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## A comparison of selected kin anthropometric variables of Delhi boys with other groups

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### Abstract

The study is based on cross-sectional data of 389 Jat boys ranging in age from 10 to 20 years. The sample of 389 subjects belonged to a single endogamous genetic group of Jat boys of Delhi (rural area). They all were residing in Delhi of rural areas. For this paper in comparison of Delhi Jat boys with other population group i.e. Haryanvi and Sikh Jat boys was made. Only two anthropometric variables i.e. weight, height were taken. Descriptive statistical calculation was used for tabulation work. The mean value of the samples depicts the growth patterns of Jat boys in tables. Age wise of 11 groups were made to view the kin anthropometric variables to show the comparison. It is important to mention here that the brief description of each sample which represents population is must for drawing meaningful conclusion in a comparative study. The comparison of variables of Delhi Jat boys with Haryana and Shikh Jat boys has been made on Mean and 'd' values of differential magnitude index given in tables. Hence, the comparison of 'd' values computed and describes the percentage differences between two populations from measurement to measurement and from age to age.

**Keywords:** Comparison, cross sectional, 'd' value, differential magnitude, height, weight, Delhi jay boys, Haryana Jat boys, Sikh Jat boys

### Introduction

In today's scientific and technological world, sports also adopted very scientific and systematic approach to investigate the body and demographic variables for improving the sports performance. In this regard for developing sports, kin anthropometric body of knowledge have played a very important role in understanding of sports with new addition of information about body shape and size of sports persons. Human population living under different environmental conditions vary considerably in their body size, shape and composition (Tanner 1978; Verma 1988) [6]. Always we find a very valuable information when we compare the facts and figures of the things with other things may be in historical sense or contemporary time. Consequently with demographic and endogamous aspects, a comparison gives a pave to new insights in research studies. It does not take into consideration the differences in the duration of growth and final size of the group to be compared, the relationships lines provide the knowledge of the nature and extent of the relative body dimensions variability of a population group (Godin, 1919) [3], (Thompson, 1959) [7], (Hirata, 1966) [4].

It is therefore important to compare the growth patterns, physique and physical performance of Delhi Jat boys with other population groups. In strict sense of endogamous norms, they marry into their own tribe, and they strictly follow to get into the marriage with same jat group by adopting linear relationship of endogamous group while maintaining their genetic pool rigidity. Moreover, no man carry into family of the goter (clan) to which the mother or parental grandmother belongs (Bingley, 1978) [1]. The study of Haryana Jat boys was carried out by Giri (1990) [2] on 660 boys of Haryana state of Dist. Hissar and the sample of 799 Jat shikh boys was compared ranging in age from 10 to 20 years and data was collected from various educational institutions and others from Patiala and sangrur Distt. Of Punjab and Union territory of Chandigarh (Kansal, 1981) [5].

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## Methodology

In the present cross-sectional study, 389 boys were selected randomly approximately ranging in age from 10 to 20 years belonging to a single endogamous genetic group of Jat boys of Delhi (rural area), all residing in Delhi of rural areas. In this paper for comparison of Delhi Jat boys with other population group, only two anthropometric variables i.e. weight, height were taken. Only healthy subjects, not suffering from any type of disability, were included in the present study. Descriptive statistical calculation was used for tabulation work. The mean presents the data. These tabulation work depict the growth patterns of Jat boys in tables. Age wise of 11 groups were made to view the kin anthropometric variables to show the comparison.

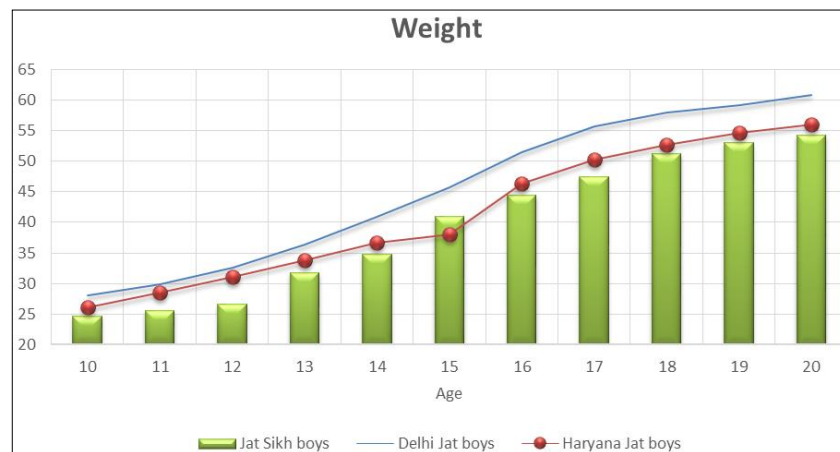
However, the most of the studies have been carried on subjects belonging to a narrow duration of age as compared to the wide range of 10 to 20 years of the present study. It is understood that only common age group values of different samples have been compared while comparing various population. It is important to mention here that the brief description of each sample which represents population is must for drawing meaningful conclusion in a comparative study. The comparison of variables of Delhi Jat boys with Haryana and Sikh Jat boys has been made on raw data and

'd' values of differential magnitude index from table 1, 2 and 3. Hence, the comparison of 'd' values computed and describes the percentage differences between two populations from measurement to measurement and from age to age.

**Table 1:** Comparison of weight (kg) of Delhi Jat boys with Haryana and Sikh Jat boys. Mean of Delhi, Haryanvi and Sikh Jat boys from 10 to 20 years

Age	Weight		
	1	2	3
10	28.05	26.1	24.7
11	29.91	28.5	25.6
12	32.62	31.1	26.7
13	36.39	33.8	31.8
14	40.90	36.6	34.8
15	45.75	38.0	40.9
16	51.54	46.3	44.5
17	55.68	50.3	47.5
18	57.97	52.6	51.3
19	59.23	54.6	53.1
20	60.87	56.0	54.3

1. Delhi Jat boys
2. Haryana Jat boys
3. Jat Sikh boys



**Fig 1:** Comparison of weight (kg) of Delhi Jat boys with Haryana and Sikh Jat boys. Mean of Delhi, Haryanvi and Sikh Jat boys from 10 to 20 years

## (Curve graph)

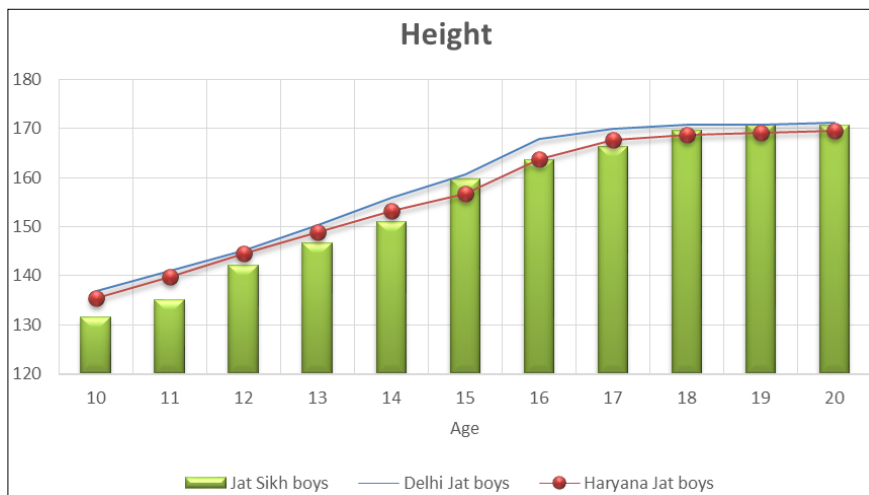
A critical observation of table (1) and graph reveals that Delhi Jat boys are consistently heavier than their counterpart of other population namely Haryana and Sikh Jats. The Delhi Jat boys are having more weight throughout the whole range of the years from 10 to 20 years, Delhi Jat boys at the age of

10.5 years are having 28.05 kg where as Haryana and Sikh Jat boy are having 26.1 kg and 24.7 kg respectively at the same age and at the age of 19.5 they are having 60.87 kg, 56 kg and 54.3 kg respectively so Delhi Jat boys are heavier in this variable.

**Table 2:** Comparison of height (cm) of Delhi Jat boys with Haryana and Sikh Jat boys. Mean, of Delhi Jat boys from 10 to 20 years

Age	Height		
	1	2	3
10	136.81	135.5	131.5
11	141.06	139.7	135.2
12	145.20	144.5	142.2
13	150.30	148.8	146.7
14	155.80	153.2	151.0
15	160.67	156.7	159.8
16	167.97	163.8	163.6
17	169.99	167.7	166.3
18	170.76	168.7	169.7
19	170.84	169.1	170.8
20	171.10	169.5	170.7

1. Delhi Jat boys
2. Haryana Jat boys
3. Jat Sikh boys



**Fig 2:** Comparison of height (cm) of Delhi Jat boys with Haryana and Sikh Jat boys. Mean, of Delhi Jat boys from 10 to 20 years

### (Curve graph)

In table (2) and graph, it shows that Delhi Jat boys are taller than their counterpart of Indian population namely Haryana and Sikh Jats. The Delhi Jat boys are having more height throughout the whole range of the years from 10 to 20 years, Delhi Jat boys at the age of 10.5 years are having 136.81cm where as Hayana and Sikj Jat boy are having 135.5 cm and 131.5 cm respectively at the same age and at the age of 19.5 all three groups namely Delhi, Haryana and Sikh Jat boys are having 171 cm, 169.5 cm and 170.8 cm respectively so Delhi Jat boys are taller in this measurement

(Curve graph)

**Table 3:** Comparison of weight and height of Delhi Jat boys with Haryana (d1) and Sikh (d2) Jat boys

Age	Weight		Height	
	D1	D2	D1	D2
10	6.95	11.94	1.25	3.88
11	4.71	14.08	0.96	4.15
12	4.66	12.02	0.48	2.20
13	7.12	12.61	0.82	2.22
14	10.62	18.02	1.67	3.08
15	16.90	10.56	2.47	0.54
16	10.17	13.66	2.48	2.60
17	9.66	14.69	1.35	2.17
18	9.26	11.51	1.21	0.62
19	7.82	10.35	1.20	0.02
20	8.00	10.79	0.94	0.18

According to table-3; The values of differential magnitude index (d) for studying the comparison of weight and height is evident that the Delhi Jat boys are greater in weight category than their counterparts i.e. Haryana and Sikh Jat boys with 6.95% and 11.94% and growth at the at the age of 10 years and 8.00% and 10.79% at the age of 20 years respectively. In height also Delhi Jat boys are taller compared with Haryana and Sikh Jat boys with 1.25% and 3.88% respectively at the age of 10 years in differential magnitude with 'd' value. Also at the age of 20 years same tendency is repeating with 0.94% and 0.18% respectively at growth.

### Discussion

A great variability is exhibited consistently in both Kin anthropometric variables i.e. weight and height of Delhi Jat boys from age to age ranging from 10 to 20 years of their counter parts of Haryana and Sikh Jat boys. The mean values of weight and height in all years are found to be greater in

Delhi Jat boys indicate that they are having upper hand in these measurements when compared with Haryana and Sikh Jat boys. Hence, the comparison of 'd' values computed in percentage between the populations from measurement to measurement and from age to age irrespective of the mean values of the weight and height. Delhi Jat boys are consistently heavier than their counterpart of other population namely Haryana and Sikh Jats. The Delhi Jat boys are having more weight throughout the whole range of the years from 10 to 20 years, Delhi Jat boys are taller than their counterpart of Indian population namely Haryana and Sikh Jats. The Delhi Jat boys are having more height throughout the whole range of the years from 10 to 20 years, Delhi Jat boys at the age of 10.5 years are having 136.81cm where as Hayana and Sikj Jat boy are having 135.5 cm and 131.5 cm respectively at the same age. Delhi Jat boys are taller compared with Haryana and Sikh Jat boys with 1.25% and 3.88% respectively at the age of 10 years in differential magnitude with 'd' value.

### Conclusion

The comparison of Delhi Jat boys provides to see the data better than Haryana and Sikh Jat boys. They are heavier and taller in eight and height in the age group ranging from 10 to 20 years. This kin anthropometric variables comparison is helpful that Delhi Jat boys may perform highly in sports. These variables are significant to influence the sports performance. Delhi Jat boys data show their superiority in differential magnitude index also of 'd' value. Overall population of Jat is better in sports. The present study proves that Delhi Jat boys are better in basic body structural requirements in sports.

### References

1. Bingley J. History, caste and Culture of Jats and Gujars (Revised with introduction by). Ess Publications, New Delhi 1978.
2. Giri NP. Changes in Physique and Physical performance in School Boys Ranging in Age from 8 to 20 years. Ph.D Thesis, Punjabi University, Patiala 1990.
3. Godin P. Manual d Anthropologia Pedagogique: Bases Sur P. anatomo-Physiologic de La Croissance Methods Ausologique Delachaux. Nisstle. Paris 1919.
4. Hirata K. Physique and Age of Tokyo Olympic Champions. J Sports Med Phys Fitness 1966;6:207.
5. Kansal DK. A study of Age Changes in Physique and Body Composition in Males of Two Communities of Punjab. Ph.D. thesis, Punjabi University, Patiala 1981.

6. Tanner JM. Foetus into Man-Physiocal growth from Conception to Maturity. Harvard University Press, Cambridge 1978.
7. Thompson CW. Changes in Body Fat Estimated from Skifolds Mesurements of varisity College Football players Season. Rs Quart 1959;30(1):87-93.
8. Verma SK. Work capacity and Physiological Responses to Exercise with special Reference to Age Changes. Ph.D., Thesis. Punjabi University, Patiala, 1988.