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## ANALYSIS OF AEROBIC CAPACITY AND MUSCULAR STRENGTH ENDURANCE ON THE SPECIFIC FITNESS TRAINING AMONG THE TRIBAL AND NON-TRIBAL SCHOOL BOYS

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### ABSTRACT

The purpose of the present study was to compare aerobic capacity and Muscular strength and endurance on the specific fitness training among the tribal and non tribal school boys. To achieve the purpose 100 subjects were selected from the Tribal and Non-Tribal school boys of the South Karnataka state. Aerobic capacity and Muscular strength and Endurance were measured by the Queen college step test based on the aerobic sprint test (RAST). The data was collected before and after the treatment of 12 weeks for three days in a week. The collected data was analyzed using the t test and the Anova and Analysis of Covariance were also used. The result of the study showed a significant difference in the aerobic capacity and muscular strength and endurance of the tribal and non tribal school boys.

**KEYWORDS:** Aerobic capacity, Muscular strength and Endurance, RAST, Tribal and Non-Tribal.

### INTRODUCTION:

Indian tribal people play a key part in

constructing the cultural heritage of India. They occupy a major part in the history of India as they are considered as the true inhabitants of India. The tribal people are scattered in different parts of India and they are in a considerable number of the population of India. The traditional and cultural distinction of the each tribal community has made them distinguishable from each other and their cultural and traditional heritage add colour and variation to the Indian culture as a whole and form a

compact culture. Indian tribal people reside approximately for fifteen percent of the country's area. They primarily live in the various ecological and geo-climatic conditions ranging from plains, forests, hills and inaccessible areas that perhaps lie dotted in the panoramic Indian terrain.

According to the Article 342 of the Indian Constitution, at present, there exist six hundred and ninety seven tribes as notified by the Central Government. These Indian tribal groups are notified to reside in more than a State. More than half of the Indian tribal population is settled in the States of Madhya Pradesh, Chhattisgarh, Maharashtra, Orissa, Jharkhand and Gujarat, whereas in Haryana, Punjab, Delhi, Pondicherry



and Chandigarh no community is notified as a specific tribal group. Though the tribal people in the earlier eras are not much forward but in the recent times they are seen in some of the sectors like economical, educational and social development. The history says that India is the abode of various tribal groups.

**OBJECTIVE OF THE STUDY**

The study helps to know the comparison of aerobic capacity and Muscular Fitness Parameters among the tribal and non-tribal school boys of different groups.

**HYPOTHESIS**

- 1.It was hypothesized that the tribal school boys can show a significant improvement on the aerobic capacity and muscular strength and endurance among the school boys.
- 2.It was hypothesized that the non-tribal school boys can show significant improvement on aerobic capacity and muscular strength and endurance among the school boys.
- 3.It was hypothesized that tribal school boys and tribal school boys can show a significant improvement on aerobic capacity and muscular strength and endurance among the school boys.

**METHODOLOGY**

The purpose of this study was to find out the comparison of Aerobic Capacity and Muscular Fitness Parameters among the tribal and non-tribal school boys of different groups. To achieve the purpose of the study, tribal and non tribal boys were selected as subjects from Karnataka state at random and their ages ranged from 12-14 years. The selected variables were aerobic capacity and muscular fitness parameters. The collected data on the criterion measures were treated and the collected data were statistically analysed by the two ways analysis of variance test. The level of the significance for the study was 0.05 levels. The data were collected from Karnataka State schools. The collected data were statistically analysed by the one way analysis and the variance test was applied. The level of the significance for the study was 0.05 level. The significant differences were found by the scheffe’s post-hoc test.

**RESULTS AND DISCUSSION**

**Table-1**

**THE TABULATION SHOWS THE MEAN VALUES BETWEEN THE PRE AND POST TEST OF THE PHYSICAL GROWTH, AEROBIC CAPACITY AND MUSCULAR FITNESS PARAMETERS ON THE SPECIFIC FITNESS TRAINING AMONG THE TRIBAL SCHOOL BOYS OF SOUTH KARNATAKA STATE**

Variables	Test	Mean	S.D	S.E.M.	M.D	‘t’ ratio
Aerobic Capacity in meters	Pre test	6.09	0.88	0.17	1.00	12.63*
	Post test	7.09	0.87	0.17		
Muscular strength Endurance in Numbers	Pre test	13.52	2.93	0.58	2.24	18.75*
	Post test	15.76	3.05	0.61		

0.05 level of significance ( )

**Table- 2**

**THE TABULATION SHOWS THE MEAN VALUES BETWEEN THE PRE AND POST TEST OF THE PHYSICAL GROWTH, AEROBIC CAPACITY AND MUSCULAR FITNESS PARAMETERS ON THE CONTROL GROUP AMONG THE TRIBAL SCHOOL BOYS OF SOUTH KARNATAKA STATE**

Variables	Test	Mean	S.D	S.E.M	M.D	T-Ratio
Aerobic Capacity in meters	Pre test	6.15	0.77	0.15	0.00	1.445
	Post test	6.16	0.78	0.15		
Muscular strength Endurance in Numbers	Pre test	13.76	2.45	0.49	0.12	1.809
	Post test	13.88	2.40	0.48		

**Table- 3**

**THE TABULATION SHOWS THE MEAN VALUES BETWEEN THE PRE AND POST TEST OF THE PHYSICAL GROWTH, AEROBIC CAPACITY AND MUSCULAR FITNESS PARAMETERS ON THE SPECIFIC FITNESS TRAINING AMONG THE NON-TRIBAL SCHOOL BOYS OF SOUTH KARNATAKA STATE**

Variables	Test	Mean	S.D	S.E.M	M.D	T-Ratio
Aerobic Capacity in meters	Pre test	6.19	0.76	0.15	0.44	12.101
	Post test	6.64	0.72	0.14		
Muscular strength Endurance in Numbers	Pre test	13.48	1.44	0.28	1.24	14.224
	Post test	14.72	1.45	0.29		

**Table- 4**

**THE TABULATION SHOWS THE MEAN VALUES BETWEEN THE PRE AND POST TEST OF PHYSICAL GROWTH, AEROBIC CAPACITY AND MUSCULAR FITNESS PARAMETERS ON THE CONTROL GROUP AMONG THE NON-TRIBAL SCHOOL BOYS OF SOUTH KARNATAKA STATE**

Variables	Test	Mean	S.D	S.E.M	M.D	T-Ratio
Aerobic Capacity in meters	Pre test	6.18	0.85	0.17	0.02	1.809
	Post test	6.20	0.85	0.17		
Muscular Strength Endurance in Numbers	Pre test	13.36	1.46	0.29	0.08	1.445
	Post test	13.44	1.47	0.29		

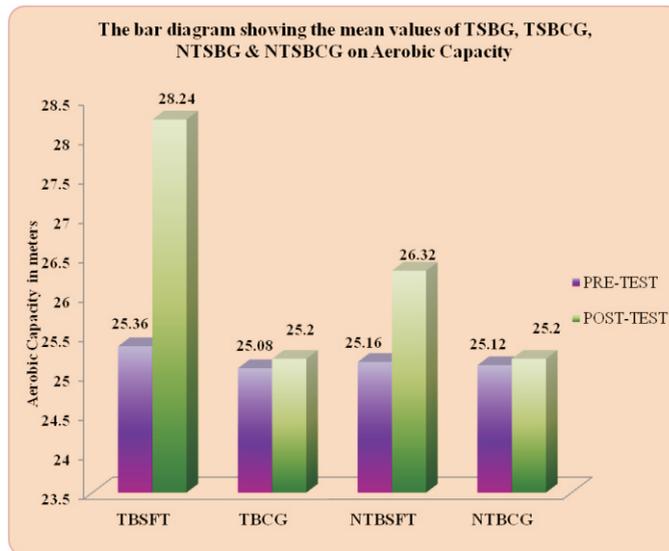


Figure-1

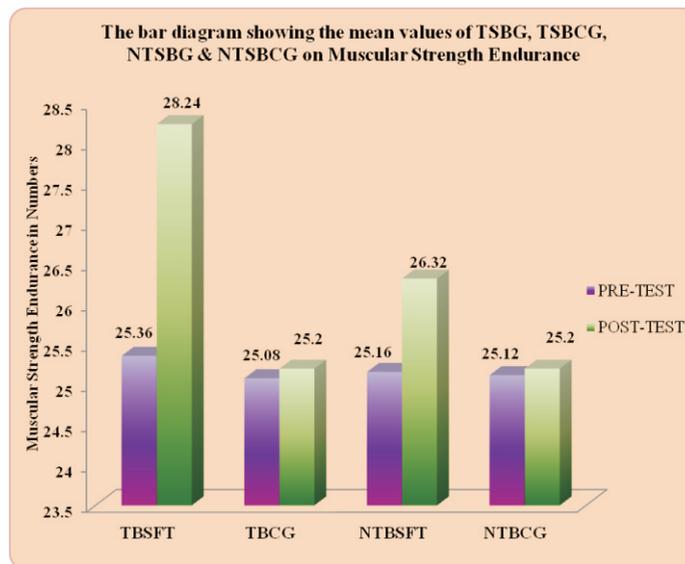


Figure-2

Table-5

ANALYSIS OF VARIANCE ON THE PRE TEST MEAN VALUES AMONG THE TBSFT, TBCG, NTBSFT & NTBCG ON THE SELECTED SPECIFIC FITNESS VARIABLES OF SCHOOL BOYS OF SOUTH KARNATAKA STATE

Variables	Source of Variance	Sum of Squares	DF	Mean Square	F	Sig.
Aerobic Capacity in meters	Between	0.14	3	0.05	0.07	0.974
	Within	64.83	96	0.67		
Muscular Strength Endurance in	Between	2.11	3	0.70	0.14	0.930
	Within	452.80	96	4.71		

0.05 level of significance (2.70)

**Table- 6**

**ANALYSIS OF VARIANCE ON THE POST TEST MEAN VALUES AMONG THE TBSFT, TBCG, NTBSFT & NTBCG ON THE SELECTED SPECIFIC FITNESS VARIABLES OF SCHOOL BOYS OF SOUTH KARNATAKA STATE**

Variables	Source of Variance	Sum of Squares	DF	Mean Square	F	Sig.
Aerobic Capacity in meters	Between	14.27	3	4.75	7.19	0.001
	Within	63.44	96	0.66		
Muscular Strength Endurance in	Between	78.35	3	26.11	5.37	0.002
	Within	466.40	96	4.85		

0.05 level of significance (2.70)

**Table-7**

**ANALYSIS OF CO-VARIANCE ON THE PRE AND POST TEST MEAN VALUES AMONG THE TBSFT, TBCG, NTBSFT & NTBCG ON THE SELECTED SPECIFIC FITNESS VARIABLES OF SCHOOL BOYS OF SOUTH KARNATAKA STATE**

Variables	Source of Variance	Sum of Squares	DF	Mean Square	F	Sig.
Aerobic Capacity in meters	Between	16.22	3	5.40	112.56	0.000
	Within	4.56	95	0.04		
Muscular Strength Endurance in	Between	79.73	3	26.57	143.54	0.000
	Within	17.59	95	0.18		

0.05 level of significance (2.70)

**Table-8**

**THE SCHEFFE'S POST HOC TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST MEANS OF THE TBSFT, TBCG, NTBSFT & NTBCG ON THE AEROBIC CAPACITY**

TBSFT	TBCG	NTBSFT	NTBCG	Mean	Confidence
7.155	6.166	---	---	0.989	0.174
7.155	---	6.608	---	0.547	0.174
7.155	---	---	6.183	0.972	0.174
---	6.166	6.608	---	0.442	0.174
---	6.166	---	6.183	0.017	0.174
---	---	6.608	6.183	0.425	0.174

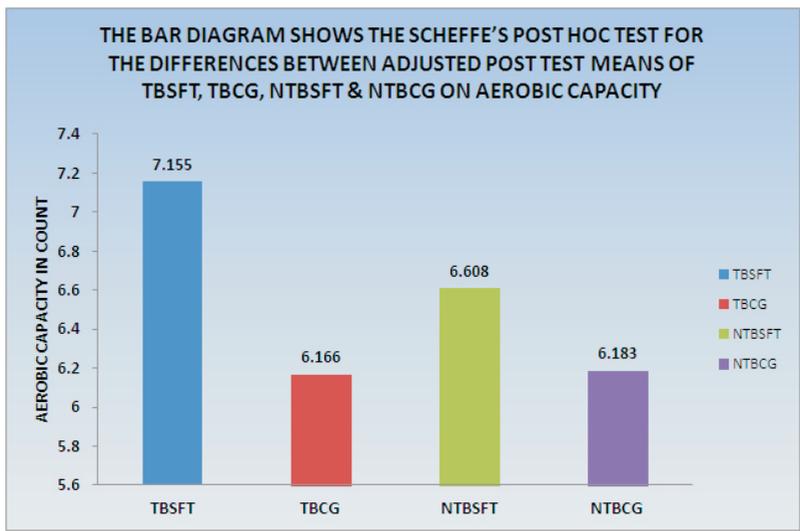


Figure- 3

Table-9

THE SCHEFFE'S POST HOC TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST MEANS OF THE TBSFT, TBCG, NTBSFT & NTBCG ON THE MUSCULAR STRENGTH ENDURANCE

TBSFT	TBCG	NTBSFT	NTBCG	Mean	Confidence
15.770	13.651	---	---	2.119	0.342
15.770	---	14.770	---	1.000	0.342
15.770	---	---	13.609	2.161	0.342
---	13.651	14.770	---	1.119	0.342
---	13.651	---	13.609	0.042	0.342
---	---	14.770	13.609	1.161	0.342

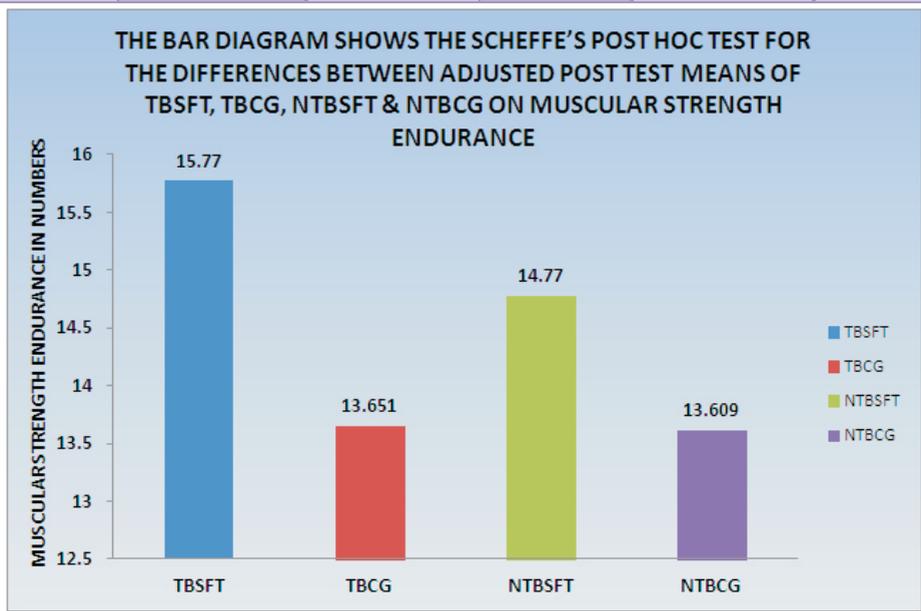


Figure- 4

## RESULTS

1. The result of the study showed that the tribal school boys showed a significant improvement on aerobic capacity and muscular strength and endurance among the school boys.
2. The result of the study showed that the non-tribal school boys show a significant improvement on aerobic capacity and muscular strength and endurance among the school boys.
3. The result of the study showed that the tribal school boys shows a significant improvement on the aerobic capacity and muscular strength and endurance better than the non tribal school boys.

## CONCLUSIONS

1. It is concluded that the tribal school boys show a significant improvement on the aerobic capacity and muscular strength and endurance among the school boys.
2. It is concluded that the non-tribal school boys shows a significant improvement on the aerobic capacity and muscular strength and endurance among the school boys.
3. It is concluded that the tribal school boys shows a significant improvement on the aerobic capacity and muscular strength and endurance better than the non tribal school boys.

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