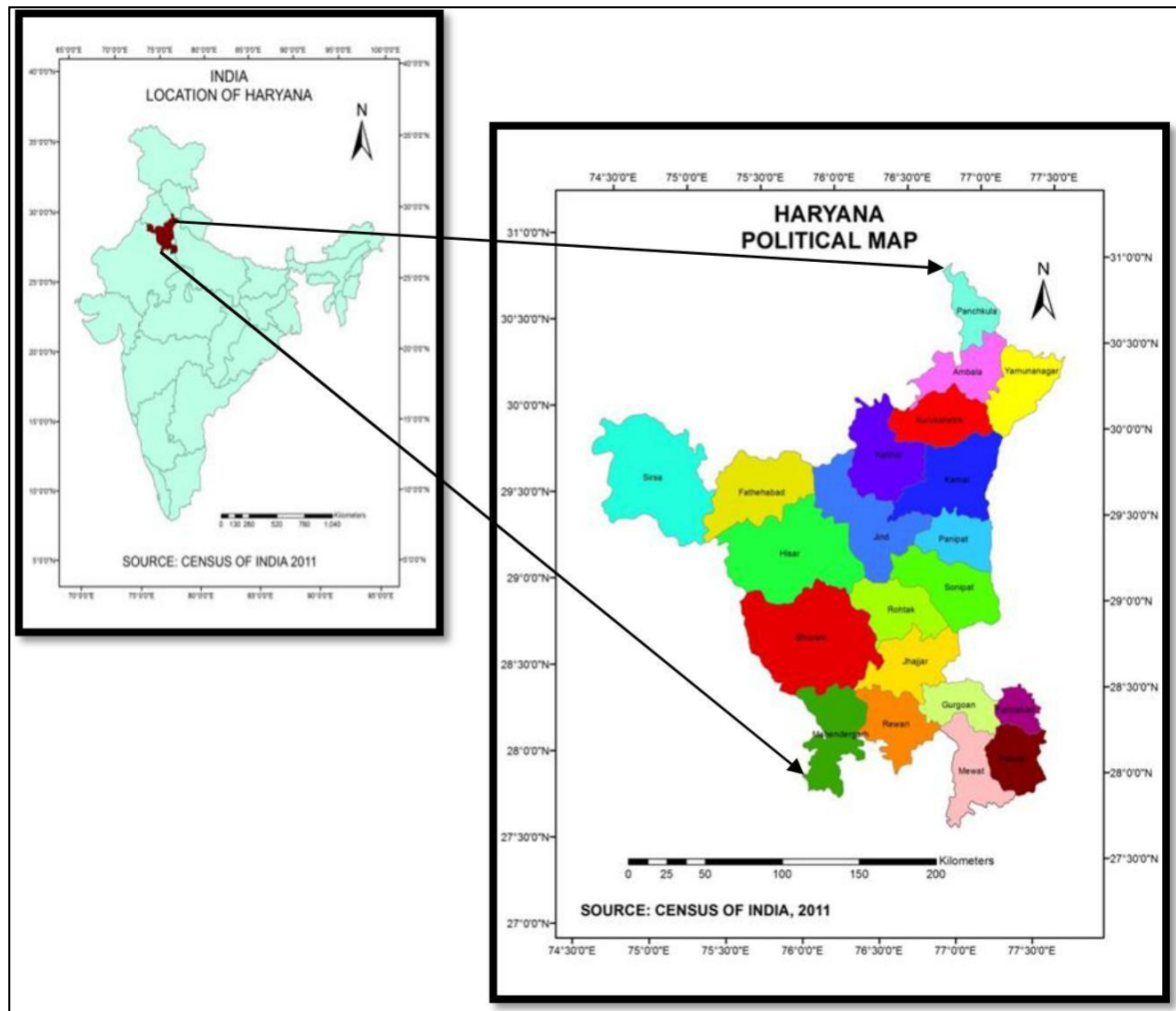
Literacy rate and Sex ratio are two important aspects of demographic studies and play an important role for the socio economic development of any region. Literate people have better understanding that helps in social improvement on one side and economic development on the other side, mainly in a country like India, which is home of 17 percent of world's population. The population belongs to different religions and castes. Among these castes, the scheduled castes are consider as the backward group of society in India and governments, both central and state, launches and run many programmes and schemes for the upliftment of these groups. In the present paper an attempt has been made to bring out the correlation of literacy rate and sex ratio in the scheduled castes population of Haryana, which is one of the economically developed state in India.

Key words: Literacy rate, Sex Ratio, Correlation, Scheduled Castes (SCs), Haryana.

Introduction

Literacy rate and sex ratio are two most important aspect of any society or country as they determine the development stage of society or country. The area having low sex ratio and low literacy rate are considered as backward or undeveloped area of the world. Literacy is one of the important aspect of demography and considered as a fairly reliable index of socio-cultural and economic advancement (Chandna, 2015). There are various ways to calculate the literacy rate. In India, this is calculated on the basis of literate person aged 7 years and above to the total population of the country or state at a particular period of time. Literate person have better understanding and can create non discriminatory environment for girls/females. So, this can be assumed that in a literate society, sex ratio will be high and the number of males females in population will be approximately equal. Sex ratio is also an important social indicator to measure the extent of prevailing equity between males and females in a society at a given point of time (Majumdar, 2013). This is estimated that at around 2000, the world had 986 females for every 1000, where as in India the number of females 1000 per thousand males were 933 in 2001 census and the sex ratio in 2011 was 940. So, there is a wide gap between male female population in India. This is a matter of serious concern as more than 17 percent world's population lives here with a diverse socio- cultural environment. This country is home of the followers of at least nine religions, which are divided into 3000 castes and 25000 sub-castes and approximately each caste identifies with specific occupation. The socio-economic conditions vary among these castes.

Haryana is one of the 'geographically small' but 'economically develop' state of India which came into existence on November 1st, 1966 after the Punjab Reorganization Act-1966. The state occupies just 1.4 percent area and 2.09 percent population (2011) of the country. The average sex ratio of the state was 861 females per thousand male in 2001, which was very low as compare to national average sex ratio during same period, though there was some growth during 2011 and reached up to 877 female per thousand males, but there is a wide gap between male female population in the state. The literacy rate of the state was 67.91 percent in 2001, which has reached 75.55 percent in 2011 (Kumar, 2018).



Map-1

The socio-cultural diversity is a major characteristic of the state. According to the census of 2011, the total population of the state was 255351462, which takes 87.46 percent Hindu, 7.03 percent Muslim, 4.91 percent Sikhs, 0.21 percent Jain and 0.41 percent others. This population is further divided in to three groups: General Castes, Backward Castes, and Scheduled Castes. The socio economic status varies among these groups.

The scheduled castes population has considered as one of the socially and economically weak section of the society. Haryana stands at fifth rank in India having large in scheduled caste population. The total population of scheduled castes in 2011 was 51.13 lacs consisting 20.2% of the state's population and more than 70 percent of the scheduled castes population lives in rural areas. Here, 37 castes of the state are considered as scheduled castes and the state government launches so many schemes for the upliftment of these castes.

During some previous years, the Government of Haryana/central government launched many programmes/schemes for the upliftment of literacy level and sex ratio, such as for the growth in literacy rate, the schemes are 'Dr. Ambedkar Medhavi Chhattar Sansodhit Yojna (2005-06), The Scheme of Financial Assistance for Higher Competitive Examination to Scheduled Castes and Backward Classes candidates through private institutions (2009), Scheme for Financial assistance to the institutions/ societies of Scheduled Castes and Backward Classes, Free text books to SC students studying in classes 9th to 12th, Cash Award Schemes for scheduled caste classes 1st to 12th for boys & girls, Monthly Stipends to all scheduled caste students in classes 1st to 12th etc., and for improvement in sex ratio the schemes are like Aapki Beti Hamari Beti Scheme, Beti Bachao-Beti Padhao, Sukanya Samridhhi Account, The Girl Child Protection

Scheme, PCPNDT Act- 2004 (The Indian government has passed Pre-Conception and Pre-natal Diagnostic Techniques -PCPNDT) etc.

But a wide gap can be seen between male female population in Haryana and the trend of sex ratio in scheduled castes is approximately equal to the trend of average sex ratio of state. Though, a positive growth has been seen in the literacy rate among scheduled castes since 1971, but there is large variation in the growth of literacy rate on one side and sex ratio on other side, in scheduled castes population in Haryana (Kumar, 2018).

Objectives

There are following objectives of present research work-

- To study the growth in literacy rate and sex ratio of scheduled castes population in Haryana (2001 to 2011)
- To study the correlation between literacy rate and sex ratio of scheduled castes population in Haryana (2001 to 2011)

Data Source and Research Methodology

The present study is entirely based on the census data of the period 2001 and 2011. The various directories of districts, other related census volumes, various reports of Government organizations and NGOs have been studied for present research work. The districts of 2001 have been considered as the base districts. Hence, the new districts of 2011 have been merged with their parent districts. The processed data is represented with maps, tables and diagrams. The correlation technique is used to determine relationship between literacy rate and sex ratio in scheduled castes. For this, the Karl Pearson's coefficient of correlation has been applied.

Result and discussion

A change can be seen in the growth trend of literacy rate and sex ratio in the scheduled castes population of the state. During 2001, the average sex ratio of state's scheduled castes population was 869, which reached up to 887 in 2011, and higher than the average sex ratio of state during same period. The average literacy rate of scheduled castes population was recorded 66.9 percent in 2011 which had 55.4 percent during last census. Hence, the growth in literacy was recorded as 11.5 percent during 2001 to 2011, but the growth in sex ratio was just 18 females per thousand males or 1.8 females per hundred males during same period.

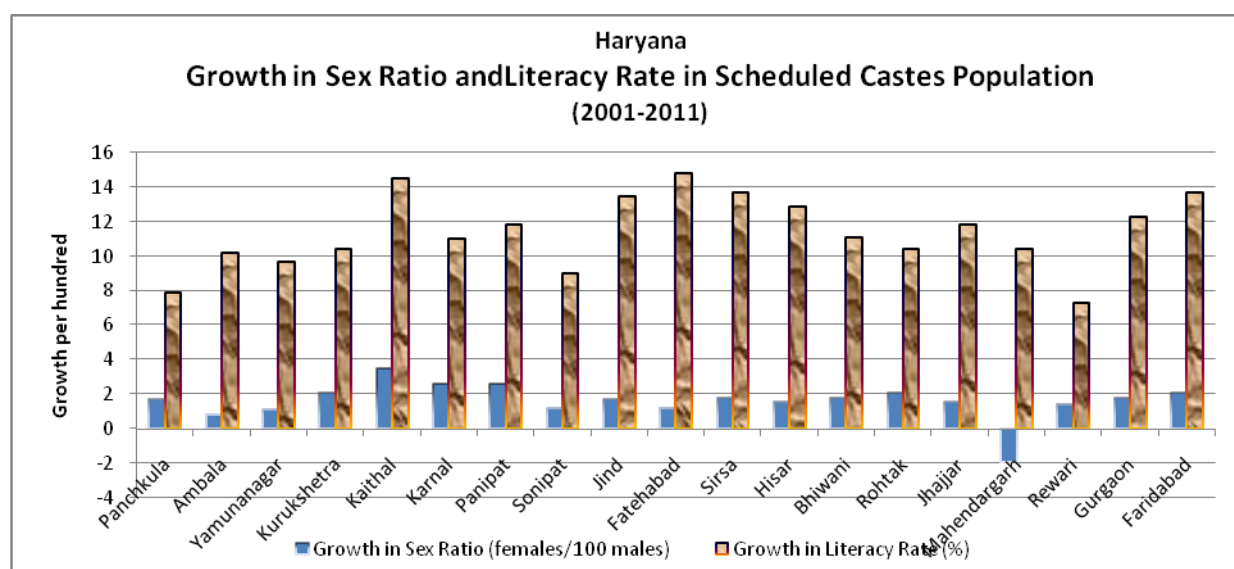


Figure-1

Table- 1
Haryana
Sex Ratio, Literacy Rate and Growth in Sex ratio and Literacy Rate (2001 to 2011)

Sr. No	District	2001					2011					2001-2011	
		Sex ratio (females /1000 males	Sex ratio (females /100 males	Rank	Literacy rate (%)	Rank	Sex ratio (females /1000 males	Sex ratio (females /100 males	Rank	Literacy rate (%)	Rank	Growth in Sex Ratio (females /100 males	Growth in Literacy Rate (%)
1	Panchkula	873	87.3	8 th	63.4	4 th	890	89.0	6 th	71.3	7 th	1.7	07.9
2	Ambala	880	88.0	5 th	63.2	5 th	888	88.8	7 th	73.4	5 th	0.8	10.2
3	Yamunanagar	869	86.9	9 th	62.9	6 th	880	88.0	10 th	72.6	6 th	1.1	09.7
4	Kurukshetra	878	87.8	7 th	56.9	10 th	899	89.9	4 th	67.3	12 th	2.1	10.4
5	Kaithal	847	84.7	17 th	44.7	17 th	882	88.2	8 th	59.2	16 th	3.5	14.5
6	Karnal	864	86.4	11 th	53.8	14 th	890	89.0	6 th	64.8	13 th	2.6	11.0
7	Panipat	854	85.4	14 th	56.7	11 th	880	88.0	10 th	68.5	10 th	2.6	11.8
8	Sonipat	856	85.6	13 th	62.3	8 th	868	86.8	15 th	71.3	7 th	1.2	09.0
9	Jind	854	85.4	14 th	48.9	16 th	871	87.1	14 th	62.4	15 th	1.7	13.5
10	Fatehabad	895	89.5	4 th	41.0	19 th	907	90.7	3 rd	55.8	17 th	1.2	14.8
11	Sirsa	896	89.6	3 rd	41.4	18 th	914	91.4	1 st	55.1	18 th	1.8	13.7
12	Hisar	865	86.5	10 th	49.8	15 th	881	88.1	9 th	62.7	14 th	1.6	12.9
13	Bhiwani	862	86.2	12 th	56.3	12 th	880	88.0	10 th	67.4	11 th	1.8	11.1
14	Rohtak	856	85.6	13 th	59.5	9 th	877	87.7	11 th	69.9	8 th	2.1	10.4
15	Jhajjar	850	85.0	16 th	62.5	7 th	876	87.6	12 th	74.3	3 rd	1.6	11.8
16	Mahendargarh	916	91.6	1 st	63.6	3 rd	897	89.7	5 th	74.0	4 th	-1.9	10.4
17	Rewari	897	89.7	2 nd	68.7	1 st	911	91.1	2 nd	76.0	2 nd	1.4	07.3
18	Gurgaon	879	87.9	6 th	64.0	2 nd	897	89.7	5 th	76.3	1 st	1.8	12.3
19	Mewat	-	-	-	NA*	-	893	89.3	-	67.5	-	-	-
20	Faridabad	852	85.2	15 th	55.8	13 th	873	87.3	13 th	69.5	9 th	2.1	13.7
21	Palwal	-	-	-	NA*	-	885	88.5	-	66.2	-	-	-

Source- Compiled by the authors from different census reports

The growth rate in literacy rate was more than 7.3 percent among all districts as the lowest growth rate was recorded in Rewari district (7.3%) and highest was recorded in Fatehabad district (14.8%) followed by Kaithal, Sirsa, Jind, Hisar and Gurgaon where the growth rate was recorded more than 12 percent. The growth in sex ratio was below 35 females per 1000 males (or just 3.5 females per 100 males) among all districts.

The highest growth in sex ratio was recorded in Kaithal district, which was 3.5 females per 100 males and was very less as compare to the highest growth rate in literacy (14.8 per hundred in Fatehabad district). In other words, the highest growth in sex ratio (3.5 females per 100 males in Kaithal) was lower than the lowest growth in literacy rate (7.3 percent in Rewari). Even the district Mahendargarh was shown the negative growth in sex ratio during same period. The top five districts, who showed the highest growth in literacy were Fatehabad (14.8%), Kaithal (14.5%),

Sirsa (13.7%), Jind (13.5%), and Hisar (12.9%) were less than 2 females per hundred males (20 females per 1000 males) growth during 2001-2011 (Table-1, Figure-1).

Correlation

Correlation is a statistical tool to study the relation between two variables. Whenever two variables are so related that the increase or decrease in one corresponds to the increase or decrease in another..., they are said to be correlated (Sharma, 2012). Here, literacy is considered as independent variable, while sex ratio is

considered as dependent variable. The Karl Pearson's coefficient of correlation has been applied to assess the correlation between literacy rate and sex ratio in scheduled castes population. As the Pearson correlation evaluates the linear relationship between two continuous variables. A relationship is linear when a change in one variable is associated with a proportional change in the other variable (link-1).

The formula suggested by Karl Pearson is applied to calculate the correlation between literacy rate and sex ratio-

$$r = \frac{\sum dxdy - \frac{\sum dx \sum dy}{n}}{\sqrt{\left[\sum dx^2 - \frac{(\sum dx)^2}{N}\right] \left[\sum dy^2 - \frac{(\sum dy)^2}{N}\right]}}$$

Here, 'x' variable is literacy rate, 'y' variable is sex ratio and 'n' is the number of districts (19).

With the help of above method, the value of correlation between literacy rate and sex ratio in 2001 is +0.084, which indicates a positive but very low relation between these two variables.

The correlation between these two variables has also been calculated with the census data of 2011, and the calculated value of correlation is -0.187, which indicates a negative correlation between these two variables. This shows that both variables are independent to each other.

Conclusion

Literacy rate and sex ratio are two important aspects that indicate the status of any society or country. In many areas literate peoples can play an important role for the socio economic development on one side and, other side, to remedies the social problems like social violence, religious riots, and discrimination between male and female etc. However, in case of present study literacy rate and sex ratio are independent and the growth in literacy rate is not helpful to fill the gap between male female population. As the growth in literacy rate is high in the districts of Haryana, which is more 7 percent during 2001 to 2011 but the growth in sex ratio is less than 35 females per 1000 males or 3.5 females per 100 males. Even the districts which have very high growth in literacy rate have low growth in sex ratio. The district Mahendargarh shows -1.9 growth rate of sex ratio, whereas the growth in literacy rate is more than 10 percent. The correlation value between literacy rate and sex ratio in 2001 is positive but very low, and in 2011 this shows a negative correlation. So, it is necessary to make education more impressive, which can change the psychology of society towards females and girls, otherwise the unbalance sex ratio will create so many socio cultural problems in future.

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