CORRELATION OF CHILD SEX RATIO (0-6 YEARS) WITH DEMOGRAPHIC INDICATORS IN HARYANA, 2011

Geeta Kumari*

Research Scholar, Dept. of Geography, Indira Gandhi University, Meerpur, Rewari, India

Email ID:gkumari1221@gmail.com

Accepted: 03.06.2022 **Published**: 01.07.2022

Keywords: Sex composition, Child Sex Ratio, Crude Birth Rate, Crude Death Rate.

Abstract

Sex ratio is not only a term use to define number of females per 1000 males but also it is a great source to find the equality of males and females in a society at a given period of time. Sex ratio defines position and status of female in a society.

Child sex ratio is an important indicator to show the demographic structure of a society. In India, child sex ratio (0-6 years age group) is expressed as the number of female children per thousand male children. The child sex ratio is 914 female children per 1000 male children in India during 2011 which shows the worst condition of the society. There exists a great variation in child sex ratio with respect to state level in India. The highest child sex ratio (0 – 6 age group) was found in Mizoram state which was 971 female children per 1000 male children during 2011. On the other hand, the lowest child sex ratio (0 – 6 age group) was found in Haryana state which was 830 female children per 1000 male children in 2011. Child sex ratio is determined by many factors. Demographic indicators of an area give an overview of human population size, composition, distribution change in fertility, mortality and social migration. Demographic indicators has been divided into two parts i.e., population statistics and vital statistics. Population statistics include those indicators of population which cover the size of population, density, sex ratio and dependency ratio whereas vital statistics cover fertility (birth rate), mortality (death rate), growth rate, life expectancy etc. The analysis of population and vital statistics provide the picture of an area that need programmed interventions, policy and understanding of integrated structure (National Health Profile, 2009).

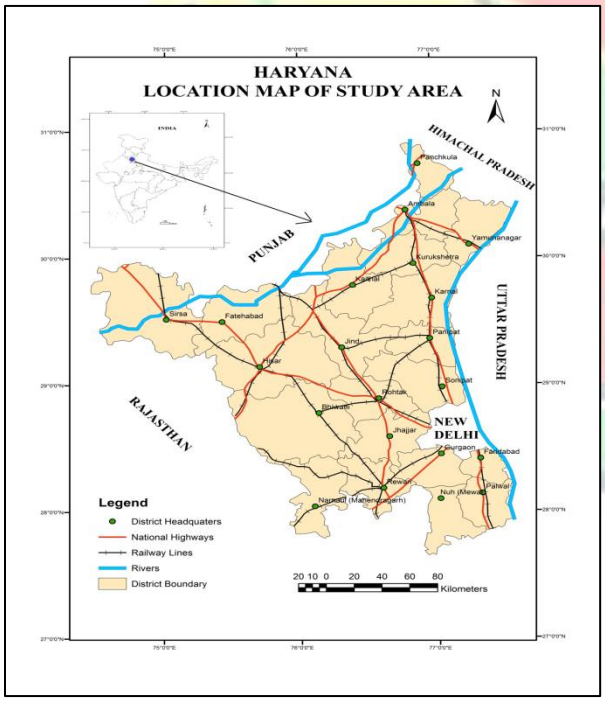
Paper Identification

**Corresponding Author*

INTRODUCTION

Sex composition or Sex Ratio is a field of great interest in population study. It is an index of the socio-economic conditions and regional analysis of population of an area. Sex ratio is not only a term used to define difference between number of females and males but it is also a great source to define the equality between male and female in a society. It varies from one region to another and from one age group to another age group. In India, when sex ratio is analyzed with age specific, child sex ratio (0 – 6 age group) plays an important role. It is expressed as the number of female children per thousand male children in the age group 0 – 6 years in population. The child sex ratio is 914 female children per 1000 male children in India

during 2011 which shows the worst condition of the society. There exists a great variation in child sex ratio with respect to state level in India. The highest child sex ratio (0 – 6 age group) was found in Mizoram state which was 971female children per 1000 male children during 2011. On the other hand, the lowest child sex ratio (0 – 6 age group) was found in Haryana state which was 830 female children per 1000 male children in 2011inspite of economically developed states of India. Child sex ratio is determined by many factors such as social, economical, demographical etc. According to UN fourth conference on women, "Equality between women and men is a matter of human rights and a condition for social justice and is also a necessary and fundamental prerequisite for equality, development and peace." Therefore, i.e., gender composition of population i.e., men and women are one of the primary demographic characteristics of human society.



Sources: Resource Atlas of Haryana, 2004

Figure 1

The composition of population by gender considers fertility, mortality and migration of a known population. Distribution of male and females in a given population affects socio-economic relationship and relative role of population. Socio-economic indicators measure economic standard and cultural environment of people in which they live whereas sex ratio is a demographic indicator of human society. Sex ratio is one of the demographic indicators which is widely used characteristics for cross sectional analysis to measure gender equity. Child sex ratio is the next step in demographic analysis to measure gender equity.

STUDY AREA

Haryana state came into existence on 1st November 1966 from Punjab state. It is situated in the northwestern part of India. It lies between 27°30' to 30°35' North latitude and 74°28' to 77°36' East longitude (Figure 1). It covers an area of 44,212 sq. km. There are 21 district, 74 tehsil, 80 statutory towns, 74 census towns and 6841 villages in Haryana state during 2011. According to Census of India 2011, Haryana has 2,53,51,462 population. . In term of area, Haryana has 21st positions in India, which is spread about 44,212 sq. km and in term of population, it has 18th positions in India. The sex ratio of this state is 877 female per 1000 male which is lowest in India and child sex ratio is 830 female children per 1000 male children which is also lowest in India during 2011 (Administrative Atlas of Haryana, 2011).

DATA SOURCES AND METHODOLOGY

The study is related to Haryana state and based on secondary data. The data related to child sex ratio and work participation rate was calculated from Census of India, 2011. District wise child sex ratio was calculated from population of 0 – 6 years age group and it is expressed as the number of female children per thousand male children. Work participation rate is considered as the ratio between total workers and total population. In the present study, Spearman's Rank Coefficient of Correlation is selected to find out the correlation between child sex ratio and work par rate in Haryana during 2011. Major causes to select this method in present study are it is easy to calculate and

simpler to understand as compared to other methods. Spearman gives formula for the calculation of coefficient of correlation method as follows:

$$R = 1 - \frac{6\sum d^2}{N^3 - N}$$

Where R is used for Rank Correlation, $\sum d^2$ is used for squares of the difference of rank of each pair of items in series and N is number of items in series. Sometimes, it may be possible that there are multiple items which have same value in the series. In that case all items of the same value are assigned with tied rank (average rank) or equal rank in series. In such case, the Spearman's Rank Difference method is applied with two methods i.e., Bracket Rank method and Average Rank method.

Table 1 Degree of Correlation

Degree		**Positive**	**Negative**
1. Perfect		+1	-1
2. Limited	a. Very High	Above + 0.9 and up to + 0.99	Below - 0.9 and up to - 0.99
	b. High	Above + 0.75 and up to + 0.9	Below - 0.75 and up to - 0.9
	c. Moderate	Above + 0.25 & up to + 0.75	Below - 0.25 & up to - 0.75
	d. Low	Above 0 and up to + 0.25	Below 0 and up to - 0.25
3. Absence		0	0

Source: Gupta and Gupta, 2007.

There is also important change in formula with adding $\frac{1}{12}$ $(m^3 - m)$ in the value of $\sum d^2$. Here 'm' is the number of frequency an items is repeated. This adjustment is added to each repeated value in both the series (Gupta and Gupta, 2007). In such case, the formula may be written as below:

$$R = 1 - \frac{6[\sum d^2 + \frac{1}{12}(m^3 - m) + \frac{1}{12}(m^3 - m) + \ldots\ldots\ldots\ldots]}{N^3 - N}$$

Beside the types of correlation, degree of correlation is also important. As per Gupta and Gupta, 2007, there are three type of degree of correlation i.e., perfect correlation, Absence of correlation and limited degree of correlation. Table 1 shows the degree of correlation proposed by Gupta and Gupta, 2007.

RESULTS AND DISCUSSION

DEMOGRAPHIC INDICATORS AND CHILD SEX RATIO

Demographic indicators of an area give an overview of human population size, composition, distribution change in fertility, mortality and social migration. Demographic indicators has been divided into two parts i.e., population statistics and vital statistics. Population statistics include those indicators of population which cover the size of population, density, sex ratio and dependency ratio whereas vital statistics cover fertility (birth rate), mortality (death rate), growth rate, life expectancy etc. The analysis of population and vital statistics provide the picture of an area that need programmed interventions, policy and understanding of integrated structure (National Health Profile, 2009).

CORRELATION OF CHILD SEX RATIO AND CRUDE BIRTH RATE

The Crude Birth Rate (CBR) is vital statistic in Census of India that can be used to calculate the growth of a population. According to Census of India, "Crude Birth Rate (CBR) is defined as the number of live births per thousand people. Civil Registration System (CRS) of the Office of Registrar General, India is the primary source of births and deaths in India. Table 2 shows the district wise correlation between child sex ratio and crude birth rate in Haryana during 2011. The crude birth rate shows the grate variation at district level in Haryana during 2011.

Table 2 District wise Correlation between Child Sex Ratio and Crude Birth Rate in Haryana during 2011.

Sr. No.	District	Crude Birth Rate	Rank (R1)	Child Sex Ratio (Y)	Rank (R2)	d =	d2
1	Ambala	18.7	3	810	5	-2	4
2	Bhiwani	18.9	4	832	12	-8	64
3	Palwal	NA	21	866	20	1	1
4	Fatehabad	24	16.5	854	17	-0.5	0.25
5	Mewat	34.1	20	906	21	-1	1
6	Hisar	22.4	11	851	16	-5	25
7	Jhajjar	16.3	1	782	2	-1	1
8	Jind	19.8	6	838	14	-8	64
9	Kaithal	21.9	10	828	10	0	0
10	Karnal	21.1	8	824	8	0	0
11	Kurukshetra	22.5	12.5	818	6	6.5	42.25
12	Mahendragarh	18.2	2	775	1	1	1
13	Panchkula	27.9	19	863	19	0	0
14	Panipat	24	16.5	837	13	3.5	12.25
15	Rewari	22.6	14	787	3	11	121
16	Rohtak	21.6	9	820	7	2	4
17	Sirsa	24.7	18	862	18	0	0
18	Sonipat	20.1	7	798	4	3	9
19	Yamunanagar	19.7	5	826	9	-4	16
20	Gurgaon	22.5	12.5	830	11	1.5	2.25
21	Faridabad	23.5	15	843	15	0	0

Source: Compiled by Researcher. $\sum d^2 = 368$

The highest crude birth rate is found in Mewat district i.e., 34.1 and the lowest crude birth rate is found in Jhajjar district i.e., 16.3 during 2011. In Table 2, in series X i.e., crude birth rate, the value 22.5 and 24 are repeated twice. The average rank for the value 22.5 is 12.5 (12 + 13 = 25/2) while the average rank for the value 24 is 16.5 (16 +17 = 33/2). In both these cases, the correction factor will be $\frac{1}{12}(2^3 - 2)$ and addition will be two times. In series Y i.e., child sex ratio, no one value is repeated. In this case, the formula may be written as below:

$$R = 1 - \frac{6[\sum d^2 + \frac{1}{12}(m^3 - m) + \frac{1}{12}(m^3 - m)]}{N^3 - N}$$

$$R = 1 - \frac{6[368 + \frac{1}{12}(2^3 - 2) + \frac{1}{12}(2^3 - 2)]}{21^3 - 21} = 0.76.$$

The result shows that there might be a positive correlation. As per Table 1, there exits high degree limited positive correlation between child sex ratio and crude birth rate. It suggests that the higher crude birth rate represent higher child sex ratio and vice - versa.

CORRELATION OF CHILD SEX RATIO AND CRUDE DEATH RATE

The Crude Death Rate (CDR) is also vital statistic in Census of India that can be used to calculate the growth of a population. Natural growth of population is the difference between birth rate and death rate. According to Census of India, "Crude Death Rate (CDR) is defined as the number of death per thousand of population. It provides the roughly ideas because this indicator affected by age group but it is easy to calculate. Civil Registration System (CRS) of the Office of Registrar General, India is the primary source of births and deaths in India. The crude death rate was 7.30 per thousand people in India during 2015. Table 3 shows the district wise correlation between child sex ratio and crude death rate in Haryana during 2011.

Table 3 District wise Correlation between Child Sex Ratio and Crude Death Rate in Haryana during 2011.

Sr. No.	District	Crude Death Rate (X)	Rank (R_1)	Child Sex Ratio(Y)	Rank (R_2)	$d = R_1 R_2$	d^2
1	Ambala	3.8	1	810	5	-4	16
2	Bhiwani	5.7	10.5	832	12	-1.5	2.25
3	Palwal	5.3	5	866	20	-15	225
4	Fatehabad	5.6	8	854	17	-9	81
5	Mewat	4.5	2	906	21	-19	361
6	Hisar	11.9	20	851	16	4	16
7	Jhajjar	6.9	18	782	2	16	256
8	Jind	5.7	10.5	838	14	-3.5	12.25
9	Kaithal	6.3	17	828	10	7	49
10	Karnal	6	14	824	8	6	36
11	Kurukshetra	5.5	6	818	6	0	0
12	Mahendragarh	5.6	8	775	1	7	49
13	Panchkula	6.1	15	863	19	-4	16
14	Panipat	5.1	4	837	13	-9	81
15	Rewari	NA	21	787	3	18	324
16	Rohtak	7.1	19	820	7	12	144
17	Sirsa	5.6	8	862	18	-10	100
18	Sonipat	5.8	12.5	798	4	8.5	72.25
19	Yamunanagar	6.2	16	826	9	7	49
20	Gurgaon	5.8	12.5	830	11	1.5	2.25
21	Faridabad	5	3	843	15	-12	144

Source: Compiled by Researcher. $\sum d^2 = 2036$

There were 6 persons died per thousand of population i.e., crude death rate in Haryana during 2011. The crude death rate shows the grate variation at district level in Haryana during 2011. The highest crude death rate is found in Hisar district i.e., 11.9 which is followed by Rohtak (7.1) and Jhajjar (6.9) districts during 2011. The lowest crude death rate is found in Ambala district i.e., 3.8 which is followed by Mewat (4.5) and Faridabad (5.0) districts during 2011. More than 6.0 point crude death rate is found in Panchkula (6.1), Yamunanagar (6.2) and Kaithal (6.3) districts during 2011. Rest of the districts is having the crude death rate from 5.0 to 6.0 point during 2011. In Table 3, in series X i.e., crude death rate, the value 5.6 is repeated thrice, the value of 5.7 and 5.8 are repeated twice. The average rank for the value 5.6 is 8 (7 + 8 + 9 = 24/3) and here m = 3, so the correction factor to be added for this value will be $\frac{1}{12}(3^3 - 3)$. The common rank given to the value 5.7 is 10.5 (10 +11 = 21/2) and for the value 5.8 is 12.5 (12 +13 = 25/2). In both these cases, the correction factor will be $\frac{1}{12}(2^3 - 2)$ and addition will be two times. In series Y i.e., child sex ratio, no value is repeated. In this case, the formula may be written as below:

$$R = 1 - \frac{6[\sum d^2 + \frac{1}{12}(m^3 - m) + \frac{1}{12}(m^3 - m) + \frac{1}{12}(m^3 - m)]}{N^3 - N}$$

$$R = 1 - \frac{6[2036 + \frac{1}{12}(3^3 - 3) + \frac{1}{12}(2^3 - 2) + \frac{1}{12}(2^3 - 2)]}{21^3 - 21} = -0.32$$

The result shows that there might be a negative correlation. As per Table 1, there exits limited negative correlation between child sex ratio and crude death rate. In limited degree correlation category correlation between child sex ratio and crude death rate is found in moderate degree correlation between child sex ratio and crude death rate. It suggests that the higher crude death rate represent lower child sex ratio and vice - versa.

Table 4 District wise Correlation between Child Sex Ratio and Decadal Growth Rate of Population in Haryana during 2011.

Sr. No.	District	Decadal Growth Rate (X)	Rank (R1)	Child Sex Ratio (Y)	Rank (R2)	d = R1 –R2	d2
1	Ambala	12.1	3	810	5	-2	4
2	Bhiwani	14.3	8	832	12	-4	16
3	Palwal	25.5	18	866	20	-2	4
4	Fatehabad	16.8	12.5	854	17	-4.5	20.25
5	Mewat	37.9	20	906	21	-1	1
6	Hisar	13.4	6	851	16	-10	100
7	Jhajjar	8.7	1	782	2	-1	1
8	Jind	12	2	838	14	-12	144
9	Kaithal	13.4	6	828	10	-4	16
10	Karnal	18.2	15	824	8	7	49
11	Kuruksh etra	16.8	12.5	818	6	6.5	42.25
12	Mahendr agarh	13.4	6	775	1	5	25
13	Panchkul a	19.3	16	863	19	-3	9
14	Panipat	24.3	17	837	13	4	16
15	Rewari	17.1	14	787	3	11	121
16	Rohtak	12.6	4	820	7	-3	9
17	Sirsa	16	10	862	18	-8	64
18	Sonipat	15.7	9	798	4	5	25
19	Yamuna nagar	16.6	11	826	9	2	4
20	Gurgaon	73.9	21	830	11	10	100
21	Faridabad	31.7	19	843	15	4	16

Source: Compiled by Researcher.

$\sum d^2 = 786.5$

CORRELATION OF CHILD SEX RATIO AND GROWTH RATE OF POPULATION

Growth of population means change in the number of individuals in a population during a fixed time. On the other hand the change of population in a particular area between two points of time is called growth of population. The “growth rate of population” is the rate at which the number of individuals in a population increases in a given time period expressed as a fraction of the initial population. It can be in terms of positive growth or negative growth. For example, a reduction in the population of India from 2011 to 2001 will lead to an increase in the population or called growth of population. During 2011, the population in India was 121.02 million whereas during 2001, the population in India was 102.87 million. Therefore the difference between these figures is 18.15 million this is the growth of population in India from 2001 to 2011. If the change of population between two time points expressed in percentage, it will be the rate of population growth. The change may be in term of positive as well as negative. If the birth rate is more than the death rate or people are immigrated from another country in an area between two time points is shows positive growth of population. On the other hand, if the birth rate is lower than the death rate or people are emigrated from an area to another country between two time points is shows negative growth of population. Population growth has two components i.e., natural growth and induced growth. In demography, natural growth of population includes only the difference between birth rate and death rate during a fixed time whereas induced growth is also includes the change in the migration factors with natural growth of population (Population Growth, Wikipedia, 2019).

According to the Census of India, the Indian population grew by 17.64 percent from 2001 to 2011 whereas the Haryana population grew by 19.9 percent during the same period. Table 4 shows the district wise correlation between child sex ratio and decadal growth rate of population in Haryana during 2011. The maximum decadal growth rate in Haryana is found in Gurgaon district i.e., 73.9 percent which is followed by Mewat district (37.9 percent). On the other hand, the minimum decadal growth rate in Haryana is found in Jhajjar district i.e., 8.7 percent which is followed by Jind district (12 percent) during 2011. In Table 5.4, in series X i.e., decadal growth rate, the value 13.4 is repeated thrice and the value of 16.8 is repeated twice. The average rank for the value 13.4 is 6 (5 + 6 + 7 = 18/3) and here m = 3, so the correction factor to be added for this value will be $\frac{1}{12}(3^3 - 3)$. The common rank given to the value 16.8 is 12.5 (12 +13 = 25/2) and the correction factor will be $\frac{1}{12}(2^3 - 2)$. In series Y i.e., child sex ratio, there is not any repetition in values. In this case, the formula may be written as below:

$$R = 1 - \frac{6[\sum d^2 + \frac{1}{12}(m^3 - m) + \frac{1}{12}(m^3 - m)]}{N^3 - N}$$

$$R = 1 - \frac{6[786.5 + \frac{1}{12}(3^3 - 3) + \frac{1}{12}(2^3 - 2)]}{21^3 - 21} = 0.49.$$

The result shows that there might be a positive correlation. As per Table 1, there exits moderate limited positive degree correlation between child sex ratio and growth rate. It suggests that the higher growth rate represent moderate child sex ratio and vice - versa.

CORRELATION OF CHILD SEX RATIO AND PERCENT OF 0 – 6 YEARS POPULATION

According to Oliver Wendell Holmes, "Children are our most valuable natural resource." Child population includes that part of the total population of an area or country which lies in 0 – 6 years population age group. Percent of 0 – 6 years population directly related to child sex ratio.

Table 5 District wise Correlation between Child Sex Ratio and 0 – 6 Years Population in Haryana during 2011.

Sr. No	District	0 – 6 Years Population (%) (X)	Rank (R1)	Child Sex Ratio (Y)	Rank (R2)	d =	d2
1	Ambala	10.9	1	810	5	-4	16
2	Bhiwani	11.7	2	832	12	-10	100
3	Palwal	11.8	3	866	20	-17	289
4	Fatehabad	11.9	5	854	17	-12	144
5	Mewat	11.9	5	906	21	-16	256
6	Hisar	11.9	5	851	16	-11	121
7	Jhajjar	12.0	7	782	2	5	25
8	Jind	12.1	8.5	838	14	-5.5	30.25
9	Kaithal	12.1	8.5	828	10	-1.5	2.25
10	Karnal	12.4	10	824	8	2	4
11	Kurukshetra	12.5	11	818	6	5	25
12	Mahendragarh	12.6	13	775	1	12	144
13	Panchkula	12.6	13	863	19	-6	36
14	Panipat	12.6	13	837	13	0	0
15	Rewari	12.7	15	787	3	12	144
16	Rohtak	12.9	16	820	7	9	81
17	Sirsa	13.1	17	862	18	-1	1
18	Sonipat	13.2	18	798	4	14	196
19	Yamunanagar	13.7	19	826	9	10	100

20	Gurgaon	16.5	20	830	11	9	81
21	Faridabad	22.3	21	843	15	6	36

Source: Compiled by Researcher. $\sum d^2 = 1831.5$

Table 5 shows that district wise correlation between child sex ratio and 0 – 6 years population in Haryana during 2011. In Table 5, in series X i.e., 0 – s6 years Population, the value 11.9 and 12.6 are repeated thrice and the value of 12.1 are repeated twice. The average rank for the value 11.9 is 5 (4 + 5 + 6 = 15/3) and the average rank for the value 12.6 is 13 (12 + 13 + 14 = 39/3) here m = 3, so the correction factor to be added for these value will be $\frac{1}{12}(3^3 - 3)$ and two time addition. The common rank given to the value 12.1 is 8.5 (8 + 9 = 17/2) and the correction factor will be $\frac{1}{12}(2^3 - 2)$.

CORRELATION OF CHILD SEX RATIO AND SEX RATIO

Sex ratio is one of the best indicators to show the composition of population. It shows the status of women in their society. It indicates the proportion of male and female in an area during a fixed time. According to Census of India, sex ratio is indicated as the number of females per thousand males. Sex ratio was 943 females per thousand males in India during 2011. It has shown sharply decline in India during last hundred years. Decline sex ratio creates some major socio-economic and cultural problems. In hierarchy option, sex ratio is next step after child sex ratio. Child sex ratio is the number of female per thousand males in the age group 0 – 6 years population. Table 6 represents the district wise correlation between child sex ratio and sex ratio in Haryana during 2011. The maximum sex ratio is found in Mewat district (907 female per thousand males) whereas the minimum sex ratio is found in Gurgaon district (854 female per thousand males).

Table 6 District wise Correlation between Child Sex Ratio and Sex Ratio in Haryana during 2011.

Sr. No.	District	Child Sex Ratio (X)	Rank (R1)	Sex Ratio (Y)	Rank (R2)	d = R1 –R2	d2
1	Ambala	810	5	885	13	-8	64
2	Bhiwani	832	12	886	14	-2	4
3	Palwal	866	20	880	11	9	81
4	Fatehabad	854	17	902	20	-3	9
5	Mewat	906	21	907	21	0	0
6	Hisar	851	16	872	7	9	81
7	Jhajjar	782	2	862	3	-1	1
8	Jind	838	14	871	6	8	64
9	Kaithal	828	10	881	12	-2	4
10	Karnal	824	8	887	15	-7	49
11	Kurukshetra	818	6	888	16	-10	100
12	Mahendragarh	775	1	895	17	-16	256
13	Panchkula	863	19	873	8	11	121
14	Panipat	837	13	864	4	9	81
15	Rewari	787	3	898	19	-16	256
16	Rohtak	820	7	867	5	2	4
17	Sirsa	862	18	897	18	0	0
18	Sonipat	798	4	856	2	2	4
19	Yamunanagar	826	9	877	9	0	0
20	Gurgaon	830	11	854	1	10	100
21	Faridabad	843	15	879	10	5	25

Source: Compiled by Researcher. $\sum d^2=1304$

In Table 6, there is no repetition of any values or ranks in both the series i.e., X (Child Sex Ratio) and Y (Sex Ratio). In this case, the formula may be written as below:

$$R = 1 - \frac{6\sum d^2}{N^3 - N}$$

$$R = 1 - \frac{6*1304}{21^3 - 21} = 0.15.$$

The result shows that there might be a positive correlation. As per Table 1, there exits very low limited degree positive correlation between child sex ratio and sex ratio. This relationship shows that if the child sex ratio increase then sex ratio is also increase and vice – versa in Haryana state during 2011.

CONCLUSION

Child sex ratio (0 – 6 age group) is expressed as the number of female children per thousand male children in the age group 0 – 6 years in population. The child sex ratio is 919 female children per 1000 male children in India during 2011. In India, the lowest child sex ratio (0 – 6 age group) was found in Haryana state which was 830 female children per 1000 male children in 2011. When concern at district level, the highest child sex ratio is found in Mewat district i.e., 906 female children per thousand male children whereas the lowest child sex ratio is found in Mahendragarhistrict i.e., 775 female children per thousand male children. In demographic indicators, Crude Birth Rate and Growth Rate of Population show the positive relationship. It means that if crude birth rate and growth rate of population increases, then the child sex ratio of Haryana will also be increased. On the other hand, the relationship of crude death rate and percent of 0 – 6 years population size of Haryana with child sex ratio is unfavorable. These show that if higher the crude death rate and 0 – 6 years population size increased, then the child sex ratio of Haryana state may be decreased and vice – versa. The data presented that if the percent of 0 – 6 years population size is increased it create male child dominant or son preference in society. This is illustrated the existence of patrilineal kinship system in Haryanvi culture. In short, there is not only one indicator affecting child sex ratio in Haryana but many indicators are behind the low child sex ratio in the state. If proper management and planning is not undertaken, the situation will get worst.

REFERENCES

Administrative Atlas of Haryana (2011) *Haryana – a geo-historical outline*. Chandigarh: Director of Census Operations, Haryana.Ministry of Home Affairs, Government of India: 228-235.

Agriculture Contingency Plan of district Sonepat (2001) Hisar: Department of Agriculture. CCS Haryana Agriculture University, Haryana: 1-2.

Census of India (2001) *Administrative Atlas of Haryana.* Chandigarh: Directorate of Census Operations, Haryana: 249 – 250.

Census of India (2011) *Administrative Atlas of Haryana.* Chandigarh: Directorate of Census Operations, Haryana: 249 – 250.

Gupta Das M, Zhenghua J, Bohua L, Zhenming X, Chung W, Bae H. Why is son preference so persistent in East and South Asia? A cross-country study of China, India and the Republic of Korea. The Journal of Development Studies. 2003 December; 40(2):153–187.

Gupta, S.P. and Gupta, M.P., 2007. Business Statistics Sultan Chand and Sons. *New Delhi*.

Resource Atlas of Haryana (2004) Chandigarh: State Natural Resources Data Management System (NRDMS) centre, Hisar. Haryana State Council for Science and Technology (Science and Technology Department, Haryana): 9-30.

Sangwan, Dr. Randhir Singh and Kumari, Geeta. (2019). A Comparative Study of Literacy Rate in Mewat and Mahendragarh District of Haryana, 2011. *Journal of Advances and Scholarly Researches in Allied Education*. 16 (6), p1140-1145.

Sangwan, Dr. Randhir Singh and Kumari, Geeta. (2019). Spatial-Temporal Change in Child Sex Ratio in Haryana: A Geographical Analysis. *Journal of*

Advances and Scholarly Researches in Allied Education. 16 (5), p978-987.

Singh, Devender, Singh, Dr. Mehtab, Gupta, Dr. J. P. (2017). Relationship of Rainfall and Depth to Groundwater Table in Sonipat District of Haryana, India

Statistical Abstract of Haryana (2012 – 13). Chandigarh: Department of Economics and Statistical Analysis, Haryana. Available at: http://www.esaharyana.gov.in (Last accessed 15th April 2015).