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## Assessment of muscular strength endurance on tribal schools' children of Tamil Nadu

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### Abstract

To achieve the purpose of the study total (N= 960 boys) selected subjects from villupuram District tribal schools. The subjects age ranged between 12 to 15 years. The subjects from the following schools ekalvaa Model Hr. Sec. Residential School (School - I), Villimalai, Danis Mission Hr. Sec. School, Kariyalur (School - II), Govt, Tribal Residential School, Kattaputtur (School - III), Govt. Tribal Residential School, Innadu (School - IV), Govt, Tribal Residential School, Maniyarpalayam (School - V), D.M.P.B. Good Shepherd Hr. Sec. School, Melnelavu (School -VI), Nallameiyappan Hr. Sec. School, Serapattu (School - VII), Intake Metriculation School, Vellimalai (School - VIII). The selected criterion variables muscular strength tested with pull ups and muscular endurance tested with sit-ups. The collected data were treated with one way ANOVA and hull scale for percentiles. The level of significant fixed at 0.05. The results shows that no significant different among the schools of muscular strength and muscular endurance.

**Keywords:** muscular strength, muscular endurance and tribal schools

### Introduction

Survey plays a predominant role in every walk of life. Now-a-days such as to know or to assess the economic status of the people, the birth rate, the literates and illiterates and health status of among the society of peoples. Over a span of seventy-three years of independence tribals of our country are yet to achieve significant development in the fields of Physical Education, health and wellness. In spite of various governmental programmes that have been introduced as interventions for promoting physical education and sports among the tribals, they are only peripherally touched by the Physical education system. Physical activity offers opportunities to develop basic motor skills that are essential for healthy active living. The 2008 American Physical Activity (PA) Guidelines recommended that school-aged children and adolescents participate in at least 60 min of moderate-to-vigorous PA each day <sup>[1]</sup> However, most children are not engaged in the recommended amount of PA <sup>[2, 3]</sup>. Cardiovascular fitness is also important because cardiovascular fitness is inversely associated with being overweight in children and adolescents <sup>[4]</sup>. Children with a low fitness level are more likely to become overweight or obese over time than those with a high fitness level <sup>[5]</sup>. Physical fitness is also a stronger predictor of total and abdominal obesity than PA for children and adolescents. Strength can be defined as the maximum force produced by a muscle or muscles at any given speed. Muscular endurance is very important for people playing sports and who have to sustain an activity for long periods of time. The present study was to assess the tribal school boys their muscular strength and muscular endurance.

### Methodology

To achieve the purpose of the study total (N= 960 boys) selected subjects from Villupuram District tribal schools. The subjects age ranged between 12 to 15 years. The subjects from the following schools ekalvaa Model Hr. Sec. Residential School (School - I), Villimalai, Danis Mission Hr. Sec. School, Kariyalur (School - II), Govt, Tribal Residential School, Kattaputtur (School - III), Govt. Tribal Residential School, Innadu (School - IV), Govt, Tribal Residential School, Maniyarpalayam (School - V), D.M.P.B. Good Shepherd Hr. Sec. School, Melnelavu (School -VI), Nallameiyappan Hr. Sec. School, Serapattu (School - VII), Intake Metriculation

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School, Vellimalai (School - VIII). The selected criterion variables muscular strength tested with pull ups and muscular endurance tested with situps. The collected data were treated with one way ANOVA and hull scale for percentiles. The

level of significant fixed at 0.05.

**Results**

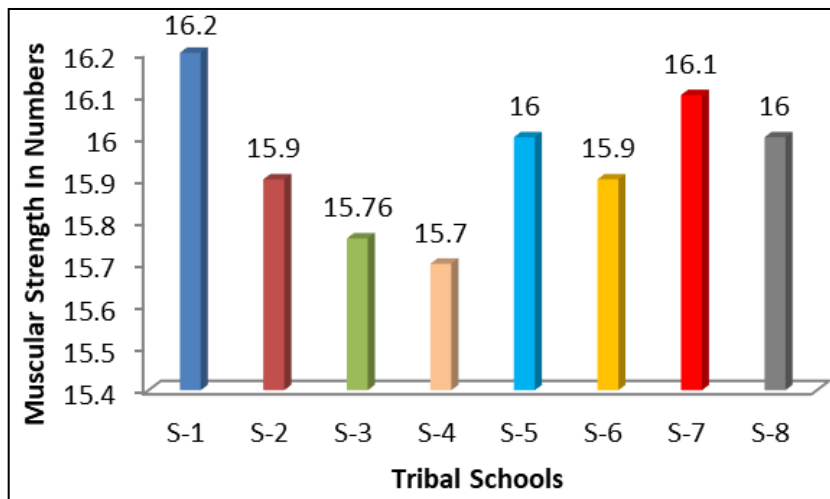
**Table I:** Anova For Different Age Group Of Tribal School Boys On Muscular Strength Of Tamil Nadu

	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	SOV	SS	df	MS	'F'
$\bar{X}$	16.2	15.9	15.76	15.7	16.0	15.9	16.1	16.0	B	20.458	7	2.922	1.902
S. D	1.36	1.21	1.06	0.99	1.30	1.23	1.36	1.36	W	1478.017	952	1.553	

Not Significant. The level of significant 0.05 with df 7 & 952 table value 2.01

Table – I shows the muscular strength of tribal school boys of different schools of Tamil Nadu. From the table it was clear the obtained 'F'- values are lesser than table value (2.01) required for not significant at 0.05 level with df 7 and 952.

The results of the study indicates that among the different tribal school boys of Tamil Nadu no significant difference were found on muscular strength.



**Fig 1:** Mean Values of muscular strength on various tribal schools in- Tamil Nadu

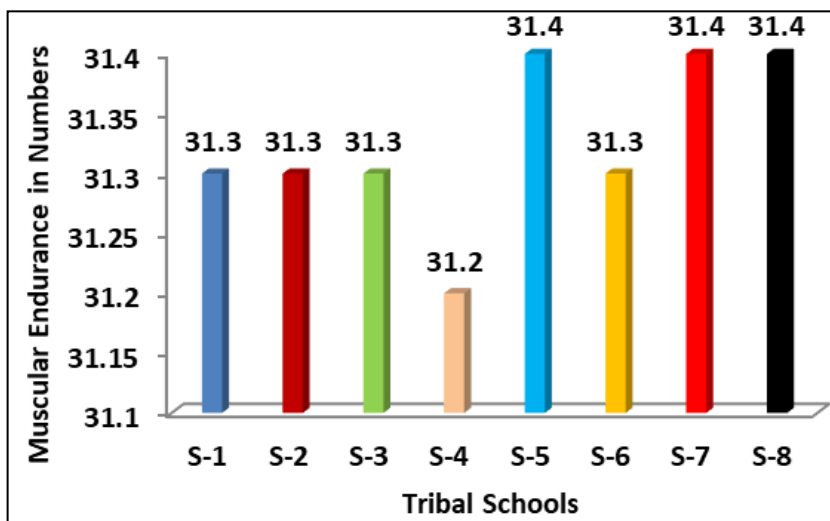
**Table 2:** Anova for different age group of tribal school boys on muscular endurance of Tamil Nadu

	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	SOV	SS	df	MS	'F'
$\bar{X}$	31.3	31.3	31.3	31.2	31.4	31.3	31.4	31.4	B	3.807	7	0.544	<b>0.330</b>
S. D	1.20	1.32	1.29	1.36	1.23	1.33	1.30	1.26	W	1570.892	952	1.650	

Not Significant. The level of significant 0.05 with df 7 & 952 table value 2.01

Table – II shows the muscular endurance of tribal school boys of different schools of Tamil Nadu. From the table it was clear the obtained 'F'- values are lesser than table value (2.01) required for not significant at 0.05 level with df 7 and 952.

The results of the study indicates that among the different tribal school boys of Tamil Nadu no significant difference were found on muscular endurance.



**Fig 2:** Mean Values of muscular strength on various tribal schools in- Tamil Nadu

**Table 3:** Norms for Tribal School Children For Different Age Groups Muscular Strength (Push – Ups) And Muscular Endurance

Score	Muscular Strength	Muscular Endurance
100	20.35	35.86
90	19.48	34.96
80	18.60	34.06
70	17.73	33.17
60	16.85	32.27
50	15.98	31.38
40	15.10	30.48
30	14.23	29.58
20	13.35	28.69
10	12.48	27.79
0	11.60	26.90
Mean	15.98	31.38
S.D	1.25	1.28

The table-III shows that construct the norms for the selected muscular strength and Muscular endurance) variables of different tribal schools of Tamil Nadu. The calculated standard deviation is multiplied by 0.70 to get the hull scale value. The hull scale value is serially added and subtracted to the mean score to get the percentile score.

### Discussion on Findings

The results of the study shows that among the age groups no significant difference on muscular strength and muscular endurance. The results of line with that other studies also. Since 50% students are not attained minimum required levels. The similar studies conducted a “survey study on Health-Related Physical Fitness among 1028 school boys between 14 to 16 years in Karnataka State.” The investigator analysed the influence of family area (rural and urban). It was found that there was a significant differences between rural and urban school boys in Muscular Endurance and cardio vascular endurance. Whereas in the case of flexibility, abdominal muscular strength, speed and agility not exist significant difference between Rural and Urban [6]. and survey of physical fitness among tribal school boys of kurnool district of andhra pradesh and the influence of physical activities programme on them the results of the study shows that age wise norms were supported by the age wise mean difference in their performance on Pull Ups, Bent Knee Sit Ups, Shuttle Run, Standing Broad Jump, 50 Yard Dash and 600 Yard Run/Walk test [7] and taken a study to “compare Health Related Physical Fitness variables between Tribal and Non-Tribal players. however there is no significant differences exists between Tribal and Non-Tribal players on flexibility [8]. A recent examination of accelerometer data from National Health and Nutritional Survey 2003 and 2004 data found that youth spent over 50% of their waking hours in sedentary activities These tribal youth reported spending over 50% of their day in sedentary activities [9]. Conducted research on Nationally 34% of high school aged youth reported meeting the recommended amount of physical activity. The youth in this tribal community reported being much less active than the national average [10].

### Conclusions

1. There is no significant difference of Muscular Strength among the tribal school of boys of Tamil Nadu.
2. There is no significant difference of Muscular endurance among the tribal school of boys of Tamil Nadu.

### References

1. US Department of Health and Human Services. Physical activity guidelines for Americans, 2008. Washington DC: US Department of Health and Human Services 2008.
2. Ortega FB, Ruiz JR, Castillo MJ, *et al.* Physical fitness in childhood and adolescence: a powerful marker of health. *International Journal of Obesity* 2008;31:1-11.
3. National Association for Sport and Physical Education. Shape of the nation report. Reston, VA: National Association for Sport and Physical Education 2016.
4. Ruiz JR, Rizzo NS, Hurtig-Wennlöf A. Relations of total physical activity and intensity to fitness and fatness in children: the European youth heart study. *American Journal of Clinical Nutrition* 2006;84:299–303.
5. Hussey J, Bell C, Bennett J, O’Dwyer J, Gormley J. Relationship between the intensity of physical activity, inactivity, cardiorespiratory fitness and body composition in 7-10-year-old Dublin children. *British Journal of Sports Medicine* 2007;41:311-6.
6. Suresh, Survey of Health Related Physical Fitness and Cultural Aspects of School Boys in the Age Group of Fourteen to Sixteen Years of Kamataka State”, Unpublised Master of Philosophy Thesis. Alagappa University, Karaikudi 1990.
7. Lakshaman Naik, Subramaniam. Survey of physical fitness among tribal school boys of kurnool district of andhra pradesh and the influence of physical activities programme on them”, Doctoral Thesis, Pondicherry University 2018.
8. Dharam Singh Meena, Arvind kumar, Rakesh Kumar. A comparative study on Selected Fitness Components of Tribal And NonTribal Sports Person of Rajasthan State” *International Journal of Health, Physical Education and Computer Science in Sports* Volume 2012;8(1):95-97.
9. Matthews C, Chen K, Freedson P, Buchowski M, Beech B, Pate R, *et al.* Amount of time spent in sedentary behaviors in the United States, 2003-2004. *American Journal of Epidemiology* 2008;167:875-881
10. Eaton D, Kann L, Kinchen S, Shanklin S, Ross J, Hawkins J, *et al.* Youth Risk Behavior Surveillance-United States, 2007. *Morbidity and Mortality Weekly Report* 2008;57(SS04):1-131.